June 2007

Final

Vegetation Treatments Using Herbicides

on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement

Volume 3: Response to Comments

U.S. Department of the Interior
Bureau of Land Management

FES 07-21

BLM

Public Lands Managed by the Bureau of Land Management

- BLM-managed lands
- BLM-administered minerals underlying federal surface (excluding National Park Service and Fish and Wildlife Service units)
- BLM National Monument
- BLM National Conservation, Recreation, and Protection Areas (National Conservation Areas, National Recreation Areas, Outstanding Natural Areas, and Cooperative Management and Protection Areas)
- Tribal lands where the BLM has trust responsibility for mineral operations
- BLM State Office
- State boundaries
- BLM Headquarters

In the Eastern United States, the BLM manages 40 million acres of subsurface mineral estate and 30,000 acres of surface, mostly small isolated parcels scattered throughout 31 states.

Eastern States are administered by the Eastern States Office in Springfield, VA.

Washington
Oregon
California
Nevada
Idaho
Montana
Wyoming
Utah
Arizona
Colorado
New Mexico
North Dakota
South Dakota
Nebraska
Kansas (subsurface acreage only)
Oklahoma
Texas
Minnesota
Iowa
Missouri
Arkansas
Louisiana
Wisconsin
Illinois
Michigan
Indiana
Ohio
Kentucky
Tennessee
Mississippi
Alabama
Georgia
Florida
South Carolina
North Carolina
Virginia
West Virginia
Pennsylvania
New York
Maryland
Delaware
New Jersey
Connecticut
Rhode Island
Massachusetts
Vermont
New Hampshire
Maine

Portland
Yaquina Head ONA
Cascade-Siskiyou NM
Steens Mountain CMPA
Boise
Craters of the Moon NM
Snake River Birds of Prey NCA
Upper Missouri River Breaks NM
Billings
Pompeys Pillar NM
Cheyenne
Headwaters Forest Reserve
King Range NCA
Black Rock Desert-High Rock Canyon Emigrant Trails NCA
Reno
Salt Lake City
Sacramento
Denver
McInnis Canyons NCA
Gunnison Gorge NCA
Grand Staircase Escalante NM
Canyons of the Ancients NM
Red Rock Canyon NCA
Sloan Canyon NCA
California Desert NCA
California Coastal NM
Carrizo Plain NM
Vermilion Cliffs NM
Kasha-Katuwe Tent Rocks NM
Santa Fe
Grand Canyon-Parashant NM
Agua Fria NM
El Malpais NCA
Santa Rosa and San Jacinto Mountains NM
Sonoran Desert NM
Phoenix
Ironwood Forest NM
Las Cienegas NCA
San Pedro Riparian NCA
Gila Box Riparian NCA
Washington, DC
Springfield

Today, the BLM administers 261.8 million acres of public lands located primarily in 12 western states, including Alaska.

The agency administers 700 million acres of subsurface mineral estate located throughout the country.

Response to Comments

Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement

Volume 3

Prepared by
Bureau of Land Management
Nevada State Office
Reno, Nevada

June 2007

TABLE OF CONTENTS

List of Tables

VOLUME III

RESPONSE TO COMMENTS

This section provides a summary of the comments received on the Draft PEIS, PER, and Biological Assessment. A list of the agencies, organizations, and individuals who submitted substantive comments is provided. Finally, both general and specific comments and the BLM's responses to those comments are presented.

Summary of Comments on the Draft Programmatic EIS

Over 3,000 individual comment documents on the Draft PEIS, PER, and BA were received during the public comment period from November 10, 2005, through February 10, 2006. Comments on the Draft PEIS, PER, and BA were received via letter, electronic mail, facsimile, and at public hearings.

Six hundred fifty-seven electronic mails, 77 facsimiles, and 234 letters were received. Each of the comment letters/electronic mails/facsimiles was read and substantive issues were identified. In addition, the BLM received over 2,000 form letters/electronic mails/facsimiles in response to solicitations from advocacy groups, and many of these were identical statements or slight variations thereof; these were also read and substantive issues identified. A total of 1,808 substantive comments were identified and responded to in this section.

Public hearings were held in Portland, Oregon on November 28, Sacramento, California on November 29, Salt Lake City, Utah on November 30, Albuquerque, New Mexico on December 1, Grand Junction, Colorado on December 5, Boise, Idaho on December 6, Billings, Montana on December 7, Cheyenne, Wyoming on December 8, and Las Vegas, Nevada and Washington, D.C. on December 13, 2006, for the BLM to provide an overview of the alternatives and to take public comments.

Comment letters and hearing transcripts were assigned tracking numbers and entered into a database. Individual tracking numbers were assigned to only one representative letter for identical or nearly identical form letters. All comments received on the draft documents are included in the Administrative Record.

The project interdisciplinary team reviewed all comment letters and hearing transcripts, and substantive comments (as defined in the BLM NEPA Handbook H-1790-1) requiring specific responses. A comment received a specific response if it 1) was substantive and related to inadequacies or inaccuracies in the analysis or methodologies used; 2) identified new impacts or recommended reasonable new alternatives or mitigation measures; and/or 3) involved substantive disagreements on interpretation of significance. After all comment letters/electronic mails/facsimiles were reviewed, each comment was assigned a comment issue code and each substantive comment was identified with a red line adjacent to the comment to identify each coded substantive comment. Over 1,800 substantive comments were identified and responded to in this Volume. The original and annotated letters have been entered into the Administrative Record.

Specific comments and responses were organized by subject headings that are similar to those in the PEIS and PER. Based on this organization, topics accounting for nearly 80% of the comments listed in Table III-1.

A list of commenting agencies, organizations, and individuals follows and includes the agency's, organization's, or individual's name and unique comment identifier number. Specific comments and responses are provided in this chapter under Specific Comments and Responses and are organized by subject headings in the PEIS and PER based on the content of the comment, and then by comment number. The text of the Final PEIS, PER, and BA have been revised or edited where appropriate to address the comments. Much of the additional information, either requested or provided by public input, has been incorporated in the Final PEIS, PER, and BA. Information on how specific comments were addressed and where they are addressed within the Final PEIS, PER, and BA is detailed in the response to each issue statement.

TABLE III-1
Comment Response Summary

Topic	Percent of Comments
Scope of analysis and causes of weed spread	11.5
Herbicide effects analysis	7.9
Vegetation treatment planning and management	4.5
Herbicide active ingredients evaluated in PEIS	4.3
Effects to vegetation	4.0
Monitoring	3.9
How effects of alternatives were estimated	3.8
Biological Assessment	3.5
Effects to human health and safety	3.5
Herbicide SOPs and guidelines	3.5
Effects to wildlife resources	3.4
Prevention of weeds	3.0
Cumulative effects analysis	2.8
Herbicide modes of action	2.5
Revegetation	2.5
Non-herbicide treatment methods	2.3
Alternative E – No use of sulfonylurea and other ALS-inhibiting active ingredients	1.8
Purpose and Need for Proposed Action	1.7
Determination of treatment acreages	1.6
Effects on air quality	1.6
Effects on social and economic values	1.4
Coordination and education	1.3
Special status species	1.3
Other	23.9

The comments received by letter, electronic mail, and facsimile, and the transcripts from the nine public hearings have not been reproduced in this document. The issue statements presented in Specific Comments and Responses summarize the substantive and general comments received. Copies of all meeting transcripts, comment letters/electronic mails/facsimiles, and representative letters received from advocacy groups are included in the CD-ROM located in the back pocket of Volume I of the Final PEIS. Note that red lines are placed next to the substantive comments in the letters/electronic mails/facsimiles that are addressed in Volume III. Information contained on the CD-ROM is also included on the project website (http://www.blm.gov). The comment letters are part of the Administrative Record and can be inspected upon request to the BLM. In addition, several comment letters included extensive supporting material or large attachments. These were not reproduced on the CD, but are available for inspection upon request to the BLM.

Commenting Agencies, Organizations, and Individuals

Written or oral substantive comments were received from the agencies, organizations, and individuals listed below. The number following the name of the organization or individual(s) below is a discrete identification number that was used in the response to comments process. The letter code corresponds with the comment delivery medium – electronic mail (EMC), form letter (FL), facsimile (FXC), public hearing (PHC), or letter (RMC). The four-digit number that follows the letter code is unique to each comment response.

Specific Comments and Responses

Specific comments and responses are provided after the list of respondents and are organized by subject headings that are similar to those in the PEIS and PER and are based on the content of the comment, and then by comment number. In some cases, we have made modifications to comments to make them clearer to the reader. These modifications are enclosed in brackets.

Federal Agencies

U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service Plant Protection and Quarantine	FXC-0055
USDA Animal and Plant Health Inspection Service Plant Protection and Quarantine	RMC-0189
U.S. Department of Interior Bureau of Indian Affairs	RMC-0227
U.S. Department of the Navy - Naval Air Station Fallon	RMC-0041
U.S. Environmental Protection Agency	EMC-0505
U.S. Environmental Protection Agency	FXC-0077
U.S. Environmental Protection Agency	RMC-0202
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office	RMC-0233

State Agencies

Arizona Game and Fish Department	EMC-0315
Arizona Game and Fish Department	RMC-0081
Butte Silver Bow Weed District	EMC-0403
California Department of Food and Agriculture	FXC-0010
California Department of Food and Agriculture	RMC-0056
California Regional Water Quality Control Board	EMC-0300
California Regional Water Quality Control Board	RMC-0070
Camas Creek Cooperative Weed Management Area	FXC-0045
Camas Creek Cooperative Weed Management Area	RMC-0116
Central Valley California Regional Water Quality Control Board	RMC-0087
Gunnison Watershed Weed Commission	FXC-0041
Idaho State Department of Agriculture	RMC-0080
Juntura Cooperative Weed Management Area	RMC-0105
Mesa County - Tri River Area Extension	RMC-0005
Metropolitan Water District of Southern California	RMC-0228
Montana State University Extension	EMC-0608
Nevada Department of Agriculture Noxious Weed Program	RMC-0093
Nevada State Clearinghouse	RMC-0223
New Mexico Department of Game and Fish	FXC-0038
New Mexico Department of Game and Fish	RMC-0095
North Dakota Department of Agriculture	FXC-0011
Northside Tri-County Cooperative Weed Management Area	FXC-0044
Northside Tri-County Cooperative Weed Management Area	EMC-0404
Oregon Department of Agriculture	EMC-0635
Oregon Department of Agriculture	RMC-0205
State of Colorado	RMC-0146
Utah Resource Development Coordinating Committee	RMC-0187
Utah Resource Development Coordinating Committee	EMC-0550
Washington State Noxious Weed Control Board	RMC-0031
Wyoming Department of Agriculture	RMC-0164
Wyoming Game and Fish Department	RMC-0144
Wyoming State Grazing Board	RMC-0165

County Agencies

Ada County Noxious Weed and Pest Department	EMC-0510
Adams County Farm Service Committee	EMC-0449
Adams County Noxious Weed Control Board	FXC-0052
Albany County Weed and Pest Control District	RMC-0038
Beaverhead County Weed Board	EMC-0395
Cascade County Weed and Mosquito Management District	EMC-0604

Cassia County Commissioners	RMC-0147
Cassia County Public Lands Committee	RMC-0110
Clark County Idaho Board of Commissioners	RMC-0024
Colorado County Weed Supervisor Association	RMC-0015
Converse County Weed and Pest	RMC-0150
Custer County Board of Commissioners	RMC-0101
Ferry County Noxious Weed Control Board	EMC-0168
Franklin County Noxious Weed Control Board	RMC-0059
Grand County Board of Commissioners	RMC-0019
Johnson County Weed and Pest Control	EMC-0031
Kittitas County Noxious Weed Control Board	EMC-0313
La Plata County Weed Office	EMC-0202
Malheur County Cooperative Weed Management Area	RMC-0025
Malheur County Court	RMC-0014
Malheur County Soil and Water Conservation District	EMC-0040
Malheur County Weed Control	EMC-0319
Malheur County Weed Control	EMC-0325
Mineral County Weed District	EMC-0413
Modoc County Board of Supervisors	RMC-0224
Niobrara County Weed and Pest Control District	EMC-0402
Okanogan County Noxious Weed Board	EMC-0281
Owyhee County Natural Resources Committee	EMC-0598
Owyhee County Natural Resources Committee	FXC-0072
Phillips County Weed Board	RMC-0172
Pitkin County Commissioners	RMC-0157
Pitkin County Weed Advisory Board	RMC-0138
Powell County Board of Commissioners	RMC-0180
Powell County Weed Board	RMC-0174
Rio Blanco County Weed Department	EMC-0023
San Miguel County Board of Commissioners	FXC-0016
San Miguel County Board of Commissioners	RMC-0076
Santa Barbara County Weed Management Area	EMC-0030
Sublette County Weed and Pest Control District	EMC-0433
Sweet Grass County Noxious Weed Program	EMC-0427
Teton County Weed and Pest	EMC-0216
Treasure County Weed District	EMC-0390
Uintah County	RMC-0091
Uintah County Commission	EMC-0323
Uintah County Weed Board	RMC-0177
Walla Walla County Noxious Weed Control Board	EMC-0219
Wichita County Noxious Weed Department	EMC-0005

Tribal Organizations

Alaska Inter-Tribal Council	EMC-0047

Industry and Related Groups

Alliance of Forest Workers and Harvesters	EMC-0621
American Farm Bureau Federation	EMC-0577
Associated Oregon Loggers	EMC-0541
BASF Corporation	EMC-0613
Bennet Forest Industries	RMC-0188
Boise Cascade	EMC-0565

British Petroleum American Production company	EMC-0631
Colorado Cattlemen's Association	RMC-0195
Colorado Farm Bureau	EMC-0533
Colorado Weed Management Association	FXC-0053
CropLife America	EMC-0578
CropLife America	FXC-0008
Douglas Timber Operators	RMC-0030
Douglas Timber Operators	RMC-0234
Dow AgroSciences	EMC-0338
Edison Electric Institute	EMC-0309
Idaho Cattle Association	EMC-0648
Idaho Farm Bureau Federation	FXC-0073
Idaho Farm Bureau Federation	RMC-0192
Lone Rock Timber Management Company	EMC-0230
Montana Weed Control Association	EMC-0032
New Mexico Cattle Growers' Association	EMC-0650
New Mexico Federal Lands Council	EMC-0652
New Mexico Wool Growers, Inc.	EMC-0651
North American Weed Management Association	EMC-0461
Oregon Cattlemen's Association	EMC-0360
Oregon Society of American Foresters	EMC-0625
Petroleum Association of Wyoming	EMC-0025
Petroleum Association of Wyoming	EMC-0561
Plum Creek Timber Company	RMC-0060
Roseburg Resources Company	RMC-0017
Scotts Miracle-Gro Company	EMC-0626
Society of American Foresters	EMC-0186
Society of American Foresters	EMC-0579
South West Idaho Weed Control Association	EMC-0435
Syngenta Crop Protection	EMC-0526
Timber Products Company	RMC-0190
Utah Farm Bureau Federation	FXC-0057
Utah Farm Bureau Federation	EMC-0548
Wyoming Farm Bureau Federation	EMC-0612

Conservation Groups and Related Groups

Alaska Community Action on Toxics	EMC-0647
Alaska Community Action on Toxics	FXC-0066
Alliance for the Wild Rockies	EMC-0314
American Forest Resource Council	EMC-0536
Animal Welfare Institute	EMC-0193
Animal Welfare Institute	EMC-0640
Animal Welfare Institute	RMC-0231
Arizona Department of Transportation	RMC-0086
Arizona Public Service Company	EMC-0301
Association of O & C Counties	FXC-0064
Association of O&C Counties	RMC-0212
Blue Mountains Biodiversity Project, League of Wilderness Defenders	RMC-0218
Boulder Regional Group	EMC-0293
Boulder Regional Group	EMC-0322
California Indian Basketweavers Association	EMC-0643
California Native Plant Society	EMC-0506

California Native Plant Society	RMC-0213
California Oak Foundation	RMC-0208
California Partners in Flight	EMC-0238
California Weed Science Society	EMC-0187
California Wilderness Coalition	RMC-0057
Californians for Alternatives to Toxics	EMC-0646
Carson Forest Watch	RMC-0170
Center for Biological Diversity	RMC-0221
Central Sierra Environmental Resource Center	RMC-0006
Citizens for Fire Safety Sanity	FXC-0075
Concerned Friends of Ferry County	EMC-0174
Copper Country Alliance	FXC-0074
Defenders of Wildlife	EMC-0623
Desert Survivors	RMC-0069
Embudo Valley Environmental Monitoring Group	EMC-0321
Friends of the Inyo	EMC-0220
Giustina Resources	FXC-0017
Hampton Resources, Inc.	EMC-0344
Hells Canyon Preservation Council	EMC-0512
Idaho Conservation League	EMC-0641
Idaho Conservation League	RMC-0203
Institute For Culture and Ecology	EMC-0203
Institute for Culture and Ecology	FXC-0013
John Day-Snake Resource Advisory Council	EMC-0503
Jordon Valley Cooperative Weed Management Area	EMC-0644
Klamath River Keeper Program and Klamath Forest Alliance	EMC-0306
Latir Neighborhood Association	FXC-0070
Leavenworth Audubon Adopt-a-Forest (LEAF)	EMC-0173
Legacy Lands Project	EMC-0247
MCS Task Force of New Mexico	RMC-0210
Natural Habitat	RMC-0160
Natural Resources Defense Council and National Wildlife Federation	RMC-0214
Natural Resources Defense Council, and National Wildlife Federation	EMC-0634
Oregonians for Food and Shelter	FXC-0009
Organic Consumers Association	EMC-0296
Organic Consumers Association	EMC-0298
Project 6	EMC-0605
Public Employees for Environmental Responsibility	RMC-0106
Public Lands Advocacy	EMC-0544
Public Lands Council	FXC-0063
Public Lands Foundation	RMC-0020
Rachel Carson Council	EMC-0324
Resource Concepts, Inc.	EMC-0231
Resource Concepts, Inc.	RMC-0040
Resource Concepts, Inc.	RMC-0061
Safe Alternatives for Our Forest Environment	EMC-0484
Save Our ecoSystems, Inc.	RMC-0220
Shoshone Natural Resource Coalition	EMC-0417
Sierra Club Rocky Mountain Chapter	RMC-0050
Sierra Club Utah Chapter	RMC-0217
Sierra Club Utah Chapter	EMC-0639
Siskiyou Project	EMC-0486

Siskiyou Project	RMC-0100
Siskiyou Project	RMC-0207
Soda Mountain Wilderness Council	RMC-0167
South Bend-Elkhart Audubon Society	EMC-0183
Sullivan Natural Resources	EMC-0617
The Aquatic Plant Management Society	FXC-0060
The Flower Essence Society	EMC-0519
The Lands Council	EMC-0562
The Nature Conservancy	EMC-0446
The Nature Conservancy	RMC-0155
The Wilderness Society	EMC-0513
The Wilderness Society	RMC-0215
The Willits Environmental Center	RMC-0096
Uncompahgre Plateau Project	EMC-0379
Umpqua Watersheds	EMC-0217
Utah Grazingland Network	RMC-0162
Weed Science Society of America	EMC-0331
Weed Science Society of America	FXC-0036
Western Plant Health Association	EMC-0609
Western Slope Environmental Resource Council	EMC-0590
Western Slope Environmental Resource Council	RMC-0209
Western Society of Weed Science	EMC-0566
Western Watersheds Project	EMC-0525
Western Watersheds Project	EMC-0584
Western Watersheds Project	EMC-0585
Western Watersheds Project	RMC-0219
Willits Environmental Center	EMC-0362
Womens Global Green Action Network	EMC-0067
Wyoming Outdoor Council	RMC-0067

Individuals

Abe, Jane	EMC-0246
Adams, Bob	EMC-0406
Adams, Carmen	EMC-0192
Adams, Kelly B.	RMC-0111
Adams, Kelly B.	RMC-0114
Adams, Larry B. and Maxine	RMC-0117
Adams, Phil (Roseburg Resources Company)	RMC-0131
Adams, Steven L.	EMC-0052
Adee, Avis E.	RMC-0094
Ahlgren, Diane	EMC-0425
Alderson, George and Frances	RMC-0053
Alexander, Denise	EMC-0557
Alexander, L.M.	EMC-0035
Alexander, Patrick	EMC-0410
Allen, Laura	EMC-0021
Alper, Joshua	RMC-0156
Altshool, Elsa	EMC-0042
Amon, Robert F.	RMC-0149
Anasavo, Thomas	EMC-0029
Anderson, Bruce H.	EMC-0189
Anderson, Jan C. (JCA Consulting)	EMC-0596

Anderson, Michael P.	EMC-0515
Anderson, Shelly	EMC-0162
Anderson, Val	EMC-0204
Anonymous	EMC-0225
Anonymous	EMC-0377
Anonymous	EMC-0289
Anonymous	EMC-0618
Anonymous	RMC-0010
Anonymous	EMC-0479
Anonymous	FXC-0026
Armer, Joan	EMC-0527
Armintrout, Glen	FXC-0062
Artley, Dick	EMC-0060
Artley, Richard	EMC-0181
Asher, Jerry	EMC-0223
Asher, Jerry	EMC-0657
Asher, Jerry	RMC-0042
Athan, Tara	EMC-0337
Atkin, David	EMC-0466
Auchter, David (East Central Energy)	FXC-0076
Bailey, John	EMC-0574
Bailey, John	FXC-0069
Bailey, John	RMC-0226
Bailey, Michael	EMC-0156
Baker, John L. (Fremont County Weed and Pest)	EMC-0509
Baker, Omega M.	EMC-0043
Banbury, Shera	EMC-0539
Banks, Helen	EMC-0108
Banner, Roger (Utah State University)	EMC-0443
Banner, Roger (Utah State University)	EMC-0445
Barager, Steve	RMC-0046
Barnes, Sharon	EMC-0603
Barr, Roger	EMC-0549
Barrett, Anne Albrecht	EMC-0093
Bartel, Donald A. (Sierra Consulting and Integrated Pest Management)	EMC-0523
Barth, Bobbie	EMC-0227
Bayers, Rich (Back Country Spraying)	EMC-0524
Beck, George	EMC-0329
Beebe, Ann	RMC-0064
Beeland, DeLene	EMC-0597
Bellovary, Christopher	EMC-0619
Benjamin, Robert R. (Sheridan County Weed and Pest Control District)	FXC-0030
Beran, Daniel (BASF)	EMC-0332
Berger, Robert	EMC-0655
Bernard, Doris	EMC-0454
Bird, Deanna	EMC-0397
Birdsey, Barbara	EMC-0126
Bishop, Sarah G.	EMC-0330
Bitner, Patricia (Lane County Audubon Society)	EMC-0318
Black, Patricia	EMC-0535
Blake, Ron	RMC-0108
Blankenship, Jill	EMC-0493

Blann, Deanna	EMC-0607
Bluemer, Brad (Bonner County Weed Control)	EMC-0393
Bockness, Scott (Montana Weed Control Association)	EMC-0508
Boettcher, Robert	EMC-0242
Bohman, Nancy	EMC-0528
Boissonou, Cherrill	EMC-0109
Boudreaux, Kristina A.	EMC-0163
Bourne, Helen M.	FXC-0004
Bowers, Lynn	RMC-0122
Boyajian, Bo and Daniel	RMC-0066
Boydston, Stanley	EMC-0356
Brister, Bob	EMC-0170
Brock, John H.	EMC-0211
Brosbe, Lola	RMC-0084
Brown, Cecil and Edith	FXC-0018
Brown, Margo	EMC-0373
Brownwood, Jeft	EMC-0518
Brunk, Joseph (Sedgwick County Noxious Weeds Department)	EMC-0222
Brye, Margaret	RMC-0118
Bryngelson, Mark	EMC-0459
Bryson, Anna	RMC-0073
Bullock, Janet	RMC-0183
Burch, D.	EMC-0489
Burke, Erik and Jessyca	EMC-0070
Burrell, Don and Mary	RMC-0063
Burson, Allison	EMC-0166
Burton, Richard C.	FXC-0056
Busch, Roy and Mary	EMC-0019
Butori, Dale (Fallon County Weed Department)	RMC-0136
Calabro, Richard A.	FXC-0002
Callahan, Jeanne	EMC-0048
Callahan, Jeanne	FXC-0001
Callahan, Jeanne	RMC-0013
Callan, Cindy and Bob	RMC-0229
Callicutt, Webb (Delta County Noxious Weed Program)	EMC-0212
Callihan, Robert H.	EMC-0553
Cameron, Sheena	FXC-0068
Campbell, Bruce	FXC-0071
Campbell, Elizabeth (Pueblo County Department of Public Works)	FXC-0061
Campbell, Larry	EMC-0177
Canepa, Judith K.	RMC-0032
Cantlon, John D. (DuPont Vegetation Management)	EMC-0531
Caress, Stanley M.	EMC-0045
Caress, Stanley M. (University of West Georgia)	RMC-0012
Carlson, Dave	EMC-0090
Carmi, Ore	RMC-0039
Carr, Dennis	EMC-0497
Carrigan, Michael	RMC-0071
Carroll, Brian M.	EMC-0555
Carroll, Mike (Larimer County Weed Control District)	EMC-0213
Caruso, Fred	EMC-0020
Castellini, Randy	EMC-0269

Dewey, Steven A. (Utah State University)	FXC-0029
DiLabio, G. M.	EMC-0152
DiTomaso, Joseph M. (Univeristy of California at Davis Cooperative Extension)	EMC-0366
Dixon, Lydia	EMC-0200
Donnelly, Patrick	EMC-0436
Doran, Alicia (Colorado Weed Management Association	EMC-0279
Doran, Mary	EMC-0453
Dremann, Craig	EMC-0234
Duane, Judy	FXC-0067
Duane, Judy	RMC-0193
Duncan, Celestine	EMC-0251
Dunn, Sally	EMC-0642
Dunne-Brady, Jane	EMC-0041
Dyber, Kenneth James	EMC-0233
Edwards, Gordon O. (Cassia County Weed Control)	RMC-0153
Eggena, Madge	EMC-0250
Eisler, David	EMC-0543
Eklund-Brown, Sheri (Elko County Commision)	EMC-0207
Eldridge, Lynnette	EMC-0637
Elliott, Benton H.	EMC-0385
Elliott, Charles	EMC-0100
Elliott, Ruth A.	EMC-0081
Elzinga, Stephen (Eagle County Weed and Pest Department)	EMC-0286
English, E.D.	EMC-0074
Enloe, Stephen (University of Wyoming)	EMC-0483
Ernst, Harley L.	EMC-0226
Erskine, Kim H.	RMC-0018
Ertz, Brian	RMC-0191
Ertz, Brian (Western Watersheds Project)	EMC-0596-2
Evans, Gail	FXC-0059
Fagerlie, Dan	EMC-0312
Fairfield, Mary Eaton	EMC-0532
Farrar, Don (Gilliam County Weed Control)	EMC-0418
Fels, Harriett	RMC-0029
Fetz, Margot	EMC-0478
Filipelli, DeBorah	EMC-0480
Filippi, Linda J.	EMC-0381
Fine, Doug	EMC-0064
Firmage, Robert and Gertrud	FXC-0027
Firstenberg, Arthur	EMC-0327
Firstenberg, Arthur	RMC-0078
Firstenburg, Arthur	FXC-0020
Fite, Katie	PHC-0005
Fitzgerald, Tonie (Spokane County Extension)	EMC-0363
Flaster, Trish (Botanical Liaisons)	EMC-0205
Fleming, Robert L. and Linda F.	RMC-0133
Folske, Dan (Burke County Weed Board)	RMC-0090
Franklin, Samuel H., III	RMC-0023
Franson, John	EMC-0382
Frazier, Penny (Goods From The Woods)	EMC-0191
Fredrickson, Lana J.	EMC-0589
Fuller, Lodie	EMC-0383

Gallo, Goodren	RMC-0134
Gardner, James	RMC-0092
Gardner, James	FXC-0025
Garrett, Matt	EMC-0014
Garvey, Lydia	EMC-0136
Garvey, Lydia	EMC-0255
Garvey, Lydia	EMC-0467
Garvey, Lydia	RMC-0007
Garvey, Lydia	RMC-0033
Gates, Bruce D.C.	RMC-0124
Gates, Corrine Cindy	RMC-0132
Geeslin, Rita Jann	EMC-0057
Germino, Matthew J. (Idaho State University)	FXC-0032
Geyer, Eric (Roseburg Resources Company)	EMC-0582
Ghandi, Theresa Marie K.	EMC-0649
Ghandi, Theresa Marie K.	RMC-0211
Gilbert, James	RMC-0198
Gillen, Sylvia (USDA Natural Resource Conservation Service, Utah)	EMC-0501
Gillman, Cathy	EMC-0520
Gipson, Guy	EMC-0378
Gladstone, David	EMC-0121
Globus, Maria W.	RMC-0008
Gloger, Laura	EMC-0038
Goes, Jim	EMC-0149
Gozart, Casey	EMC-0215
Grace, Joanne	EMC-0007
Grace, Susan	EMC-0182
Graham, Bryan G.	RMC-0098
Gray, Bonnie	RMC-0028
Gray, Roger H.	EMC-0037
Green, Alberta Patricia	EMC-0335
Green, Jeanne	EMC-0259
Green, Jeanne	EMC-0458
Grewal, Martha	RMC-0113
Griffin, Enid	EMC-0086
Grother, Sheila (San Miguel County Weed Control Program)	RMC-0052
Grover, Ravi	EMC-0444
Gunder, Jenn	EMC-0063
Gustin, Amy	RMC-0048
Haas, Vicki	RMC-0158
Haas, Wendy	RMC-0161
Haines, Margaret	EMC-0105
Hamilton, Pam	FXC-0050
Hardebeck, Larry J.	EMC-0316
Hardebeck, Larry J.	RMC-0089
Harder, Herman	RMC-0154
Hardy, John O.	EMC-0374
Hardy, Roddy V. (BLM Salt Lake City Field Office)	EMC-0347
Harrer, Roger	EMC-0248
Harris, Ed	EMC-0570
Harrison, Norma J. F.	EMC-0117
Harrison, W.R.	EMC-0208

Haskins, Bill	EMC-0567
Hassell, Janet	EMC-0465
Hastings, BJ and Trish	RMC-0085
Hastings, BJ and Trish	FXC-0024
Hatch, Duane	EMC-0420
Hays, Lynn and Evelyn, and Tessa Hays-Nordin	EMC-0112
Hecksel, Arlene	EMC-0099
Helfand, Judy	EMC-0008
Hiebel, Harvey	EMC-0599
Higman, Jim	EMC-0349
Hinckley, Ann	RMC-0002
Hoernschemeyer, Don	RMC-0004
Hollister, Joseph	EMC-0039
Holstein, Gail	FXC-0054
Hoover, Victoria N.	EMC-0405
Horsley, Jim (Arizona Department of Transportation)	EMC-0304
Howell, Mark (Starr Valley Conservation District)	EMC-0488
Hudson, Marty (Klickitat County Noxious Weed Control Board)	EMC-0229
Hughes, Arlin	EMC-0107
Huls, Mark	EMC-0354
Hunt, Thomas N. (Crop Protection Association)	EMC-0460
Hunt, Wayne	EMC-0206
Hupp, Kevin L. (Lincoln County Noxious Weed Control Board)	EMC-0563
Hurd, John	EMC-0147
Hutchinson, George B.	EMC-0085
Inman, Roger	EMC-0287
Issarescu, Patricia	FXC-0021
Issarescu, Patricia	RMC-0074
Issarescu, Patricia	FXC-0023
Jackson, Nelroy E.	EMC-0636
Jacob, Vicki and Julia Glover	EMC-0138
Jacob, Vicki, and Julia Glover	EMC-0260
Jacobson, Don	RMC-0139
Jahr, Jim (Wilbur-Ellis)	EMC-0394
Jeffress, Jim	EMC-0270
Jenkins, D. Paul (Caribou County Weed Control)	RMC-0141
Johanna, Ruth	EMC-0437
Johnson, Anne	EMC-0144
Johnson, Edwin S.	RMC-0119
Johnson, Jacalyn	EMC-0545
Johnson, Kathy	EMC-0606
Johnson, Lisa	EMC-0375
Johnson, Nancy	EMC-0071
Johnson, Rachel B.	EMC-0284
Johnson, Robert	EMC-0591
Jones, Donna	EMC-0587
Joos, Sandra	EMC-0083
Jorgensen, Bernadette	RMC-0043
Josey, Helen	EMC-0016
Jung, Mari	EMC-0546
Kallas, John	EMC-0240
Kamal, Sue (MAST Institute UNCO)	EMC-0283

Kampmeyer, Al	EMC-0601
Kanne, Claudia	EMC-0190
Karl, Joanna	RMC-0011
Kaufman, Albert	EMC-0464
Kaufman, Eleanor	EMC-0534
Keddem, Aliza	EMC-0098
Keeran, Georgia	EMC-0253
Keith, Laurie	EMC-0303
Kelpsas, Bruce	EMC-0558
Kenny, Robert	EMC-0127
Keppelman, Tony	EMC-0013
Kerrigan, Laurie	EMC-0551
Keys, Paula	EMC-0432
Kiernan, Barbara	EMC-0011
Kimmel, Reida	EMC-0239
Kimmel, Reida	EMC-0448
Kincaid, Patricia M.	EMC-0154
Kinsel, Sheldon	EMC-0157
Kitchen, Boyd (Utah State University Extension)	EMC-0320
Knight, John	EMC-0499
Kokis, George	EMC-0164
Kolbe, William A. (BASF)	EMC-0221
Koppa, Jhon	FXC-0034
Kotkosky, David	EMC-0273
Kozlowski, James C. (National Society for Park Resources, National Recreation and Park Association)	EMC-0155
Kranzush, Eric (Giustina Land and Timber Company)	RMC-0021
Krepps, Robert L.	EMC-0495
Kruse, Dave	EMC-0120
Kuczora, Carol	EMC-0638
Kunkle, Bill	RMC-0120
Kurtz, Linda	EMC-0053
Lagorio, Brad	EMC-0487
Lamb, Alexandra	EMC-0583
Lamberts, Frances	EMC-0196
Lamberts, Frances	RMC-0055
Lance, Jennifer	EMC-0028
Landkammer, Linda	EMC-0095
Lapin, Irene	EMC-0358
Larson, Lyn	EMC-0092
Laughlin, Robin	EMC-0600
Leaf, Erika	EMC-0131
Leberg, Mary Ann	RMC-0075
Lee, Don L.	EMC-0588
Legg, Geoff	EMC-0365
Lengerich, Tim	EMC-0416
Lent, Peter C.	EMC-0224
Lessley, Catrina	EMC-0179
Levanti, Deanna	EMC-0252
Lewis, Jim (Pitkin County Land Management)	EMC-0346
Liles, Anne Marie	EMC-0342
Lindsay, Dianne	EMC-0624

Lindsay, Dianne	RMC-0200
Lindsay, Heather	EMC-0473
Linebaugh, Andrea J.	EMC-0474
Little, Amanda Jane	FXC-0028
Little, James	EMC-0114
Little, Sam (Jefferson County Weed District)	EMC-0560
Livingston, Deb	EMC-0477
Livingston, Diane	EMC-0024
Lockhart, Mary Ann	EMC-0343
Lockridge, Ross	EMC-0257
Long, Jennifer	EMC-0530
Loud, Doris	EMC-0472
Lovato, Andrew and Anhara, and Marise Korn	RMC-0077
Love, Joe	EMC-0055
Loveday, George	RMC-0027
Lowe, Valerie	EMC-0654
Luersman, Ed	EMC-0507
Lutjens, William (BLM)	EMC-0278
Lynch, Larry (Clark County Weed and Pest Control)	EMC-0339
MacDonald, Breelyn	EMC-0517
MacKenzie, John (Wilbur-Ellis)	EMC-0388
MacKillop, Kenneth	EMC-0123
MacKinnon, Maisie	EMC-0097
Magney, Tim	EMC-0387
Mahdavi, Omid	EMC-0594
Maizes, Beth (Hawthorne Health and Nutrition Institute)	EMC-0357
Makelacy, Melladee	EMC-0447
Malakian, Tiffany	RMC-0178
Malmberg, Tony	EMC-0317
Malone, Marty (Park County Extension)	EMC-0401
Mandelbaum, Ilene	EMC-0180
Mandelbaum, Ilene	RMC-0103
Manown, Lloyd and Marlene	EMC-0294
Mantle, Jen (Summit County Weed Program)	EMC-0371
Manzagol, Sheila (Shining Mountain Herbs)	EMC-0656
Maple, Susan	RMC-0115
Mariluch, Ellen (Diamond Valley Weed District)	RMC-0176
Marks, John B.	EMC-0468
Markus, Patricia	EMC-0384
Marr, Lynn and Russell	EMC-0367
Martell, Jim (Canyon County Weed Control)	FXC-0043
Martin, Tonya	EMC-0036
Matheson, Paula	EMC-0022
Matsumoto, Nancy	EMC-0595
Matsumoto, Rebecca L.	RMC-0201
Mattice, William H.	RMC-0166
Maxwell, Bruce (Montana State University)	EMC-0291
McCall, Jim (McCall Farms)	EMC-0328
McCaslin, Bob (Washington State Senator)	RMC-0225
McClintic, Joann	RMC-0137
McClone, Mark	EMC-0124
McDorman, Bill	EMC-0130

McDougall, Claire, and Paul Jones	EMC-0552
McKay, Tim (The Northcoast Environmental Center)	RMC-0199
McMahon, James P.	RMC-0026
McNeel, Hank	EMC-0027
McNeel, Hank	PHC-0006
McSweeny, Charles	EMC-0547
Medbery, Angela	EMC-0267
Mendius, Barbara J.	EMC-0456
Mentzer, Fred	EMC-0088
Mervis, Louis M.	EMC-0258
Mickey, Martha	RMC-0125
Miessler, Del	RMC-0016
Mike (last name not provided)	EMC-0400
Miller, Arthur E.	EMC-0504
Miller, Glenn (Oregon Department of Agriculture)	EMC-0421
Miller, Glenn (Oregon Department of Agriculture)	EMC-0469
Miller, Joel	EMC-0151
Miller, Kyle J. (BASF)	EMC-0272
Miller, Tracy	EMC-0129
Milley, Ryan J.	EMC-0439
Mintz, Mary	EMC-0142
Miranda, Lara	RMC-0009
Montagne, Joan	EMC-0244
Moodry, John (Butte Silver Bow Weed District)	EMC-0399
Mooney, Allen	EMC-0409
Morris, John	EMC-0310
Morris, Nancy	EMC-0350
Morrow, Donald F.	RMC-0001
Mortensen, Peter	EMC-0502
Murphy, Jennifer	EMC-0069
Murphy, Patricia	EMC-0237
Murphy, Timothy	EMC-0034
Name withheld by request	EMC-0361
Neal, Dan	EMC-0261
Needs, Kelly	EMC-0628
Neff, Jack	FXC-0058
Neff, Jack	RMC-0216
Neil, Irvin and Marie	EMC-0054
Nelson, Rachel	EMC-0429
Nevin, Larry	EMC-0184
Newcomb, Jean	EMC-0462
Nikolaus, Ed	EMC-0282
Nina Eckberg (Kootenai County Noxious Weed Control)	EMC-0210
Nipper, M.	RMC-0145
Noble, E.A.	RMC-0129
Noble, Emily	EMC-0235
Noble, Emily	EMC-0364
Noble, Emily A.	EMC-0274
Noel, Michael (Kane County Water Conservancy District)	EMC-0236
Ogg, Alex, Jr.	EMC-0256
Okuzumi, Margaret	EMC-0580
Oliver, Cortney	EMC-0044

Olsen, Jan (Idaho Department of Environmental Quality)	EMC-0482
Olsen, Matthew	RMC-0135
Ore, Ed	EMC-0078
Orloff, Paula	EMC-0529
Orsini, Alice	EMC-0556
Orsini, Alice	RMC-0196
Pape, Beverly	RMC-0036
Pape, Dick	RMC-0035
Pape, K. Richard	EMC-0113
Pape, Louise	EMC-0199
Parson, Ben	EMC-0160
Pauley, Will and Jodi	EMC-0611
Paulsen, Ketel	EMC-0471
Paye, Floyd (Jefferson County Weed Control)	EMC-0422
Peacock, Delores (Dog Valley Ranch)	EMC-0592
Pearce, Mary	EMC-0075
Pearson, Wayne	FXC-0003
Peckman, Kristin	EMC-0051
Peippo, K.M.	RMC-0171
Peirce, Betsy	RMC-0186
Peters, Katherine I.	RMC-0179
Peterson, Bob	FXC-0015
Peterson, Bob G.	RMC-0065
Peterson, Dixie	RMC-0044
Peterson, Dixie K.	FXC-0012
Peterson, Mr. and Mrs. B.G. (Conejos Cabins)	FXC-0007
Peterson, Mrs. Bob	FXC-0006
Peterson, Troy	RMC-0051
Petroski, Yolanda	EMC-0195
Pevanik, Shirley	EMC-0068
Pickering, Ruth M.	EMC-0476
Picone, Chris	EMC-0046
Pikus, Barbara	EMC-0463
Pitman, Susan	EMC-0359
Poferl, Gerri	EMC-0593
Polonsky, B.L.	EMC-0522
Porter, Mark C. (Wallowa Resources)	EMC-0630
Post, Ken	EMC-0119
Pretorius, Christel	EMC-0341
Proctor, Gradey	RMC-0159
Pugh, Fred and Sandra (First Christian Church)	RMC-0054
Pustejovsky, Mark	RMC-0140
Pyle, Sasha	EMC-0571
Quicke, Harold (BASF)	EMC-0305
Ra, Delilah	EMC-0116
Ragan, Lisa C.	RMC-0175
Ramsdale, Ellen	EMC-0481
Ransom, Corey (Utah State University)	EMC-0414
Ray, Lindsey	EMC-0450
Raymond, Jeanne	EMC-0440
Reade, Nathan (Eastern Sierra Weed Management Area)	EMC-0209
Rechel, Eric	EMC-0241

Reed, Chad L.	EMC-0172
Rekow, Paul (Boise County Weed Control)	EMC-0280
Remington, Maggie	EMC-0302
Revillini, Daniel	EMC-0554
Rice, Evan and Suzy	EMC-0245
Rice, Molly	EMC-0091
Richards, Linda	EMC-0158
Richards, Vivien	EMC-0161
Richardson, Brett (Bighorn County Weed and Pest)	EMC-0376
Richardson, Nausika	EMC-0307
Richardson, Peter	EMC-0176
Richins, Kirt H.	EMC-0615
Riddle, Donna	EMC-0569
Ries, Marcela	EMC-0033
Rietsema, C.J.	EMC-0050
Rife, Jonathan (Douglas County Noxious Weed Management Program	EMC-0277
Rife, Jonathan (Douglas County Noxious Weed Management Program)	EMC-0276
Rigge, Mara	EMC-0009
Riley, Matthew	RMC-0181
Ringer, Greg	EMC-0396
Rizika, Adam W.	RMC-0127
Robinson, Edith and James	RMC-0123
Robinson, Ray	EMC-0380
Roehl, Joel S.	FXC-0033
Roesner, Quentin	EMC-0407
Rogers, Lilith	EMC-0006
Rojas, Jessica	EMC-0470
Rose, Karen H.	FXC-0046
Rose, Linda	FXC-0040
Rosenzweig, Marcie A.	EMC-0148
Rothman, William	EMC-0084
Royer, Connie B.	RMC-0083
Ruddenklau, Helle	EMC-0412
Rude, Monica (Desert Woman Botanicals)	EMC-0627
Rude, Monica, and Joanna Conrardy	EMC-0576
Runnels, Judy	EMC-0228
Russel, Dave (Roseburg Forest Products)	EMC-0017
Ryan, Eleanor (North Amercian Butterfly Association)	FXC-0049
Ryan, Eleanor (North American Butterfly Association)	EMC-0457
Ryan, Stephanie	EMC-0133
Rydalch, Dave (Fremont County Weed Control)	RMC-0112
Sachau, B.	EMC-0001
Sachau, B.	EMC-0408
Safranek, Angela	EMC-0368
Salmon, De Anne	EMC-0026
Salvo, Mark (Sagebrush Sea Campaign)	EMC-0610
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary	RMC-0222
Sanders, Kenneth D. (University of Idaho)	RMC-0109
Sanders, Robert	EMC-0494
Sanders, Sandy	RMC-0037
Schleimer, Max and Millie	EMC-0118

Schmidt, Richard H.	RMC-0185
Schmiett, Diana	EMC-0297
Schoellhorn, Nylene	EMC-0537
Schoelsler, Senator Mark (9th Legislative District)	EMC-0620
Schoenberger, Barbara	EMC-0326
Schrader, Don	RMC-0062
Schroeder, Gary (C & D Lumber Company)	EMC-0428
Schroyer, Don L.	EMC-0411
Schroyer, Don L.	EMC-0475
Schroyer, Don L.	RMC-0169
Schubert, Jesse	EMC-0568
Schuetz, Mark	FXC-0065
Schutz, Christopher A.	EMC-0622
Seastedt, Timothy R.	EMC-0125
Seraphinoff, Mike	EMC-0111
Settell, Mike	EMC-0201
Shapiro, Michael	EMC-0389
Shaw, T. Gray	EMC-0018
Sheldahl, Mark (Weyerhauser Company)	EMC-0491
Sherksnas, William C.	EMC-0614
Shields, Charles and Helane	EMC-0167
Shoemaker, Bob (Platte County Weed and Pest Control District)	RMC-0128
Shonle, Irene (Colorado State University Cooperative Extension)	EMC-0198
Sierra, Claire	EMC-0197
Silfvast, Stacey	EMC-0128
Silva, Nancy	EMC-0423
Simonson, Annette	EMC-0073
Simonson, Annette	EMC-0175
Skinner, Monte B.	RMC-0151
Skrine, Eugene	EMC-0485
Skrine, Eugene	RMC-0163
Small, Jack W. and Joyce C.	EMC-0140
Smith, Dallen R. (Utah State University Extension)	EMC-0438
Smith, Jeanne	EMC-0110
Smith, John J.	EMC-0072
Snitkin, Barry	EMC-0165
Snyder, T.	EMC-0573
Sohn, Rick	EMC-0002
Sokol, Dan	RMC-0045
Solomon, Seely	RMC-0099
Southerland, Barbara	FXC-0051
Spitz, Jon	EMC-0290
Springer, Jon	EMC-0146
Stadtler, Al	EMC-0490
Stanek, Barbara L.	EMC-0334
Stanger, Janice	RMC-0034
Stanley, Leslee (Shoshone County Noxious Weed Control Department)	EMC-0285
Steele , Mark	EMC-0115
Steinbach, Imogene K.	EMC-0564
Steinberg, Gary (Sheridan County Weed District)	EMC-0415
Stellflug, Rick (Valley County Weed District)	EMC-0391
Stern, Nancy	RMC-0082

Stevens, Dean	RMC-0126
Stingle, Karen	EMC-0243
Stokes, Tyler	EMC-0012
Stone, Delight	RMC-0148
Stone, Valerie	EMC-0352
Strong, Marilyn	EMC-0104
Strong, Marilyn and Wennstrom, Jerry	EMC-0103
Stuart, Laura	EMC-0134
Stuckman, Scott	EMC-0061
Sutcliffe, Ron	RMC-0047
Sutherland, Julie	RMC-0232
Sutherland, Ron	EMC-0194
Sverdlove, Jill	EMC-0185
Swartz, Alan	RMC-0182
Swolak, Peter	EMC-0572
Takemori, Claire	EMC-0271
Talpai, Ayala	EMC-0087
Tarter, Dean and Mary	RMC-0104
Tarter, Mary (Harding County Weed and Pest)	RMC-0107
Tashel, Carole	EMC-0653
Tashjian, Randy	EMC-0455
Taylor, Ann	EMC-0150
Taylor, Lisa (Summit County Weed Program)	EMC-0370
Taylor, Miranda	EMC-0153
Taylor, Miranda	FXC-0005
Temple, James	EMC-0629
Templeton, Judith A.	RMC-0197
Tennenbaum, Gary (Pitkin County Open Space and Trails)	EMC-0353
Tepfer, Gary	EMC-0159
Terry, Noalani	EMC-0101
Tesche, Elwyn	RMC-0121
Thaemert, Ron (University of Idaho Blaine County Extension)	FXC-0031
Thieda, Shirley	RMC-0088
Thoen, Cheryl	EMC-0292
Thompson, Julie	EMC-0295
Thompson, Valerie	EMC-0586
Tim Higgs (Grand County Weed Department)	FXC-0047
Tipps, Betsy L.	EMC-0336
Tipps, Betsy L.	FXC-0037
Tombleson, Barbara	EMC-0441
Toro, Ida	EMC-0266
Tower, Robert	EMC-0442
Treagle, Charlotte	EMC-0311
Tremper, Lorana M.	EMC-0106
Tretter, Kathryn	RMC-0168
Trochlell, Cathy	EMC-0538
Troutman, Doug	EMC-0139
Turner, Jay	FXC-0042
Turner, Terry (Hill County Weed District)	RMC-0142
Tvedt, Dee	EMC-0082
Tyler, Valerie	EMC-0492
Underwood, Barbarah	EMC-0632

Unger, Kris	EMC-0232
Vallone, Cheryl L.	EMC-0498
Van, Tammy	EMC-0419
Vanecek, Michael	EMC-0268
Vardaman, Emilie	EMC-0275
Varvares, Chris	EMC-0386
Vernon, Jason	EMC-0348
Verrét, Cathy (Product Awareness Consulting)	EMC-0079
Viani, Susan and Nick	EMC-0076
Vickrey, Doug	FXC-0048
Vinton, Joanne	EMC-0169
Volk, Terry (Bottineau County Weed Control)	EMC-0392
Vollmer, Jennifer (BASF)	EMC-0214
Vollmer, Joseph G.	EMC-0299
Wade, David, and Nancy Pobanz	EMC-0451
Wahl, Mark	EMC-0145
Walker, Larry (Chaffee County Weed Department)	EMC-0355
Walters, Scott	EMC-0062
Wanek, Catherine	EMC-0633
Ward, E.	EMC-0369
Wassmuth, Carol Ann	EMC-0135
Waterman, Sharon (Coos County Weed Advisory Board)	EMC-0424
Watkins, Ian	FXC-0022
Weinschenk, Kelly Corbet (Smart Foods Healthy Kids, Inc).	RMC-0022
Wellner, Melanie K.	EMC-0514
Wenzel, Robert	EMC-0094
Wenzel, Robert	EMC-0516
West, Robin	RMC-0003
Westman, Betty	EMC-0511
Wheeler, Mark and Michele Gila	EMC-0102
White, Kathryn C.	EMC-0058
White, Sally	EMC-0096
Whitney, Dana	EMC-0521
Wick, Paul (Teton County Weed District)	EMC-0431
Wieckert, Karen E.	EMC-0345
Wieczorek, Emily	EMC-0265
Wild, Kathryn	EMC-0616
Williams, Carley Marie	RMC-0194
Wilson, Robert E. (University of Nevada Cooperative Extension)	RMC-0049
Wilson, Susanna	EMC-0500
Winans, Greg (Tri County Cooperative Weed Management Area)	EMC-0351
Winfree, Robin	EMC-0080
Wolfe, William T.	RMC-0152
Wroncy, Jan (Gaia Vision/Canaries Who Sing)	EMC-0645
Wroncy, Jan (Gaia Vision/Canaries Who Sing)	RMC-0204
Wunderlich, Ray, III	EMC-0264
Wyant, Jake M. P. (Gem County Weed Control)	EMC-0178
Ylatupa-Mcwhorter, Shaun	EMC-0426
Young, Frank	EMC-0188
Zeligs, Natasha	EMC-0015
Zimmermann, Adele E.	RMC-0072
Zolezzi, Paul (Rocking C Ranch)	EMC-0065

Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement

General Comments and Reponses

RMC-0042-076
Asher, Jerry

Comment: Under alternative C (no herbicides) pg. 2-29 [of the Draft PEIS]: "It *could* be more difficult to effectively treat unwanted vegetation…". Does anyone doubt that it won't be more difficult? "Invasive plant populations would likely continue to spread…" (same statement sixth para. pg 4-114, second full para. pg. 4-1199). Is there doubt that the weeds will continue to spread with no herbicide use? "There would be no risk to TES species…" (because of no herbicides). What about the risk from unchecked weeds out competing the TES species? It is beyond a risk because weeds are and will continue to out compete TES species.

Response: See response to Comment RMC-0144-005 under General Comments and Responses.

RMC-0042-077
Asher, Jerry

Comment: Under the No Action alternative, "As a result, invasive species would *likely* continue their rapid expansion across western landscapes" (last para pg 4-61) Does anyone think the weed spread will stop?

Response: See response to Comment RMC-0144-005 under General Comments and Responses.

RMC-0144-005
Wyoming Game and Fish Department

Comment: Throughout both documents there are numerous instances of the terms 'would', 'may', 'should', 'assume', and 'could'. We have worked with many BLM Field Offices over the years and often receive conflicting degrees of analysis and at times are faced with statements that indicate the policy says we 'may' or 'could' or 'would' consider the items but we do not have to under the guidance documents. We recommend that these be changed to 'will be'. Some examples in the Treatment [Draft] PER are on pages 2-9,2-16,2-19,2-20,4-8, 4-1 02. Some examples in the Herbicide [Draft] PEIS are on pages 2-12,2-15,4 11,4-13,4-22,442, 4-62, 4-67,4-68, 4-72, 4-90, 4-94,4-96,4-116, 4-120, 4-150, 4-154, 4-166,4-167, and 4-194.

Response: The PEIS and PER describe programs and alternatives that may or may not be implemented. Although many of the activities discussed in the PEIS and PER do occur, many aspects of these programs (e.g., acres treated, location of treatments, types of mitigation) are only proposed at this time and may not be implemented. Thus, there is no certainty at this time that many of the actions described above will occur.

RMC-0144-006
Wyoming Game and Fish Department

Comment: There are several instances in both documents where it 'assumes' SOPS [Standard Operating Procedures] will be followed or were followed in discussion alternative and effects of the alternative. Again we strongly urge that 'assume' be replaced with 'will be evaluated and followed".

Response: It is possible that some SOPs would not be implemented or would not be relevant, depending upon which alternative is chosen. See response to Comment RMC-0144-005 under PEIS General Comments and Responses.

RMC-0042-083
Asher, Jerry

Comment: To more accurately reflect field conditions, suggest replacing *may* and *are capable* with usually, or commonly, or frequently.

Response: See response to Comment RMC-0144-005 under General Comments and Responses.

Executive Summary

RMC-0006-008
Central Sierra Environmental Resource Center

Comment: CSERC [Central Sierra Environmental Resource Center] asks, how can losses be both short-term and irreversible?

Response: This statement is incorrect. Short-term losses would not be irreversible. It has been corrected in the Final PEIS.

Proposed Action and Purpose and Need – Introduction

EMC-0306-011
Klamath River Keeper Program and Klamath Forest Alliance

Comment: Segmenting the proposed action in the PEIS and PER, is not consistent with the National Environmental Policy Act, and does not allow for adequate assessment of the human and environmental impacts. This segmentation does not adequately offer the reviewer the information to reasonably assess the effectiveness potential for controlling invasive plants.

Response: See responses to Comment EMC-0306-012 under PEIS Proposed Action and Purpose and Need, Introduction and Comment RMC-0214-011 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments.

EMC-0306-012
Klamath River Keeper Program and Klamath Forest Alliance

Comment: The PEIS indicates that the past EIS's assessed the modification and control of vegetation on ½ million acres. This PEIS identifies there being about 900,000 acres of BLM lands to be managed with herbicides. The BLM states that the PEIS focus is to assess the impacts to the human environment from the proposed herbicide use and that the PEIS will result in a preferred alternative and decision for a federal action on public lands. With 15% of the unwanted vegetation on BLM lands being managed with the use of herbicides, this leaves 85 % of the BLM lands or another 5 million acres of unwanted vegetation to be treated with non-herbicide methods. The BLM indicates that the PER will assess the impacts to the human environment on the remaining 85% of the BLM lands that are occupied with unwanted vegetation. The BLM further states that there will be no new decision for non-herbicide treatments on this remaining 5 million acres. There are several million new acres of unwanted vegetation proposed to be managed in the PER/PEIS for which no new decision will be made. This is not compliant with the requirements under the NEPA, NFMA [National Forest Management Act], ESA [Endangered Species Act], CWA [Clean Water Act] and other pertinent laws and regulations.

Response: Congress and the Administration made the decision for federal government agencies to treat more acres to reduce the threat of catastrophic fire. The BLM has determined that it does not need to make further decisions on the use of non-herbicide treatments. The use of integrated pest management (IPM) techniques with all methods, herbicide and non-herbicide, has been affirmed in all past EIS records of decision concerning vegetation treatments. With the exception of herbicides, no modifications to those decisions are proposed by the agency. The PEIS assesses the effects of the use of approved and proposed herbicides on human health and public land resources in light of the increased number of acres that potentially could be treated with herbicides.

EMC-0411-004
Schroyer, Don L.

Comment: What year did the BLM start actively managing against invasive/noxious weed species?

Response: The BLM has conducted vegetation treatments since its establishment in 1946, including noxious and invasive weed management. It is the responsibility of the BLM to manage public lands under the Federal Land Management and Policy Act and Public Rangelands Improvement Act. As stated in the Purpose and Need, vegetation treatments on public lands serve an important function in reducing the risk of wildfires, improving resource, and enhancing habitats.

RMC-0049-019
Wilson, Robert E.
(University of Nevada Cooperative Extension)

Comment: Page 1 [of draft PEIS] last paragraph leaves out the role of science in addressing the invasive weed problem. Where is the consultation and incorporation of new knowledge into changes in management practices as the knowledge is developed?

Response: The specific section referenced is a summary of past EIS efforts the BLM has undertaken. The current PEIS and PER used available research and scientific analysis in their development. The PEIS also outlines that the BLM uses an IPM approach to vegetation treatments, which incorporates new knowledge and science. The BLM is also moving towards adaptive management in its land use planning, which allows changes in knowledge to be incorporated into management practices.

EMC-0590-011
Western Slope Environmental Resource Council

Comment: Effective management and treatment of unwanted vegetation can be performed using non-herbicide techniques, including fire, mechanical, manual, cultural, and biological control methods. These types of methods have been used traditionally, and in many cases offer the most appropriate options for management that will protect and preserve our local resource lands, as well as our local populations. These non-chemical methods should be considered and integrated into the discussion and analysis presented in the PEIS.

Response: The BLM agrees that these non-herbicide methods are effective for treating unwanted vegetation. The PER that accompanies the PEIS addresses all non-herbicide methods of control in the context of integrated pest management. These methods are also addressed under Alternative C – No Use of Herbicides, in the PEIS.

RMC-0218-026
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: The Programmatic Environmental Report (PER) should have been incorporated in the D[raft] EIS ("PEIS") and subject matter therein should have underwent much more detailed and rigorous analysis due to the tremendous expansion of non-herbicide control method proposed – from 2 million to 6 million acres annually.

Response: See response to Comment RMC-0214-011 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments regarding development of the PER. The PER discloses the general environmental effects of non-herbicide treatments on up to approximately 5 million acres per year of vegetation across the various ecoregions comprising the western U.S. and Alaska. This information is provided to assist BLM offices in future project level analyses of vegetation treatment projects. There are no treatments proposed in the PER requiring rigorous analysis.

EMC-0008-002
Helfand, Judy

Comment: Living on a ranch, I am well aware of the problems with controlling unwanted plants. Manual and biologic methods exist. Even if the short term costs appear to be less, the long terms costs of spraying are enormous. Please reject the recommended alternative given in the plan and utilize other methods.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0026-002
Salmon, De Anne

Comment: I'm writing to ask you to consider effectively managing and treating unwanted vegetation by a variety of non-herbicide techniques including fire, mechanical, manual, cultural and biological control methods.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

Proposed Action and Purpose and Need – Organization of the Vegetation Treatments Assessments

EMC-0060-004
Artley, Dick

Comment: You have failed to seriously consider the following methods that will both slow down the noxious weed spread and kill them where they are already established: 1) Hand pulls them. This is very effective. I know, I have done it. We used a small gas-powered auger to break-up the soil around the root to assure we got every root from the ground. 2) If you really want to stop noxious weed spread to areas that are not yet affected, stop all livestock grazing in that area. Tell the rancher to go elsewhere. Even BLM biologists must know that cattle often carry noxious weed seeds in their hair.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation. Hand-pulling weeds is one option under manual methods. Also see response to Comment RMC-0126-002 under Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0306-009
Klamath River Keeper Program and Klamath Forest Alliance

Comment: The PEIS is more focused on insuring the broad-scale application and chronic use of various herbicides than it is on achieving an effective approach to managing invasive plant species. The BLM's proposed action will most certainly fail if the agency does not adequately incorporate proven non-toxic methods to reduce existing invasive plant populations. The BLM needs to make a specific measurable commitment to reducing its reliance on herbicides for controlling target invasive plant species.

Response: See responses to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation, and Comment RMC-0222-059 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response.

EMC-0503-007
John Day-Snake Resource Advisory Council

Comment: The rationale for separating the herbicide use from the other vegetation management treatments isn't clear. By separating the other means of weed control into a separate document, it takes away from the integrated risk management aspect. Please clarify your intent.

Response: See response to Comment RMC-0214-011 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments regarding separation of herbicide use and non-herbicide treatments. See Chapter 2 in the Final PEIS under Integrated Vegetation Management regarding the BLM's integrated weed management approach.

EMC-0585-006
Western Watersheds Project

Comment: BLM's scoping Notice stated that BLM would evaluate the impacts of treatments – and not only herbicide use. This has not occurred, and no range of alternatives has been developed, and no "hard look" has been taken.

Response: See response to Comment RMC-0214-011 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments

regarding development of the PER. The PER outlines the effects of non-herbicide treatments on public lands resources. The PEIS assesses the impacts of herbicide use. See Chapter 2 of the PEIS, Range of Alternatives, for the range of alternatives included for analysis.

EMC-0585-055
Western Watersheds Project

Comment: BLM claims that its old EISs evaluated use of herbicides in addition to other treatments on approx. 500,000 acres a year ([page] ES-1 [of the Draft PEIS]). There is a large difference between treating that acreage each year, and now claiming that the old EISs' cover the greatly expanded treatments that this [P]EIS is associated with. Much greater impacts to populations of special status species, big game winter ranges, water quality in watersheds, etc. would occur if treatments had been staggered over the past 20 years - in contrast to the massive number acreage of treatments BLM is now proposing.

Response: See responses to Comment RMC-0222-005 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments, and Comment RMC-0222-006 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0585-076
Western Watersheds Project

Comment: BLM's old Veg. Treatment documents that underwent NEPA review, and included a range of alternative actions, and chemicals and acres treated. Now, BLM attempts to somehow authorize a drastic increase in treatments never contemplated in the old EISs - and sneak these in through the PER - without conducting current NEPA on the scope or scale of the non-herbicide treatments it proposes. BLM also cites several policies, none of which have undergone NEPA review.

Response: The BLM is not authorizing any treatments in the PEIS or PER. See response to Comment RMC-0214-011 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments regarding development of the PER. Policy development at the Congressional, Administrative, or Departmental level is not a federal action requiring NEPA analysis by the BLM, and is outside of the scope of analysis for the PEIS.

EMC-0585-079
Western Watersheds Project

Comment: [Draft] [P]EIS at 1-3 states that PER discloses the general impacts of using non-herbicide treatments to the environment, and the PEIS provides an updated herbicide analysis. Yet, nowhere is a NEPA analysis of a wide range of alternatives of treatments (as laid out in the PER) conducted. Serious scientific deficiencies with the PER are described later. BLM PER at [page] 1-6 describes BLM's FO [Field Office] estimation and summary of projects that underlie the [P]EIS proposal. Yet, nowhere is there an analysis of an alternative range of non-herbicide "treatment" acres.

Response: See response to Comment RMC-0214-011 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments regarding development of the PER. See also Alternatives Considered but Not Further Analyzed in Chapter 2 of the PEIS in regard to alternatives for acres for potential treatment.

EMC-0585-080
Western Watersheds Project

Comment: [Draft] [P]EIS [page] 1-7 abandons legitimate NEPA analysis of treatments and alternatives, stating: "the intent of this [P]EIS is to comply with NEPA by assessing the program [sic] impacts of using herbicides to treat vegetation" on BLM lands. Yet, in the scoping notice, BLM stated that it would analyze the impacts of treatments. To comply with NEPA, BLM must assess a range of treatment actions as laid out in the PER.

Response: See response to Comment RMC-0214-011 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments regarding development of the PER.

EMC-0585-084
Western Watersheds Project

Comment: BLM in the DEIS [Draft PEIS] abandoned any analysis of alternative courses of treatment action beyond herbicide use, without any reasoned and valid demonstration of its reasons for doing so.

Response: See response to Comment RMC-0214-011 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments regarding development of the PER.

EMC-0585-231
Western Watersheds Project

Comment: [Page] 1-7 describes the PEIS as " .... Provides Bureau-wide tools for vegetation management. Additionally, it provides an umbrella ESA [Endangered Species Act] consultation". Yet, as previously discussed, there is no current or inclusive NEPA analysis of vegetation management or the battery of treatments proposed. Thus, an adequate BA [Biological Assessment] can not be prepared, and necessary ESA consultation cannot be done under this leaky "umbrella".

Response: As discussed in Chapter 1 of the PEIS under Organization of the Vegetation Treatments Assessments, the BLM was not required to assess non-herbicide management activities because the use of such techniques was affirmed in the previous EISs, and the BLM is not proposing to make any decisions relative to the use of non-herbicide vegetation treatment methods. However, the U.S. Fish and Wildlife Service and National Marine Fisheries Service felt that the effects of all treatment methods should be evaluated in the BA, to better understand the relationship between herbicide and non-herbicide treatment methods, and because the BLM did not prepare a BA at the time it prepared previous EISs. Thus, the BA includes an assessment of all treatment methods.

RMC-0095-004
New Mexico Department of Game and Fish

Comment: However, the D[raft] PEIS fails to address two major issues, which preclude the document from meeting the intent of the National Environmental Policy Act (NEPA) Council on Environmental Quality regulations 1500.1(b), which states that NEPA documents must concentrate on the issues that are truly significant to the action in question, and 1500.2(C), which states that Federal agencies, to the fullest extent possible, shall use all practicable means, to...avoid or minimize any possible adverse effects of their actions upon the quality of the human environment.

Response: The Draft PEIS meets the intent of 40 CFR [Code of Federal Regulations] 1500.1(b). The Draft PEIS focuses on the use of herbicides, which has been identified as the major point of controversy in this PEIS. The issues relevant to a decision on approving herbicides for use on public lands are disclosed in the PEIS using the best available and scientifically accurate information obtainable. The PEIS also meets the intent of 40 CFR [Code of Federal Regulations] 1500.2 (f) [sic], which states "Use all practicable means, consistent with the requirements of the Act and other essential considerations of national policy, to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions upon the quality of the human environment." As stated under the Purpose and Need on page 1-3 of the Draft PEIS, "The need for the proposed action is to reduce the risk of catastrophic wildfires by reducing hazardous fuels, restoring fire-damaged lands, and improving ecosystem health by 1) controlling weeds and invasive species, and 2) manipulating vegetation to benefit fish and wildlife habitat, improve riparian and wetlands areas, and improve water quality in priority watersheds. Additional benefits

accruing …directly relate to restoration of fish and wildlife habitat and improvement of forest and ecological condition which would meet…objectives set forth in the Healthy Forests Restoration Act of 2003…to improve the health of the nation's forest and rangelands. The Herbicide Treatment Standard Operating Procedures and Mitigation sections of Chapter 2 of the PEIS outline the standard operating procedures and mitigation measures required to minimize possible adverse effects of actions.

RMC-0205-014
Oregon Department of Agriculture

Comment: [the approach] for selecting between non-chemical approaches [is unclear], but the handoff between the PEIS and PER is not well delineated.

Response: Although it was difficult to understand the intent of this comment (perhaps because some wording was lost during preparation of the letter), it appears that the commenter is concerned about how different treatment methods would be selected. Under all alternatives, the BLM would have several vegetation treatment methods available for use. Based upon an assessment of likelihood of success, using past experience and scientific knowledge as a guide, BLM field offices would select the method(s) that would best manage vegetation and ensure long-term treatment success. This would be done at the local level on a project-by-project basis.

RMC-0214-011
Natural Resources Defense Council and National Wildlife Federation

Comment: The Subjugation of Non-chemical Treatments to the PER is Invalid. BLM's decision to abolish consideration of mechanical and vegetative treatments to a non-NEPA document is without merit or justification. The definition of a programmatic EIS (PEIS) is a "document in which the Agency considers a number of related actions or projects being decided within one program. As such, a PEIS looks to the environmental consequences of a program as a whole. One of its purposes is to assess the impact of connected and cumulative actions under one programmatic umbrella in order to determine significant impacts to the environment. In it, the analysis of environmental impacts is tied to a specific program and the individual and cumulative effects of each project individually, and all projects together, are analyzed in a way which allows senior level decision makers to examine the implications of their programs." BLM has composed a document that fails in this regard—a document whose singular nature is to analyze treatments of invasive species via the use of chemical applications.

Response: The decision to address non-herbicide treatments in the PER was arrived at through numerous discussions with the Council on Environmental Quality (CEQ). The CEQ correctly pointed out to the BLM that a PEIS should focus on the programmatic decision to be made—in this case, the adoption of a suite of herbicides into the integrated pest management (IPM) tool kit the BLM uses. The IPM approach has been discussed and affirmed in all previous EISs pre-dating this effort, and the BLM is not making any decisions about whether IPM would be used, as it is required by BLM manual direction and policy. Nor is the BLM making decisions about the other vegetation treatment techniques; only herbicides, as stated in the Proposed Action and Purpose and Need in Chapter 1 of the PEIS. The purpose of the PER, which is stated in Chapter 1 of the PER, is to disclose the potential environmental effects of the other control techniques that may be incorporated by reference into field-level NEPA analyses. The PER accompanies the PEIS to provide the context and background for the use of herbicides in an IPM context. These non-herbicide techniques are also analyzed in Alternative C of the PEIS. The effects disclosures in the PER are included under Cumulative Effects found in Chapter 4 of the PEIS.

The BLM disagrees with the statement the document's singular nature is to analyze treatments of invasive species via the use of chemical applications. The Proposed

Action and Purpose are well established to determine which herbicides should be available for use on public lands. The need for the Proposed Action is to reduce the risk of catastrophic wildfire by reducing hazardous fuels, restoring fire-damaged lands, and improving ecosystem health by 1) controlling weeds and invasive species, and 2) manipulating vegetation to benefit fish and wildlife habitat and improve forest and ecological conditions. Not all vegetation is invasive or noxious. The PEIS covers the use of herbicides and their effects on all vegetation types.

RMC-0214-018
Natural Resources Defense Council and National Wildlife Federation

Comment: It is not within BLM's purview to literally exile treatments and strategies other than the herbicide alternative to a non-NEPA document that exists outside the scope of the D[raft] PEIS. The agency has offered an EIS that is singularly fixated on one aspect of the issue; an EIS that fails to consider legitimate alternatives other than the preferred strategy of employing chemical based herbicides as the sole means to combat the spread of noxious and invasive species on the public lands of the West.

Response: As discussed in Chapter 1 of the PEIS under Organization of the Vegetation Treatments Assessments, the primary issue identified during scoping and requiring analysis was the use of herbicides and the increase in the number of herbicides used and acres treated using herbicides. The BLM did consider a non-herbicide use alternative (Alternative C) and did provide an analysis of the costs and benefits of other treatment methods. Also see response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

RMC-0217-013
Sierra Club Utah Chapter

Comment: The Sierra Club Utah Chapter is concerned that the PEIS is attempting to sneak into a programmatic EIS a series of treatments which are not analyzed by publishing the PER at the same time as the PEIS and apparently linked to the PEIS in a loose fashion.

Response: As stated in the Proposed Action in Chapter 1 of the PEIS, the PEIS has been developed to determine which herbicide active ingredients would be available for use on public lands in the Western U.S., including Alaska. The PEIS is not proposing any specific treatments, or series of treatments. Site-specific NEPA analysis would be conducted for all future proposed vegetation treatment projects prior to approval. The PER discloses the general impacts of non-herbicide treatment methods on vegetation within the various ecoregions comprising the western U.S. and Alaska. The PER serves to provide the context and background for the cumulative impact analysis and ESA [Endangered Species Act] consultation. The PER does not propose any treatments, but serves as a general environmental report on the impacts of these non-herbicide treatment methods for incorporation by reference into more regional and site-specific environmental analyses under NEPA.

RMC-0218-042
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: We share these concerns, and apparently herbicide use was the dominant concern of the public, giving rise to the BLM's unwise decision to split off the non-chemical methods of control out of the DEIS [Draft PEIS] into the less rigorously analyzed programmatic "environmental report" (which is highly questionable legally).

Response: Herbicide use was the dominant concern of the public and is the focus of the PEIS. Non-chemical methods are addressed under Alternative C of the PEIS. The PER is a general disclosure of the estimated effects of up to five million acres per year of non-chemical treatment methods on ecoregions and public lands resources. The PER does not analyze these effects in relation to a specific proposed action, nor does it propose any decisions regarding the use of these methods. There is no regulation or statute precluding an agency from developing an environmental report on any activity

at any time to provide useful information to agency staff for designing projects or estimating environmental impacts in subsequent NEPA analyses.

RMC-0221-045
Center for Biological Diversity

Comment: Some ongoing vegetation treatments are detailed in the Draft Programmatic Environmental Report ("DPER"). However, first, it is entirely unclear how the BLM intends the DPER to be used and why these treatments were not evaluated along with the other herbicide treatments in the context of a consolidated EIS. The NEPA process and the circulation of draft documents are intended to *inform* the public and decision makers. Unfortunately, the process undertaken by the BLM here, issuing a D[raft] PER at the same time as a D[raft] PEIS, has done the opposite; it has confused the issue and muddied the analysis. The public has not been adequately informed of the purpose of the DPER or how it relates to the D[raft] PEIS. In order to fulfill its mandates under NEPA, the BLM must thoroughly explain its objectives for producing this document, how it relates to the D[raft] PEIS, and provide the public adequate time to review and comment on the documents once those explanations are provided.

Response: The organization of the PEIS and PER is discussed in Chapter 1 of the PEIS and PER under Organization of the Vegetation Treatments Assessment. The level of analysis was similar for all treatment methods in the PEIS and PER. However, only herbicide treatments required NEPA review in an EIS. These objectives were provided in both documents, and the public was given 90 days to review the documents.

RMC-0222-005
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: We also contend that the PER (if it is to remain a separate document from the DEIS [Draft PEIS], which it should not) must be analyzed under NEPA. Environmental impact statements and records of decisions in the late 1980s and early 1990s (PER: [pages] ES-1; 1-1; 1-7) analyzed the consequences of non-chemical vegetation treatments on 500,000 acres in 14 western states (PER: [pages] ES-1, ES-2). The PER describes annual treatments on approximately 6 million acres annually (PER: [page] 1-5) in I7 western states (PER: ES-1). Such an enormous expansion of the BLM vegetation management program, particularly when considered with the more than three-fold increase in proposed herbicide applications (from 300,000 to 932,000 acres annually; PER: ES-I), requires that the agency produce a new environmental impact statement (EIS) to assess all reasonable alternatives and the impacts of preventing and treating unwanted vegetation on 6 million acres of public lands per year. The fact that the BLM believes it was mandated by the President's *National Fire Plan* and *Healthy Forests Restoration Act of 2003* and other policies to "take more aggressive actions to reduce catastrophic wildfire risk on public lands" (PER: [page] 1-1) does not excuse the agency from analyzing the PER pursuant to NEPA.

Response: See response to Comment RMC-0214-011 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments for a discussion of the development of the PER. The Proposed Action in Chapter 1 of the PEIS does not include a proposal to prevent and treat unwanted vegetation on 6 million acres of public lands per year. The proposed action is to "determine which herbicide active ingredients are available for use on public lands...to improve the agency's ability to control hazardous fuels and unwanted vegetation." The six million acres figure used for analysis purposes was derived from ongoing BLM programs, estimated Emergency Stabilization and Rehabilitation (ES&R) work following catastrophic fire, and Fire Regime Condition Class data. This estimated acreage serves as a baseline for analysis to determine the relative proportion of acres that could be

treated with herbicides out of the suite of IPM treatment methods available, and to estimate the impacts of herbicide use on human health and public land resources and sensitive species. The analysis would be used determine which herbicides the BLM would adopt for use, as well as which herbicides the BLM would discontinue using in its ongoing program work.

RMC-0222-047
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The BLM falsely identifies the "primary issue of controversy" to be BLM's "continuing and proposed increase in the use of herbicides in vegetation treatment problems needed to implement the National Fire Plan and related initiatives" (1-2). In fact, the primary issue of controversy that the Restore Native Ecosystems Coalition raised in person with Brian Amme of BLM as early as 2002, and which we have raised throughout our development and transmittal to the BLM of the Restoration Alternative is that the BLM: refuses to acknowledge BLM management that is causing vegetation problems via their other "stand-alone" land management practices (e.g., ORV [off-road vehicle] use managed by recreation managers; livestock use managed by livestock managers; tree-cutting managed by "fuels reduction" managers); refuses to consider and utilize passive restoration as a non-toxic approach proven to be effective in many sites experiencing invasive species problems; and refuses to link (1) prevention of invasive species, (2) "control" of invasive species, and (3) maintenance and restoration of native vegetation habitat as a valid, integrated approach to controlling invasive species that is different than the BLM's current practice and preferred alternative.

Response: Herbicide use was identified as the primary issue of controversy during scoping with the public; this issue has also been affirmed as the primary issue of controversy in every previous EIS leading to this effort. The BLM acknowledges that the primary issue of controversy for the Restore Native Ecosystem (RNE) Coalition may be different; however, the BLM is obligated to identify the broad scoping issues for analysis from the full range of scoping comments received, not just those received from the RNE Coalition, which is a narrow focus interest group that does not broadly represent the public at large. At the time of submittal of the RNE alternative in 2002, BLM informed the RNE coalition much of the submitted alternative was outside the scope of analysis and would be more properly addressed in land use planning at the local level. Also see responses to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread; response to Comment RMC-0167-007 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding passive restoration; and response to Comment RMC-0222-019 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding Integrated Weed Management.

RMC-0222-139
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: BLM's failure to address the link between livestock grazing and invasive species; the lack of grazing prescriptions in the DEIS [Draft PEIS]/PER; and the agency's oft-stated goal to reduce sagebrush and increase grasses and forbs (purportedly to improve sage grouse habitat) would have us believe that the DEIS [Draft PEIS]/PER are in fact an elaborate (veiled) grazing plan. And under this program, federal grazing permittees will be the only beneficiaries. As stated above, and as demonstrated daily across the sagebrush steppe, grazing harms sage grouse. Livestock will continue to consume the bulk of grasses and forbs that result from vegetation treatments described in the DEIS [Draft PEIS]/PER, and will continue to cause weed problems wherever they are allowed to graze among weeds, on burned sites or in areas sprayed with herbicides.

Response: See the Proposed Action in Chapter 1 of the PEIS. The PEIS addresses the effects of herbicide use on human health and public land resources. The PEIS contains no information at this national programmatic level that would allow the analysis in the PEIS or the information contained in the Environmental Report to serve as an elaborate grazing plan. Grazing plans are specific to allotments, developed at the field office level, based on existing land use plan goals and objectives, following the grazing regulations at 43 CFR [Code of Federal Regulations] 4100.

Proposed Action and Purpose and Need – Proposed Action

RMC-0218-033
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: There is no explanation as to why the BLM hasn't been able to use herbicides in Alaska, Nebraska, and Texas (DEIS [Draft PEIS] p. 4-20). It is because residents of those states don't want herbicides used? There should be analysis of current methods use in those states to control invasive plants or reduce fire risk, the need for these activities or herbicide use in those states, why herbicides haven't been used in those states and how current BLM plans to introduce herbicide use in those states relate to state law, local regulations and the public interest in Alaska, Nebraska and Texas, as well as any special ecological considerations regarding herbicide use in those states.

Response: Herbicides can be used in Alaska, Nebraska and Texas, although herbicide use by the BLM has not been extensive in these states. Public lands in Nebraska and Texas were not previously considered in the 13-state Vegetation Treatments EIS (1991) due to the small acreage of public lands present in those states, even though the states with BLM offices that administer the public lands in Nebraska and Texas (Wyoming and New Mexico), were considered. The use of herbicides on public lands in Alaska has not been considered in any previous EIS. The BLM included these states in this current programmatic analysis to bring all the BLM public lands in the 17 western states, including Alaska, under one EIS for herbicide use for consistency, which will ensure that the BLM's list of approved herbicides applies to all states in the West with BLM administration.

Proposed Action and Purpose and Need – Purpose and Need for the Proposed Action

EMC-0018-005
Shaw, T. Gray

Comment: Public land management should be based on long-term ecological health and the best science available, and should err on the side of safety and conservation. Non-herbicide vegetation treatment options are available.

Response: As noted in Chapter 1 of the PEIS under Purpose and Need for the Proposed Action, one need for the proposed action is to improve ecosystem health. The BLM is considering both herbicide and non-herbicide treatment methods to improve ecosystem health. Also see response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0101-005
Terry, Noalani

Comment: The BLM needs to educate the public on how exotic plants are spread (of course, it would help if some of these species had not been introduced intentionally, perhaps even by the BLM) and the dangers they present, and do whatever it can to prevent infestations. Livestock grazing, road construction, logging and fuel reduction projects as well as off-road vehicles, hunters and anglers, and even bikers, hikers and boaters spread the seeds of these plants. These activities need to be monitored with an eye to preventing the spread of weeds. Also, I understand seeding some areas with native plants is very helpful; this is being done on the Uncompahgre Plateau west of here.

Response: A discussion of how invasive vegetation is spread is given in the Vegetation section of Chapter 3 of the PEIS and PER under Noxious Weeds and other Invasive Vegetation.

EMC-0139-015
Troutman, Doug

Comment: I have had but a brief time to give cursory review to the document, but find it basically disappointing and distorted. I worry after 30 years of experience that while fuel reduction is a proclaimed goal, "range improvement" for livestock grazing is the real proposed alternative. The impacts section is particularly weak in Recreation, Wilderness, and again repeatedly reflects what's good for cows is good for the USA.

Response: The BLM disagrees. The Proposed Action and Purpose and Need are stated in Chapter 1 of the PEIS. The Scope of Analysis in Chapter 1 of the PEIS outlines that the PEIS will not address vegetation treatments that enhance forage production for livestock grazing.

EMC-0161-009
Richards, Vivien

Comment: Public land management should be based on long-term ecological health, the best science available, and should err on the side of safety and conservation.

Response: See responses to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation; Comment EMC-0026-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated; and Comment RMC-0222-059 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response.

EMC-0362-003
Willits Environmental Center

Comment: The BLM's claim that these herbicides are necessary to reduce catastrophic wildfires and to protect ecosystems from invasive weeds is false. In reality, creating a landscape of dead plant matter will only increase the hazard of large scale wildfire. The soil biology on which on all plants are dependent to be healthy will be destroyed by the use of these poisons.

Response: See response to Comment EMC-0646-174 under PEIS Environmental Consequences, Cumulative Effects Analysis.

EMC-0503-010
John Day-Snake Resource Advisory Council

Comment: There is very little discussion in the document as to the rationale for the massive amount of weed treatment being proposed in the [P]EIS. We are supportive of the efforts of BLM to address the threat that noxious weeds pose to the health of public and private lands throughout the west. We feel that the BLM leaves itself susceptible to lawsuits and future obstacles by leaving out the huge body of peer reviewed literature that carefully documents the impacts of invasive species.

Response: As discussed under Scope of Analysis in the Decisions to be Made and Scope of Analysis section of Chapter 1 of the PEIS, the PEIS is not a weed management document. The PEIS is an analytical document that addresses the use of herbicides on vegetation and public land resources. Invasive species and noxious weeds are included under vegetation. See Chapter 6 for the list of references used in the development of this PEIS.

EMC-0584-069
Western Watersheds Project

Comment: An independent assessment of the "need" for the proposed actions, and the risks of undertaking new disturbance must be conducted as part of this process. We would like to be involved with this effort, and would be happy to provide you with a list of names of scientists that could be involved in this. This should be conducted by qualified ecologists not tied to Western Land Grant universities.

Response: The Department of Interior's draft Cohesive Strategy to implement the National Fire Plan are among the policy documents referenced that provide an assessment of the need for the proposed action in the PEIS. The BLM is not aware of any statutory or regulatory requirement for an agency to conduct an independent assessment to support its Purpose and Need for a Proposed Action. There is no rationale provided as to why a qualified ecologist from a Western Land Grant University is any less qualified than a scientist from a different educational institution. The BLM considers such a restriction as unnecessarily biased to disregard any credited educational institution as the source of objective scientific information on any subject. See PEIS Chapter 6, References, for the source documents used and Chapter 5, Consultation and Coordination, for a list of the qualified preparers and reviewers of the documents.

EMC-0585-132
Western Watersheds Project

Comment: While this [P]EIS frequently claims herbicide use related to livestock forage is not part of what the [P]EIS addresses, it provides no clear way to distinguish herbicide use related to forage vs. other purposes. This must be clearly separated, and a rationale and methodology applied.

Response: The PEIS provides an analysis of the impacts of herbicide use on public land resources, as related to hazardous fuels reduction and controlling unwanted vegetation in the form of invasive species and noxious weeds. The Proposed Action is described in Chapter 1 of the PEIS. NEPA analysis conducted for individual and site-specific projects will identify the Purpose and Need relative to the Proposed Action for that project and identify whether the project is related to forage or other purposes. As identified in the PER, beneficial effects of vegetation treatments would cross-cut many resource programs, including, but not limited to wildlife habitat, water quality and quantity, sensitive species, wild horses and burros, and livestock.

EMC-0640-018
Animal Welfare Institute

Comment: The purpose and need of the PEIS is unclear and the scope of the analysis in the PEIS, PER and associated documents is confusing. The PEIS claims that its purpose and need are to lessen the potential for catastrophic wildfires by reducing hazardous fuels, restore fire damaged land, and improve ecosystem health by controlling weeds and invasive species and manipulating vegetation to benefit fish and wildlife habitat. Though the introductory section of the PEIS seems to emphasize various presidential directives and orders intended to address the risk of catastrophic wildfires, this carefully crafted purpose statement clearly goes beyond controlling or manipulating vegetation to reduce the potential for catastrophic wildfires and goes beyond controlling the spread of invasive exotic species to effectively cover all aspects of vegetation management of relevance to the BLM.

Response: Vegetation treatment methods apply to any type of vegetation treatment conducted by the BLM, and all resource program work involving vegetation treatments conducted by the BLM (approximately one million acres per year of the six million acres identified in the PEIS) have been factored into the acreage calculation and PEIS analysis for the purposes of assessing cumulative impacts. The BLM has determined that the Purpose and Need and Scope of Analysis are clear in the PEIS and do not require modification or further clarification.

EMC-0640-021
Animal Welfare Institute

Comment: There is a clear disconnect in the content of the purpose and need statement versus the decision to be made. The BLM cannot claim that it needs to engage in vegetation management to address a whole range of issues (i.e. reduction in hazardous fuels, improve wildlife habitat, control weeds and invasive species) but then make a decision that is limited to the expansion of herbicide use on western public

lands. Regardless of the existence of previous NEPA documents on herbicidal and non-herbicidal techniques, the BLM erred and violated federal law by failing to subject the entire program to review as part of this decision-making process. Indeed, many of those previous NEPA documents are, as the BLM concedes, either old or regional/local in scope and, therefore, do not provide a programmatic level of review for such a wide-ranging program that is clearly required under NEPA. Strangely, in this case, the BLM spent the time and effort to prepare a programmatic review of its entire vegetation management program but has limited its decision to a single component of the program. That decision simply makes no sense.

Response: See response to Comment RMC-0214-011 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments regarding development of the PER. The BLM developed the programmatic analysis based on the programmatic decision to be made. Alternative C in Chapter 4 of the PEIS provides an analysis of impacts of non-herbicide methods used to treat vegetation. The PER further discloses the effects of non-herbicide treatments on ecoregions and different vegetation communities at an assumed level of activity for analysis purposes.

EMC-0640-028
Animal Welfare Institute

Comment: While there is ample evidence that many ecosystems in the western United States have evolved with fire and that the suppression of fires have altered these ecosystems, it is not as clear that we are able to accurately emulate the intensity, frequency, or geographic range of the natural fire paradigm through the use of prescribed burning. We may be able to estimate the frequency of natural fires in a particular ecosystem pre-European colonization (i.e. average of 1 fire ever 25 years, 50 years, 100 years), but it may be impossible to determine the specific frequency, duration, and intensity of such fires using our existing techniques. Moreover, even if we can obtain such information, are we using prescribed burning to emulate those conditions or are we overusing prescribed burning to achieve a desirable habitat condition that benefits a particular interests or maximizes biodiversity at the expense of natural processes? Moreover, can we legitimately strive to return ecosystems to the conditions that existed pre-European colonization considering that we don't have a solid understanding of what those ecosystems looked like or how they were structured? Modern day threats to ecosystems are different than those of the past, and environmental conditions of today may be different than those of the past. The suggested criteria won't prevent the use of prescribed burning, disking, plowing, or even herbicide use, but they will promote the role of natural factors in driving ecosystem processes wherever and whenever possible regardless of the current condition of the area except when certain conditions prevail.

Response: The commenter makes several good points, but it is difficult to respond to these declarative statements. Because ecosystems are dynamic in space and time, the BLM does not have, nor has it had, a goal of simply returning vegetation to a specific point of time (e.g. the conditions that existed pre-European settlement). In general, most vegetation management treatments in the BLM are designed around specific objectives, such as reducing fuel loadings in a particular location, providing sage-grouse habitat, or eliminating conifer competition. Whether these produce conditions that emulate pre-European settlement times, or prescribed burning is being over-used, cannot be evaluated.

EMC-0643-069
California Indian Basketweavers Association

Comment: Risks to Air Quality and Water Quality are both highest in the BLM "Preferred Alternative" (p. 4-9 and 4-32 [of the Draft PEIS]). The [P]EIS claims to offset these impacts by stating that "benefits" are highest in these alternatives as well, (the benefits being the elimination of non-native weeds from public lands). Yet, the [P]EIS offers no scientific documentation for the promise of benefits or success. What evidence can the agency show to demonstrate that the use of herbicides at any scale can or has had an appreciative effect on the presence or expansion of invasive weeds? In fact, research has shown that herbicide intervention has the net effect of simplifying ecosystems and reducing biological diversity (e.g., Groves 1989, referenced in CIBA 2002). In particular, without concomitant plans to limit invasion-promoting disturbance and protecting uninvaded areas, the use of herbicides as proposed in this [P]EIS is nothing but a waste of time and money. Weeds will simply return, with herbicide resistance and with less competition from the native species that are easily killed by the chemical herbicides. These issues were well referenced and documented in CIBA's [California Indian Basketweaver's Association's] previous comments in scoping, 2002.

Response: See response to Comment EMC-0646-174 under PEIS Environmental Consequences, Cumulative Effects Analysis.

FXC-0019-002
Degan, Janet

Comment: When the entire ecosystem is taken into account, the healthy choice is no herbicide use, which benefits the public, wildlife, plants, land, water and air. The herbicides include several persistent, mobile, and toxic chemicals, including known developmental and reproductive toxins. Proposed herbicides that put applicators at risk are: 2,4-D, bromacil, chlorsulfuron, diquat, diuron, fluridone, hexazinone, tebuthiuron, and triclopyr. Also included is picloram which is no longer registered for use by the California Department of Pesticide Regulation (CDPR).

Response: Treatment of vegetation without the use of herbicides is evaluated in the PEIS under Alternative C, while the risks to applicators from use of herbicides are discussed in detail in the PEIS in Appendix B and in Chapter 4 under Human Health and Safety. The BLM would only use herbicides that are registered by the USEPA, and would not use herbicides unless they were registered for use in the state in which the treatment was occurring. Picloram poses low risk to fish, wildlife, and humans, but can have adverse impacts on non-target plants, as discussed in Chapter 4 of the PEIS.

FXC-0071-012
Campbell, Bruce

Comment: Why make such generalizations as to say in an answer to Frequently Asked Questions on the URL mentioned earlier in this comment that "Hazardous Fuel Treatments" will target "dead and down woody materials", "sagebrush", and "juniper and pinyon trees," when elsewhere in the documents it mentions the importance of snags for habitat including for sensitive species, it calls for the removal of juniper and pinyon to help sagebrush land plus mentions need to assist sage grouse habitat, and it mentions how junipers and pinyons are native species in at least some of their current range?

Response: The response given in the "Frequently Asked Questions" was kept short to provide the public with a succinct document that provided an overview of the proposed program. The PEIS and PER were more comprehensive and allowed for a more detailed discussion of hazardous fuels treatments.

PHC-005-005
K. Fite

Comment: So when I look – and I have not read these documents in their entirety yet, but in listening to their presentation, what I see here is a bonanza for the chemical companies. BLM is proposing to greatly expand its weed treatment on public lands, at

the same time it is increasing its disturbance. Part of what is going on here – I'm sure the only way BLM would be able to pay for treating all these expanded acres is using federal fire funds.

Response: Herbicides are just one of the tools available for fuels treatments. Managers and resource specialists generally have a very good estimate of which tools are most effective and the outcomes of various vegetation treatments. As stated under Site Selection and Treatment Priorities in Chapter 2 of the PEIS, herbicide treatments will be chosen when effective non-chemical methods of vegetation control are not feasible and only after considering the effectiveness of all potential methods. Following integrated weed management procedures, most herbicide treatments will be combined with other methods, including removal of treated fuels mechanically or by fire plus revegetation. If a noxious weed population is considered to be a fuels hazard or has altered the fire regime, fire funding would be a possibility. However, because not all noxious weeds are in this category other resource programs could be funding their treatment. Treatments may also be funded by other sources. For example, if treatments are part of a cooperative weed management area covering differing land ownerships, other outside funding may be used as well.

RMC-0042-010
Asher, Jerry

Comment: Give more detailed explanation of the problem/impacts from weeds in the Summary, Purpose and Need sections especially, and elsewhere in the EIS and similar places in the PER.

Response: The BLM has provided additional information on impacts from weeds throughout the Final PEIS and PER, and in particular in Chapter 3 under Noxious Weeds and other Vegetation. However, the primary objective of the PEIS and PER is to document the effects of treating vegetation.

RMC-0042-054
Asher, Jerry

Comment: The Executive Summaries and the Purpose and Need, discuss the history of fire as follows: "...severity and intensity of wildfires in the West has increased dramatically..." I can't find similar comments about the weed expansions that have occurred all over the west.

Response: Information on weed expansion is given in the Introduction in Chapter 1 and under Noxious Weeds and other Invasive Vegetation in the Vegetation section of Chapter 3 of the PEIS.

RMC-0042-055
Asher, Jerry

Comment: Say something similar about weeds in the Summary and Purpose and Need sections of the BLM EIS and PER because weeds have also increased dramatically.

Response: See response to Comment RMC-0042-054 under PEIS Proposed Action and Purpose and Need, Purpose and Need for the Proposed Action. Additional information on noxious weeds and other invasive vegetation has been provided in Chapter 3 of the Final PEIS under Noxious Weeds and other Invasive Vegetation in the Vegetation section.

RMC-0042-061, 062
Asher, Jerry

Comment: The reader needs to learn about the common permanency (some authors call it "irreversible") to many weed invasions. Add some language in the Summary and Introduction and Purpose and Need like the following: "The impact of (weed) invasions can be permanent when economic and environmental factors limit the ability of a managing agency to restore the ecosystem to a healthy state" (National Academy of Sciences 1992) (pg3-26 USDA EIS 2005)[;] "...Ecological damage from extensive

noxious weed infestations in often permanent" (Utah State, Biological Wildlife brochure – enclosed) [; and] "Loss of wildlife habitat function would be irretrievable." This is a great sentence in your [Draft] BLM [P]EIS, under Cumulative impacts, pg 2-32 [of the Draft PEIS]. However, it is very small print buried in a table. Similar language needs to be "up front" in the text of the document.

Response: The BLM has added language in the Summary, Introduction, and Purpose and Need sections on how the impacts of weed invasions that may become permanent impacts both ecologically and economically. We have also expanded the section on invasive species issues in Chapter 3 under Noxious Weeds and other Invasive Vegetation.

RMC-0042-063
Asher, Jerry

Comment: "The BLM estimates that nearly 36 million acres of public lands were infested with weeds in 2000, and that invasive plants and noxious weeds are spreading at approximately 2300 acres per day." (pg 3-26) Great that you included this information that is critical to helping people understand the severity of the situation. However, it is "buried" back deep in the huge document.

Response: The text of the Final PEIS and PER has been changed in response to this concern. The estimated rate of weed spread has been added to the Executive Summary and Chapter 1 of both documents.

RMC-0042-064
Asher, Jerry

Comment: Include that 2300 acres per day increase in the Summary and the Proposed Action/Purpose and Need sections of the [P]EIS and Environmental Report [PER]. That is where the Forest Service put their similar estimate of weed spread (USDA 2005 pg. 1-2).

Response: See response to Comment RMC-0042-063 under PEIS Proposed Action and Purpose and Need, Purpose and Need for the Proposed Action.

RMC-0042-067
Asher, Jerry

Comment: "...BLM estimates that nearly 36 million acres of public lands were infested with weeds in 2000…". "BLM treated approximately between 250,000 and 320,000 acres of noxious weeds during 2001 and 2004. (pg. 3-326). On average then, BLM is treating about 285,000 acres per year. Therefore, since BLM is treating less than one percent of the weed acreage, it would appear that 35 million acres are growing and spreading unchecked. (I know BLM does not intend to treat all weed acres). If that 35 million is exaggerating, suggest substituting the acreage that is growing unchecked – and the amount of weeds spreading unchecked (out of control) will still be enormous.

Response: The BLM proposes to increase treatment acreages of areas infested with weeds several-fold from current levels. Treatment levels are determined, in part, by the amount of funding approved by Congress; the BLM does not anticipate being able to treat more than 6 million acres annually (and only a portion of acres would be treated to control weeds), based on project funding and manpower estimates. The BLM hopes to slow, and potentially reverse, the increase in the number of acres infested with weeds. Even with the proposed treatments, the spread of weeds will continue to be a major issue faced by the BLM.

RMC-0042-074
Asher, Jerry

Comment: Replace threaten with damages, degrades, deterioration, blocks ability to meet management objectives, weeds are taking over and dominating many areas.

Response: The text of the PEIS has been changed in response to this comment. See the Introduction in Chapter 1 and the Executive Summary.

RMC-0050-004
Sierra Club Rocky Mountain Chapter

Comment: More generally the document seems to lack a compelling scientific argument for why the large-area spraying program discussed is going to have any long-term impacts on the BLM's goal of fire reduction. (Or perhaps the real goal is long term employment for the pest control profession!) If there's a proof of concept study out there demonstrating this, then the BLM really should tell us about it. Buying into a multimillion dollar, risky management program without a large-scale proof of management efficacy is unacceptable and resource-wasting. We all know that the accepted and proposed new herbicides kill weeds. What we do not know is what returns 2-5 years after the treatment, and how this recovery alters the fuel loads in ways that are considered acceptable, desirable, and ecologically and economically significant.

Response: Herbicides are just one tool available for fuels treatments. Managers and resource specialists generally have a very good idea of which tools are most effective, and a good prediction of the outcome of various vegetation management treatments. However, as the commenter suggests, these outcomes are not always exactly as predicted. Thus, treatments must be monitored and continually evaluated, which is the concept behind adaptive management. If the specific treatment prescribed results in the desired condition in subsequent years, then treatment objectives are met. If monitoring shows that the desired condition has not been reached, then the treatment must be re-evaluated, and modifications made so that future applications produce the conditions desired.

RMC-0069-004
Desert Survivors

Comment: Many of the "noxious weeds" referred to in the PEIS have been around for many years and do not pose a threat to life, whether human, plant or animal. The fostering of a "noxious weed threat" is a weird form of mass hysteria that the BLM simply repeats and repeats in an attempt to propagandize. Effects of these "noxious weeds" are 'way overblown in the PEIS and are not adequately proven.

Response: See response to Comment EMC-0503-010 under PEIS Proposed Action and Purpose and Need, Purpose and Need for the Proposed Action. It is the responsibility of the BLM to manage public lands under the Federal Land Management and Policy Act. As stated in the Purpose and Need, manipulating vegetation on public lands is an important function of the BLM to reduce the risk of wildfires, improve resources, and enhance habitats.

RMC-0069-006
Desert Survivors

Comment: Fire has been apart of Western ecology for millions of years. Most of the vegetation is fire-adapted. The BLM is reacting to spectacular news reports and awe-inspiring real-time photos of military spray machines and smoke-jumpers, but really the millions of dollars the BLM spends on fires is wasted. Natural fire cleanses the landscape. Putting out fires interrupts this process and results in larger fires from the larger amounts of fuels that result from the fire being extinguished. A better way to deal with fuel buildup is to let the fires burn, thus eliminating the problem. The real difficulty comes from the rural community and BLM fire professionals, both of whom have come to depend on the fire program for summer employment. These socio-economic drivers of the fire program are not dealt with in the PEIS, but they should be. Using herbicides is not going to solve the fire problem. Letting the fires burn will do this for you.

Response: The commenter is correct in asserting that socioeconomic (and political) considerations can become the basis for some land management and vegetation management decisions and activities. However, it is important to note that the BLM is attempting to increase the use of the Appropriate Management Response to fires, as well as planning for more areas to employ Wildland Fire Use concepts. This is being done to help reduce the amount of taxpayer dollars spent on wildfire suppression, but with the realization that fire is a naturally occurring phenomenon. Under the appropriate environmental and management conditions, naturally occurring fire may be used to restore or maintain vegetation. The increase in human population in the west in recent years, as well as the socioeconomic rationale for fire suppression, indicate that some degree of fire suppression and fuels management capability remain desirable for BLM-administered public lands.

RMC-0069-016
Desert Survivors

Comment: Your herbicide spraying program fails with respect to all four "public benefits" touted on your website. It does not "reduce wildland fire risk", it increases it. It does not "improve vegetation condition", it kills vegetation. It does not "improve fish and wildlife habitat", it kills fish and wildlife. It does not "improve watershed condition", it pollutes the watershed. This proposal to use herbicides on public lands must be eradicated.

Response: As discussed in Chapter 2 of the PEIS under Site Selection Priorities, herbicide treatments will be chosen when effective non-chemical methods of vegetation control are not feasible, and only after considering the effectiveness of all potential methods. Following integrated weed management procedures, most herbicide treatments will be combined with other methods, including removal of treated fuels mechanically or by fire plus revegetation. If herbicides can control invasive plants that have disrupted fire regimes and provide a competitive edge to species that do not disrupt fire regimes, then wildland fire risk is reduced. Similarly, providing a means for native species to reestablish can also improve vegetation condition. When applied following label requirements and using mitigation measures included in the PEIS/PER, as well as conservation measures required by regulatory agencies, neither habitat or watershed condition will be impacted.

RMC-0072-006
Zimmermann, Adele E.

Comment: If this proposed action has been instigated by businesses which graze livestock on public lands; and whose bottom line would be enhanced by using public funds and endangering the public's lives and health and the health of our ecosystems; then such action, being against the interests of all but a handful of the residents of the states targeted by the action, is illegal.

Response: The Purpose and Need for the Proposed Action is discussed in Chapter 1 of the PEIS.

RMC-0096-003
The Willits
Environmental Center

Comment: The BLM's claim that these herbicides are necessary to reduce catastrophic wildfires and to protect ecosystems from invasive weeds is false. In reality, creating a landscape of dead plant matter will only increase the hazard of large scale wildfire.

Response: The BLM does not agree with this comment. In some cases herbicides are applied to prevent emergence of the plant to begin with. In cases where plants are treated and killed, a secondary treatment is planned to remove any remaining dead plant material.

RMC-0159-002
Proctor, Gradey

Comment: Further, nowhere in this document does it address the real reasons why invasive plants are so pervasive on public lands (logging, road building, cattle grazing, ATVs, and mining). Until the BLM begins to deal with the source of the problem, there is only going to be an increase in these heavy-handed tactics to the great detriment of the environment.

Response: See response to comment RMC-0126-002 under Proposed Action and Purpose and Need, Scope of Analysis. The BLM is addressing invasive plants in a four-pronged strategy that includes prevention, inventory, control, and rehabilitation (*Partners Against Weeds - An Action Plan for the BLM*; USDI BLM 1996). The BLM considers the use of herbicides, in an IPM context, an effective tool for controlling invasive species.

RMC-0218-040
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: It is not clear that the proposed control methods would "maintain or improve land health on most public lands" as they haven't so far, so there should have been further analysis of alternatives dropped from further analysis, such as "Treat only acres needed to protect human health and safety." There does not appear to be any substantiation in the D[raft] PEIS of the need to reduce wildfire risk or the extent of human lives and private property threatened by this risk across the BLM lands in question – no maps or figures.

Response: Nationally, there has been a steady increase in acres affected by wildfire over the past four and a half decades, with a trend towards severe fire behavior. Two to 3 percent of all ignitions escape initial attack, becoming the problem fires that damage resources, threaten communities, and cost millions of dollars in suppression efforts. There is a process in place that gives treatment priority to projects in the Wildland Urban Interface, which is where lives and property are most at risk. This is emphasized in the documents *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan* (USDI and USDA 2006a) and *Protecting People and Sustaining Resources in Fire Adapted Ecosystems: A Cohesive Strategy* (USDA and USDI 2006b). This process is included in local planning efforts resulting in Community Wildfire Protection Plans (CWPPs) developed by local communities with participation by Federal and State wildland fire agencies. Direction for developing these CWPPs can be found in *Preparing a Community Wildfire Protection Plan, A Handbook for Wildland-Urban Interface Communities* (2004. Communities Committee, National Association of Counties, National Association of State Foresters, Society of American Foresters, and Western Governor's Association, Bethesda, Maryland. Available at: www.safnet.org/policy and press/cwpp.cfm).

While fuel reduction treatments have proven effective in changing fire behavior and effects at the individual stand level, the more complex issue of changing landscape-scale fire behavior, effects, and suppression costs may also be addressed with fuel treatments designed to reduce problem fire spread and intensity on the landscape. The deliberate and strategic placement of hazardous treatments on a portion of the landscape may dramatically reduce the size and intensity of the problem fires affecting the entire landscape. A strategic approach to the placement of treatments, including their arrangement on the landscape, orientation relative to the prevailing wind, treatment size, treatment shape, and treatment prescription, could reduce the undesired effects of problem fires. Current modeling efforts are focused on such a strategy that will lead to maintaining and improving land health.

An updated section in the final PEIS/PER discusses these efforts and the prioritization process is discussed in the PEIS and PER under Site Selection and Treatment Priorities.

Proposed Action and Purpose and Need – Decisions to be Made

EMC-0640-025
Animal Welfare Institute

Comment: Though the sole decision in this process is whether to expand the use of herbicides for various purposes on western public lands, it is important that the BLM impose restrictions on all vegetation management techniques to prevent the misuse of such techniques to intentionally alter natural regimes to create what may be a more desirable condition. In other words, using any of the vegetation management techniques discussed in the PEIS or PER should not be permitted simply to alter, set back, or change natural successional patterns to create or maintain a particular habitat condition that may be considered by some to be more desirable than a later successional state. For example, using such techniques primarily to improve habitat for timber production or livestock grazing should not be permitted as such efforts would be to the principal benefit of private commercial interests and may adversely affect native wildlife using such areas. More specifically, employing any of the vegetation management techniques to remove or kill native shrub or tree species to facilitate the expansion of grassland habitat should not be allowed as it would represent an interruption in natural succession and would benefit some native species while harming others.

Response: The decision to be made in the PEIS process is to determine which herbicides are appropriate for use on public lands, not to decide whether to expand the use of herbicides for various purposes on western public lands. The purposes for which BLM uses herbicides remains the same for all resource programs, and no new purposes are proposed. Vegetation treatments are required to conform to land use plans and be consistent with the goals and objectives contained in the land use plan. These goals and objectives may include achieving a desired future condition in some cases or achieving better forage or timber production, as determined by the guiding land use plan. Effects on resources for those types of projects are addressed in separate NEPA analyses and are not the subject of this PEIS. See Chapter 1 of the PEIS under Decisions to be Made and Scope of Analysis.

EMC-0640-026
Animal Welfare Institute

Comment: The current condition of some of our ecosystems may have been created as a result of fire suppression efforts. Assuming such areas are not in the wildland-urban interface, do not pose a risk of fueling a catastrophic wildfire because of an abundance of invasive exotic species, have not been degraded as wildlife habitat (including protected species habitat) due to the presence of invasive exotic species, and do not require manipulation to benefit a protected species, natural processes should be allowed to continue unabated. In time, natural factors such as naturally-caused fires, blowdowns, disease, or age will cause the system to return to an early successional stage. While such criteria may appear to be unnecessarily restrictive, they are intended to allow natural processes to predominate and for species assemblages to change over time as succession proceeds except when vegetation manipulation is needed to protect property, native vegetation, native species, and protected species. Such criteria, if adopted, would also prevent the BLM from using such treatments to primarily benefit commercial interests at the expense of native wildlife. This is not to say that no manipulation or control is permitted. Indeed, as suggested, this plan would allow for vegetation manipulation to achieve specific results consistent with many of the management concerns identified by the BLM in the PEIS and PER. While the use of vegetation management techniques under these circumstances would impact the

natural successional stage, such impacts would be deemed beneficial overall because of the circumstances or species involved.

Response: Land use plan goals and objectives guide how public lands are managed and what types of vegetation treatments may be necessary to effect required results to meet those objectives. Public lands that exhibit characteristics of natural functioning systems and desirable FRCCs [Fire Regime Condition Classes], and are resilient, are typically areas desired by the BLM for conservation and protection with minimal vegetative manipulation, usually in the form of maintenance and prevention activities, as required to ensure long-term stability of the system and resources.

RMC-0144-007
Wyoming Game and Fish Department

Comment: We understand that both documents do not evaluate vegetation treatments not associated directly with hazardous fuel reduction or to control vegetation to improve rangeland and forestland. They also do not evaluate programs associated the other BLM land use activities cited throughout the document as being significant contributors to the need for vegetation treatments, such as livestock grazing, OHV, recreation, mineral extraction, and ROWs. Some examples are located in the discussion of the Treatment [Draft] PER on pages 1-5, 1-6,2-16,3-11,3-20, 3-28, 3-29,3-30,3-72, 4-17, 4-66,4-80,4-82,4-92 and 4-117 among other; and in the Herbicide [Draft] PEIS on pages as 1-4, 2-15, 2-28, 2-30-32, 3-17, 3-19, 3-30, 3-36; 3-58 and 59, and 4-21 among others. We are disappointed that all vegetation treatments, regardless of program, were not addressed. We do not believe that cumulative effects can or will be adequately analyzed and disclosed if all vegetation treatments are not addressed in project documents. In, Wyoming, many vegetation treatments are almost exclusively designed to increase forage production for livestock.

Response: The Cumulative Effects Analysis in Chapter 4 of the PEIS considers all vegetation modifications on public lands, regardless of resource program.

RMC-0167-008
Soda Mountain Wilderness Council

Comment: Moreover, "agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements," 40 C.F.R. § 1502.24, and thus the BLM is required to look at all methods (deemed scientifically viable) to cure the rampant spread of invasive weeds. The single track approach that the BLM has utilized in the DEIS [Draft PEIS] and PER quite frankly ignores the large quantity of scientific literature that identifies management of the causes of the spread of invasive species as the necessary focus in order for eventual curtailment of weed invasion.

Response: The Proposed Action and Purpose and Need are identified in Chapter 1 of the PEIS. The identified purpose of this PEIS is not to cure the rampant spread of invasive weeds, but to determine which herbicides would be available for BLM personnel to accomplish vegetation treatments in a variety of program areas. All analysis contained in the PEIS meet standards for professional and scientific integrity. Extensive literature sources were reviewed during the development of this PEIS and PER. See Chapter 6, References, of the PEIS and Chapter 5 of the PER for a listing of the scientific and published literature reviewed. In addition, BLM personnel involved with vegetation treatments maintain professional expertise by reviewing existing scientific literature; standing in scientific and professional societies; consulting with professional and academic experts in such fields as ecology and restoration; and coordinating with university extension services, the Natural Resource and Conservation Service (NRCS), professional weed societies, and the public, in the design of any particular vegetation treatment project proposal. The BLM also relies on its extensive experience and success with vegetation treatments, spanning several

decades.

RMC-0191-015
Ertz, Brian

Comment: Given the BLM's most substantive argument being whether a given course of action is within or outside the scope of a given mandate (whether it be a mandate of law as is the case with NEPA as one example, or whether it be a mandate of scientific necessity as is the case with consideration of degradates) reading the Draft PEIS and speaking with representatives of the Vegetation Treatment PEIS indicates the agency's inability to fulfill the mandates of section 102 of NEPA. It seems as though representatives have spent more time crafting explanations aimed at curtailing wise and legitimate consideration of science and law than at studying and understanding the potential harmful implications to human and environmental health of this unnecessarily anthropogenic course of action.

Response: This PEIS is developed in compliance with Section 102 of NEPA. Current science, quantifiable risk assessments, peer-reviewed literature reviews, and professional expertise, as well as relevant law, were all considered in the development of the PEIS. See Chapter 6 (References) of the PEIS, and references associated with Appendixes B (Human Health Risk Assessment) and C (Ecological Risk Assessment). Also see Relationship to Statutes, Regulations, and Policies in Chapter 1 of the PEIS for a discussion of the legal framework guiding development of this PEIS.

RMC-0217-007
Sierra Club Utah Chapter

Comment: The PEIS then identifies a purpose and need which arbitrarily limits the analysis of the current situation, the problems or origin of the problem, and the availability of techniques for treating the problem. The purposes of the proposed action are to provide BLM personnel with the herbicides available for vegetation treatment on public lands and to describe the conditions and limitations that apply to their use. [[Draft] PEIS [page] 1-31]

Response: The BLM has not arbitrarily limited the analysis of the current situation in the PEIS. The Purpose and Need in Chapter 1 of the PEIS frame the analysis required to address the Proposed Action, which is to assess the effects of four herbicide formulations proposed for use on public lands. The current situation is described in Chapter 3 and summarized in the Introduction of Chapter 1 of the PEIS. The problems and origins of the problems are discussed in Chapters 1 through 4 of the PEIS and PER. The availability of techniques are under Vegetation Treatment Methods in Chapter 2 of the PER and also discussed under the analysis of Alternative C in Chapter 4 of the Draft PEIS.

RMC-0221-048
Center for Biological Diversity

Comment: Comprehensive, site-specific analysis should be provided for all vegetation treatments. The manual treatments outlined in the D[raft] PER include chaining, tilling, drill seeding, mowing, roller chopping, blading, grubbing, and feller-bunching. The D[raft] PER admits that these methods are not effective for noxious weed control, and instead need to be used as a follow-up to herbicide treatments. There is no analysis or discussion of how many acres will be subjected to these subsequent treatments, which exacerbates the disturbance to which these lands and the species that depend on them are subjected.

Response: See NEPA Requirements of the Program in Chapter 1 of the PEIS for a description of the NEPA requirements for vegetation treatments and the step-down process for assessing site-specific impacts of vegetation treatment projects. The PEIS and PER broadly estimated the acres that potentially could be treated under each method. These estimates are not site specific as to location or method(s) used in this programmatic analysis. The PEIS and PER are not focused exclusively on noxious

weed control. Also see Purpose and Need for the Proposed Action in Chapter 1 of the PEIS. Some mechanical methods may not be effective for primary control of certain types of noxious weeds; however, these methods and techniques may be very effective for other vegetation treatment objectives. Vegetation treatments are primarily designed to stabilize and restore disturbance, not to exacerbate disturbance.

Proposed Action and Purpose and Need – Scope of Analysis

EMC-0070-003
Burke, Erik and Jessyca

Comment: Invasive plants are often spread by inappropriate uses of public lands such as livestock grazing, road construction and use, the use of off-road vehicles, timber harvesting, and poorly managed fuel reduction projects. Hikers, campers, horse users, and pet owners could benefit from education programs about cleaning themselves and their animals to reduce the spread of invasive plants.

Response: Invasive plants are spread through a number of means and vectors. The BLM does not consider uses of public lands under the Federal Land Policy and Management Act (FLPMA) to be inappropriate. The BLM employs a variety of prevention measures, of which public and user education is a central component. The BLM publishes literature that is available in every field office on appropriate conduct on public lands to prevent the spread of weeds, provides educational programs in local schools and other venues, and works with industry and commercial business promoting recreational uses of public lands, to educate their customers on weed prevention. The BLM also employs similar prevention techniques in its own work on public lands, including, but not limited to, vehicle washing, animal grooming and quarantine, and use of weed-free hay and mulch. The BLM also cooperates with state and local fish and game agencies to set up check stations where guides, outfitters, and the public can trade uncertified hay and straw for certified weed-free products during peak use times such as hunting season.

EMC-0079-002
Verrét, Cathy (Product Awareness Consulting)

Comment: What are the causes of invasive plant problems? Perhaps addressing the cause rather than just the effect would ameliorate the situation enough to eliminate the need to spray herbicides.

Response: See response to Comment RMC-0126-002 under Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0080-004
EMC-0079-003
EMC-0082-001
EMC-0083-003
EMC-0085-003
EMC-0089-002
EMC-0103-001
EMC-0112-002
EMC-0114-001
EMC-0117-001
EMC-0124-003
EMC-0127-003
EMC-0128-002
EMC-0128-003
EMC-0136-001
EMC-0159-003
EMC-0260-004

Comment: You need to consider the causes of invasive plant problems, and then act in a manner to prevent and reduce the problem. For instance, livestock grazing, road construction and use, use of off-road vehicles, timber harvests, and fuel reduction projects all encourage invasive weeds on BLM land. BLM needs to change the way the agency manages these activities in order to prevent invasive plant problems. BLM also needs to make a strong commitment to reducing its reliance on herbicides.

Response: See response to Comment RMC-0126-002 under Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0442-002
EMC-0447-002
EMC-0489-002
EMC-0528-002

EMC-0082-002
EMC-0081-002
EMC-0083-004
EMC-0091-002
EMC-0093-005
EMC-0097-004
EMC-0098-001
EMC-0103-002
EMC-0111-001
EMC-0114-002
EMC-0119-001
EMC-0127-003
EMC-0127-004
EMC-0128-003
EMC-0129-002
EMC-0135-002
EMC-0138-003
EMC-0147-002
EMC-0147-003
EMC-0148-002
EMC-0149-003
EMC-0149-004
EMC-0150-002
EMC-0151-002
EMC-0152-001
EMC-0154-002
EMC-0179-002
EMC-0258-002
EMC-0260-005
EMC-0262-012
EMC-0265-003
EMC-0293-001
EMC-0318-003
EMC-0439-002
EMC-0441-002
EMC-0466-002

Comment: The BLM agency must adopt strong prevention-based practices for activities (livestock grazing, road construction and use, of off-road vehicles, timber harvests, and fuel reduction projects) that encourage invasive plants. Livestock grazing, road construction and use, of off-road vehicles, timber harvests, and fuel reduction projects all encourage invasive weeds on BLM land. BLM needs to change the way the agency manages these activities in order to prevent invasive plant problems.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public land uses.

EMC-0087-002
Talpai, Ayala

Comment: Please instead address the reasons that unwanted plants can invade. Poison sprays only mask the situation by removing a symptom rather than eliminating what caused the problem.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0092-002;
EMC-0260-003
Larson, Lyn
Jacob, Vicki, and Julia Glover

Comment: If the BLM doesn't deal with the causes of this problem, and adopt strong prevention-based practices for activities (livestock grazing, road construction and use, use of off-road vehicles, timber harvests, and fuel reduction projects) that encourage invasive plants, it's just putting itself on a never-ending treadmill of pesticide use. BLM should also make a strong, measurable commitment to reducing its reliance on herbicides, not increasing it! Really, there's plenty of information out there on ways to avoid pesticide use, even on such a massive scale.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public lands uses.

EMC-0092-004
Larson, Lyn

Comment: Manage livestock grazing more selectively. Ranchers get such a free ride on BLM land. Stop constructing roads in roadless areas! Clinton's Forest Plan had it right! Too bad Bush came along to undo us all. Be more restrictive with off-road vehicle use (a tough one, I know, with so many jerks out there saying "it's a free country...") No more clearcuts. OSU [Oregon State University] School of Forestry will never convince me that this is a reasonable forestry practice. Re-plant thinning and "fuel reduction" projects intelligently. See attached for what should be planted, and where.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public lands uses.

EMC-0096-002
White, Sally

Comment: There are multiple strategies that could be employed in place of the temporary fix of using a poison, something that has so many other effects on other organisms other than those targeted. What efforts have been made to consider the cause and source of these invasive plants? Livestock grazing has a tremendous impact on the success of invasive plant species. In addition to cattle causing mass disturbances in the soil structure thereby making it easier for invasives to get a foothold, they also ingest the seeds of many of these species and deposit them undigested in another location complete with the extra fertilizer needed to get a healthy head start (middle school science). And we all know that there is a high chance of the seeds of plant species considered invasive to be "in the mix" when ranchers drop bales of hay off during the seasons where finding forage is a bit more difficult. Said ranchers not only pay the very minimum for access to BLM property, I would say that they are not held accountable for aiding in the disbursement of invasive plant species.

Road construction is an obvious threat. This would include the actual construction process which is greatly disturbing to the environment, and the aftermath of additional vehicular travel through the area in which motorists bring unwanted seeds through on their tires, clothing and with their pets. Off-road vehicles are probably the worst offenders in spreading invasive plant species. They have the "advantage" of being allowed to do what on-road vehicles do, but at a higher level of invasion. The method in which timber is harvested and fuel reduction projects all encourage invasive plants on BLM land. What has the agency done to stem any of these methods that have been proven sources of spreading invasive plant species?

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public lands uses. See also response to Comment RMC-0167-007 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding prevention practices implemented by the BLM.

EMC-0097-003
MacKinnon, Maisie

Comment: So far BLM has refused to consider the causes of invasive plant problems. Instead, the agency is putting itself on a treadmill of pesticide use.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0102-002
Wheeler, Mark and Michele Gila

Comment: You may have heard it before, but livestock grazing, road construction and use, use of off-road vehicles, timber harvests, and fuel reduction projects all encourage invasive weeds on BLM land. BLM should change the way the agency manages these activities in order to prevent invasive plant problems. BLM also needs to make a strong commitment to reducing its reliance on herbicides.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0104-001
Strong, Marilyn

Comment: Spraying is not an effective way to deal with the agency's invasive plant problem. So far BLM has refused to consider the causes of invasive plant problems. Instead, the agency is putting itself on a treadmill of pesticide use.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0105-002
Haines, Margaret

Comment: I urge BLM to take a look at the increased use of off-road vehicles, which have dramatically hiked the rate of growth of invasive plants in these over-used areas. Perhaps some of the other causes can be evaluated as well. Use of pesticides on these huge blocks of land is a preventable expense as well as a huge health risk, which needs to be avoided at all costs. It is a well known fact that pesticides have been linked to several forms of cancer.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. See Appendix B, Human Health Risks Assessment for a discussion of carcinogenicity of the herbicides evaluated in this PEIS.

EMC-0112-001
Hays, Lynn and Evelyn, and Tessa Hays-Nordin

Comment: I am writing in regards to the Vegetation Treatments Using Herbicides Programmatic EIS. There are activities that encourage the spread of invasive plants that you are attempting to deal with using herbicides. Use of off the road vehicles & road construction, livestock grazing, these are some of the activities. Consider the causes of invasive plant problems.

Response: See response to Comment RMC-0126-002 under Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0120-001
Kruse, Dave

Comment: Please address invasive species with better management of the public land instead of using more herbicides. The spreading of invasive species is often related to land management practices.

Response: See response to Comment RMC-0126-002 under PEIS Alternatives, Vegetation Treatment Planning and Management.

EMC-0121-003
Gladstone, David

Comment: Further, the BLM needs to open its eyes and recognize the causes of the invasives before taking a shotgun, detrimental-to-the-earth approach. In particular, livestock grazing (at lease rates which do not even cover the cost of land maintenance), road construction/use (with concomitant siltation of abutting streams), allowance of off-road vehicles, non-sustainable timber harvests, and fuel reduction projects (which often are merely pretexts to allow timber companies to cut more trees) all encourage the growth and rampant spreading of invasives. Thus BLM should first seriously consider changing the way it permits and manages these activities.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public land uses.

EMC-0125-004
Seastedt, Timothy R.

Comment: Current and previous management activities by the BLM have contributed to these [invasive species] problems. Without dramatic change in land use practices, the system is going to remain dominated by non-native species.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding contributions of land use practices to the spread of non-native species.

EMC-0133-003
Ryan, Stephanie

Comment: Your quick fix here is not only not addressing the root cause of the problem it is making matters worse as history has shown that plants develop resistance to pesticide use which only requires more pesticides of different, equally toxic nature to get the same gain as before. This treadmill is unwise, get off of it now.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. Pesticide resistance is considered in the design of vegetation treatment projects within an integrated pest management (IPM) context. Pesticide resistance is also considered in the selection of herbicides to be applied to a target species.

EMC-0133-004
Ryan, Stephanie

Comment: Better to consider the system as a whole, invasive plants are caused by what? Livestock grazing, road construction and use, use of off-road vehicles, timber harvests, and fuel reduction projects all encourage invasive weeds on BLM land. BLM needs to change the way the agency manages these activities in order to prevent invasive plant problems.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0137-002
Dankers, Martha

Comment: However, I urge you to consider the overall environmental conditions that encourage the spread of these plants and use non-toxic methods of control. I encourage you to examine more closely the use of off-road vehicles, over-grazing and timber

management practices that foster the spread of invasive plants.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0139-003
Troutman, Doug

Comment: The [P]EIS is totally remiss in not identifying livestock grazing as the number one source of degradation of native resources and introduction of noxious weeds on the public lands.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EM-C0139-017
Troutman, Doug

Comment: FLPMA calls for multiple use, and places Recreation before grazing! It is time that we realized though grazing is a legitimate use, it should not have dominance, and should no longer be a "loss leader" and subsidy to industry, yes grazing is run by big industry, not mom and pop operations.

Response: The comment has been noted.

EMC-0145-006
Wahl, Mark

Comment: Undertake serious examinations of livestock grazing, road construction engineering, use of off-road vehicles, timber harvests, and fuel reduction projects. Thereby consider measures that will reduce transport of weeds and destruction of hardy native growth that holds weeds at bay. Make specific measurable commitments to reducing herbicide use through these measures (___% a year).

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. The BLM is committed to reducing herbicide use over the long-term. BLM Manual 9015 Integrated Weed Management states that one of its policies is to "promote and facilitate development of use-oriented management strategies that reduce the long-term dependence on noxious weed control programs."

EMC-0166-002, 003
EMC-0174-001
EMC-0185-007, 008
Burson, Allison
Concerned Friends of Ferry County
Sverdlove, Jill

Comment: We feel that: (a) Invasive species cannot be eliminated without eliminating the causes of weed invasion. (b) Herbicides are not only poisonous and expensive, but they fail because they are "treating" symptoms, not the causes, of weed invasion and undesirable vegetation.(c) The BLM should analyze the Restore Native Ecosystems Alternative in the DEIS [Draft PEIS]/PER, a citizens' alternative submitted to the BLM that addresses both the causes and the effects of weed invasion and undesirable vegetation on public lands [is available at:} (www.blm.gov/nhp/spotlight/vegEIS/vol2/PEIS_Appendix_G_RNEA__Alternative.pdf).

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. See response to Comment RMC-0222-013 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystems alternative.

EMC-0170-002
Brister, Bob

Comment: I believe that the invasive species problem must be addressed, but not by massive herbicide use. The introduction and establishment of invasive species is mainly caused by logging, road building, off road vehicles and livestock grazing.

These harmful activities should be eliminated or restricted. If not, then the problem will continue to grow.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0174-003
Concerned Friends of Ferry County

Comment: There was an agreement, as you should be aware, on May, 24 1989, a Mediated Agreement on vegetation management in the Pacific Northwest Region of the U.S. Forest Service was signed by Northwest Coalition for Alternatives to Pesticides, Paul Merrell, the U.S. Forest Service, and Oregonians for Food and Shelter. One major purpose of this Mediated Agreement was to clarify the distinction between prevention (i.e., detection and amelioration of the conditions that cause or favor the presence of competing or unwanted vegetation) and treatment (activities for controlling or eradicating infestations of competing or unwanted vegetation) or early treatment (i.e., activities for controlling or eradicating initial, small infestations of competing or unwanted vegetation). A second major purpose was to operationalize the Record of Decision for the Final EIS for Vegetation Management, which stated that prevention is the preferred alternative for managing vegetation (emphasis added). The Mediated Agreement spells out specific steps required for, among other things, (a) site-specific analyses, (b) public participation; and (c) monitoring and evaluation for all vegetation management projects. The Mediated Agreement is the Forest Service's Pacific Northwest Region's interpretation of its obligations under the Record of Decision and is part of its administrative practice. The provisions of the Mediated Agreement are not optional. The Forest Service must document the prevention they've done. If they haven't done it, they're not abiding by the MA. *We expect that the BLM should have to go through the same procedure* to reach a record of decision that states that the prevention is the preferred alternative for managing vegetation and not resort to a DM that stresses the use of Herbicides.

Response: The BLM is not bound by the terms or conditions that the Forest Service agreed to when it signed the Mediated Agreement. The BLM was approached by plaintiffs in the litigation that led to the Mediated Agreement, but declined for many reasons to become a party to the Mediated Agreement. The BLM is still bound by a court ordered injunction preventing it from using all but a number of herbicides. The PEIS will resolve many of the issues that led to the Oregon court injunction preventing the BLM from using modern, safe, and more effective herbicides on public lands in Oregon. The BLM will not be following similar procedures prior to reaching a ROD on the Vegetation Treatments Using Herbicides PEIS.

EMC-0175-002
Simonson, Annette

Comment: [The noxious plant problem] is brought on by many sources, forest harvests, recreationalists and the general mixing of the forest to urban interface. It cannot be solved by entering into the short term and toxic solution of herbicide use. As a botanist who has worked and also volunteered in noxious weed removal programs, I can testify that plants that spread by multi-mechanisms (wind, seed, water, rhizomonously, and by animal/human attachment) will not be stopped, or even slowed by chemical means, except for the very short term. And, at what costs?

Response: The BLM agrees plants that spread by multi-mechanisms will not be easily stopped. Use of herbicides is not intended to accomplish complete control and eradication of noxious or invasive species. Vegetation treatment projects involving the use of herbicides are designed to accomplish a specific goal, which in many cases may be only one step in the long-term restoration or rehabilitation of an area through

an integrated vegetation management approach. The BLM applies prevention and mitigation measures during herbicide use to ensure toxicity impacts are reduced or minimized in all cases.

EMC-0177-001
Campbell, Larry

Comment: It makes absolutely no sense to treat weeds before an analysis of the cause of the weeds is complete. Otherwise what you are proposing is a perpetual herbicide spray program that does little more than subsidize the chemical industry. You need to analyze the vectors for weed seed spread and the cause of ground disturbance that has prepared the seed bed. Wherever spraying is proposed you should first manage the vectors of seed spread and the cause(s) of ground disturbance. Anything less can not be defended scientifically and demonstrates a less than full commitment to weed control.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0181-006
Artley, Richard

Comment: Fire danger can be reduced by removing the fine fuels around structures. Just see the research findings of Dr. Jack Cohen, a fire physicist working at the experiment station in Missoula.

Response: The BLM agrees with this statement.

EMC-0189-003
Anderson, Bruce H.

Comment: Is there a better solution? Yes, by first looking at where the invasive plant explosion of the last 50 years has come from. Instead of dousing a new problem with a short term fix, the BLM must adopt strong prevention-based practices for activities (livestock grazing, weed contaminated hay use, road construction and use, use of off-road vehicles, timber harvests, and fuel reduction projects adjacent to invasive weed areas) that encourage invasive plants. At the same time, the BLM needs to make a specific, measurable commitment to reducing reliance on herbicides. Human activity is what has brought the invasive weed explosion of the last 50 years. Focus on the cause, not the product, or you are committing your agency to an environmentally unsustainable, break the bank costly ever increasing chemical program.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public land uses.

EMC-0196-005
Lamberts, Frances

Comment: It is well known that land clearing and disturbance, such as forest clear cutting and road building serve to both let weed species "get in" and the resistance capacity of the native ecosystem to be weakened. In contrast, as forestry research has repeatedly documented, when large, native forest stands are left intact (or managed/harvested with minimal canopy breaks and soil disturbance), they can and do act as physical barriers to bio-invasive species, even halting the spread of these to adjoining lands. This, preventive effect operates in grass land, scrub-vegetation, wetlands and other ecosystems your Agency administers and must protect for the future: the more that the native vegetation and native insect predators are disrupted, eliminated or weakened, the better is the chance that noxious invasive species will thrive. I therefore urge the Bureau to pay greater attention to causative, land-disturbing activities--range overgrazing, excessive off-roads motoring, forest clearance, mining, roads proliferation and the like—in preference to treatment through mechanical eradication and herbicides. The latter types of treatments cannot be truly effective, it

would seem, unless the causes of noxious weeds proliferation are addressed. I recommend, to this effect, that the Bureau consider choice of the Restore-Native-Ecosystems alternative in the Programmatic EIS.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of weed spread. See responses to Comments RMC-0126-004 and RMC-0222-013 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystems proposal.

EMC-0205-003
Flaster, Trish
(Botanical Liaisons)

Comment: [The BLM] would be more successful to get more strict with the causes of the problem. Down here, there is a problem with overgrazing to be sure, but the worse and most destructive damage is being caused by off-road vehicles (especially those ATV's (all-terrain vehicles), but also 4 wheel drive vehicles and motorcycles). There is no control (aside from a view generic and un-enforced signs) to keep these people from driving all over the place, which they do, often in large groups and often and fast. It's tremendously destructive! and disturbing to the wildlife. The dry washes are particularly impacted and you see all these ripped up places branching off from the roads and washes when they drive too. Everyplace that borders these areas if full to the gills with invasive weeds, which of course will spread into every disturbed soil area available, not to mention the erosion problem that is happening too.

Response: The BLM agrees that uncontrolled off-highway vehicle (OHV) activity can result in disturbance of vegetation and soils, as well as serve as a vector for weed spread. Proper education of OHV recreationists on weed prevention practices and agency enforcement of OHV regulations are required to reduce the risk of weed spread from this activity.

EMC-0205-009
Flaster, Trish
(Botanical Liaisons)

Comment: Publicly owned sagebrush lands have been fragmented and degraded by livestock grazing, off-road vehicle use, energy development, and road construction for the past 150 years. Under the BLM's draft policies, sagebrush habitats are targeted for burning, brush beating, chaining, and herbicide spraying, purportedly to improve habitat for sage grouse and other wildlife. Unfortunately, these treatments have not been proven to work, or work well, without also eliminating the aforementioned causes of weed invasion and undesirable conditions on BLM lands.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. The PEIS assesses the effects of herbicide use on public land resources across the vegetation communities of major ecoregions, which include sagebrush habitats. Vegetation treatment success is dependant on many factors, such as available precipitation and timing, which is not necessarily related to whether or not a public land activity is eliminated.

EMC-0217-003
Umpqua Watersheds

Comment: The FEIS should consider the causes of invasive weeds more, instead of just spraying the results of problems with herbicides. For instance, invasive weeds are often spread by off-road vehicles. The Roseburg BLM especially has a problem with enforcing ORVs (off-road vehicles), due in large part to a lack in funds. However, the aforementioned statement is not the point. ORVs are just one cause of noxious weeds; causes should be addressed rather than symptoms. After all, if only the effects of a problem are considered and dealt with, the root of the issue is never fully resolved.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0232-001
Unger, Kris

Comment: As a citizen involved in a local initiative to address issues of invasives and native plants (www.earthsangha.org), I'm opposed to an invasive mgmt plan that fails to address the vectors introducing invasives to an ecosystem. An integrated approach to this issue would involve an analysis and adressal of the responsible vectors. In addition, in my experience, indiscriminate blanket applications of herbicides have profound and complex consequences for an ecosystem. While localized delivery is more expensive, it's also more effective, in the long run. The best environmental solutions are those that most closely rely on established, natural patterns. I thank you for your attention.

Response: The BLM is not proposing indiscriminate blanket applications of herbicides on public lands. The BLM has multiple layers of assessment that occur prior to a vegetation project being proposed and implemented. These assessments include, but are not limited to noxious weed risk assessments, Standard and Guides assessments, Riparian Proper Functioning Condition (PFC) assessments, watershed assessments, and allotment evaluations. These assessments address both the natural and anthropogenic causes of conditions within the assessment area. The results of the assessments are used to adjust management of activities as well as identify areas and priorities where vegetation manipulation may provide positive benefits and restore degraded areas.

EMC-0239-004
Kimmel, Reida

Comment: It is very important to consider causes for the spread of invasive species and to try to control them. Loggers and other vehicle users spread weed seeds on their tires. The closure of roads, the restriction of recreational ORV use, and a strong public education program to inform users of BLM land on the ways they can help to reduce the spread of alien invasive species would do a lot to reduce the future spread of unwanted weeds.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public land uses. The BLM has a strong ongoing public education program in place.

EMC-0241-002
Rechel, Eric

Comment: If you want to control weeds work on the cause of the problem and don't spend my money on a aerial stunt displays. Work to stop grazing, work on controlling illegal roads, and work on not permitting any new roads. Your spray program will only be a temporary fix and you know it. Until you get to the cause of our weed problem, spraying is just a way to throw money at a serious problem here in the west. How do you know that if you spray one species of weeds you won't be setting up an environment for another species to take off and be another pervasive problem. Your biggest factor causing this weed problem is over grazing. Stop grazing the west and you will control the weed problem.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0249-003
Chapman, James L.

Comment: It's treating the symptoms and not the diseases. The symptoms are the invasive weeds, but the diseases are what brought them there - logging, road building, off road vehicles and livestock grazing. These weeds "hitchhike" on the tires of logging trucks and ORVs [off-road vehicles], on livestock hooves and in feces, and are easily established wherever the ground has been disturbed.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0253-003
Keeran, Georgia

Comment: I urge BLM to first perform in-depth studies to determine how and why these plants are being introduced. It would be very short sighted to not study the factors involved and simply broadcast herbicide over almost a million acres of public land. Please take the time and effort to investigate how the "invasive plants" are being introduced: One major factor is very minimal control over ATV's [all-terrain vehicles] and other motor powered recreational vehicles (4WD [4-wheel drive], snowmobiles, motorcycles) onto public lands. Please consider the banning of non-essential motor powered vehicles on BLM land.

Response: See response to Comment EMC-0232-001 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding pre-treatment assessments. See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0263-004
Dalegowski, Daniel

Comment: There is no good reason to employ pesticides to control fire danger or to combat invasive species. The best reason to use this strategy is that it is cheap, easily conceived, and easily accomplished. A better solution is to eliminate those activities on our public lands which lead to the adverse ecological changes in question. Discontinue grazing on public lands. Discontinue logging on public lands. Allow natural fire regimes to proceed. Move human settlements to safe distances from public forests to eliminate risk to society from such natural processes.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0286-005
Elzinga, Stephen
(Eagle County Weed
and Pest Department)

Comment: BLM permittees (recreation, grazing, mineral/energy, etc) should be held accountable for the impacts their use of BLM lands cause.

Response: The BLM allows for accountability by authorized users of the public lands. Use authorizations for activities on BLM lands often contain provisions for ensuring remediation of impacts of activities. For example, Special Recreation Use Permits may include collection of fees for the activity to fund post-activity monitoring and clean up, as well as bonds for post-activity remediation. Locatable minerals mining operations are fully bonded for future remediation, in some cases up to and exceeding 100 years into the future, based on monitoring and reclamation success. Oil and gas operations are likewise responsible to ensure proper reclamation under the terms and conditions of granted rights-of-way and other permits. Grazing use is regulated through the terms and conditions of permits, and penalties are in place for violations to those terms, including trespass fees.

EMC-0292-002
Thoen, Cheryl

Comment: The BLM needs to consider the causes of invasive plant problems. Livestock grazing, the construction and subsequent use of roads in new areas, use of

off-road vehicles, timber harvests, and fuel reduction projects all encourage invasive weeds. BLM needs to change the way the agency manages these activities in order to prevent invasive plant problems. Rather than increasing spraying, the BLM should make a strong commitment to reducing its reliance on herbicides, for the good of our families and the environment.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0293-002
Boulder Regional Group

Comment: BLM that the agency needs to make a specific measurable commitment to reducing reliance on herbicides. We have personally witnessed many problems such as vegetation restoration projects presently being conducted on the Grand Staircase Escalante National Monument (GSENM) that have promoted invasive weeds in the past prior to NEPA and that do the same now because NEPA is not being conducted saying it is an "Emergency" and that more disturbance is mere "maintenance" of the already chained and treated areas. This new Veg [P]EIS will only allow outfits such as GSENM and every other BLM area office to create more problems that will continue to cycle for centuries to come. At some point the BLM must stop passing their problems off with more treatments and use of herbicides---and finally deal with the real culprits: grazing of domestic livestock and creating or allowing states to build large herds of game animals.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0306-003
Klamath RiverKeeper Program and Klamath Forest Alliance

Comment: The United States Bureau of Land Management (BLM) is proposing to spray almost a million acres per year with herbicides to kill invasive plants and control excessive fuels. This triples the agency's current herbicide use on BLM lands in the United States. This proposed BLM action is not an effective way to deal with the agency's invasive plant and fuels management problem. This is partly due to the BLM's refusal to adequately consider and address the causes of invasive plant problems and to develop fuels management programs that result in the reintroduction of natural fire into ecosystems that evolved with fire as a key influence. Instead, the agency is depending inappropriately on the use of herbicides to address the invasive plant problems and reduce excessive fuels on BLM lands. The BLM's over-dependence on the use of herbicides will not adequately result in the stated purpose and need which is to: 1) Reduce Risk from Wildfires and Unwanted Vegetation, and to 3) Protect Life and Property. In fact the proposed action will more likely result in a worse resource condition than currently exists.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. See pages 2-1 through 2-5 of Chapter 2 of the Final PER for a description of the Wildland Fire Management Program, which includes fuels management. A key goal of all wildland fire and fuels management is to restore fire adapted ecosystems. Herbicides are one tool that may be used in conjunction with other non-chemical methods to achieve fuels management objectives. The primary tools applied in fuels management projects are prescribed fire and mechanical methods not involving the use of herbicides.

EMC-0306-004
Klamath RiverKeeper Program and Klamath Forest Alliance

Comment: Activities allowed by the BLM, such as: livestock grazing; road construction, use and management; use of off-road vehicles; timber harvests; mining; energy development; fuels reduction projects; watershed/habitat restoration and various forms of recreation all encourage invasive plants to be introduced, occupy, spread, and cause harm to the natural and human resources on the BLM lands. Several of the Klamath Forest Alliance personnel have witnessed BLM land management activities that have encouraged the introduction and spread of invasive plants on BLM lands while recreating or visiting BLM lands. The BLM needs to change the way the agency manages these activities in order to adequately prevent invasive plant problems.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0322-002
Boulder Regional Group

Comment: We strongly oppose BLM's proposal to spray herbicides over vast areas of the western landscape to control noxious weeds. For many years the BLM has been fostering the very activities which have encouraged the growth of the noxious weed. Cattle grazing, ORV [off road vehicle] use, Road construction, Timber Sales, Fuel Reduction Programs and other activities have all contributed to the current problem. The proposal to spray herbicides, many of them proven to be both mutagenic and tetragenic, over the already stressed native plants and wildlife is unacceptable. Once again the BLM is failing to address the root of the problem and instead adding another layer of stressors to our already beleaguered public lands to deal with a problem created by uncontrolled and unmanaged grazing and other uses. You are failing to take a hard look and do the potentially unpleasant (politically) work of addressing the underlying causes of the problem. We request that the BLM take some stronger prevention based measures to address the causes of the noxious weed problem.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. Human Health risk assessments addressing mutagenicity and teratogenicity are found in Appendix B of the PEIS. Information on prevention is included in Chapter 2 of the PEIS and PER under Prevention of Weeds and Early Detection and Rapid Response.

EMC-0324-001
Rachel Carson Council

Comment: We have several reasons for objecting to this widespread spraying. We find that there is an apparent failure to deal with the causes of invasive species problems. The conditions contributing to the spread of invasive plant species are relevant. These include higher temperatures in Alaska, attributed to increased atmospheric levels of greenhouse gases. There are local disruptions of areas caused by the building of roads, by increased usage of ATVs [all-terrain vehicles] and other vehicular traffic.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0361-004
Name withheld

Comment: I demand the BLM study further to remedy the cause of evasive weeds which have proven to be ORV's, livestock, logging trucks. Until such time, efforts to poison 17 states will surely fail.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0386-002
Varvares, Chris

Comment: Add to the goal of preventing the spread of noxious weeds, preventing the spread of harmful chemicals across the land that can poison water, and threaten wildlife and humans, and the whole approach gets turned on its head. Start by looking at the causes of the spread of invasive weeds. Indeed, focus on the causes. Yes there are trade-offs…limit access, etc.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0389-002
Shapiro, Michael

Comment: Rather than address the causes of spreading invasives by eliminating these activities [logging, road building, off-road vehicles, and livestock grazing], the BLM proposes to address the symptoms by increasing the use of herbicides that poison the air, land, water, wildlife and humans and require the use of mechanized equipment for application. Until the agency addresses the causes of weed invasions, its proposed treatments for the weed invasion and other undesirable vegetation will fail. Invasive species cannot be eliminated without eliminating the causes of weed invasion. Herbicides are not only poisonous and expensive, but they fail because they are "treating" symptoms, not the causes, of weed invasion and undesirable vegetation. The BLM should analyze the Restore Native Ecosystems Alternative in the DEIS/PER, a citizens' alternative submitted to the BLM that addresses both the causes and the effects of weed invasion and undesirable vegetation on public lands

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystems (RNE) alternative.

EMC-0405-003
Hoover, Victoria N.

Comment: The EIS [PEIS] fails to look at the causes of why it is claimed these treatments are needed. It elaborate proposals for chemical and mechanical treatments of vegetation put the cart before the horse. In fact there is no horse. Ways to attack symptoms of problems are looked at in excessive detail and the causes of problems are carefully ignored.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0405-005
Hoover, Victoria N.

Comment: In general herbicides are ineffective because they treat only the symptoms, not the causes of weed invasion, causes like livestock overgrazing, wide dispersion of off-road vehicles, road construction, etc. And, the herbicides most commonly used tend not to be effective against annual grasses that are common throughout the West, such as cheat grass [downy brome]. Seeds can remain potentially active in the ground for many years—10 to 15 years or longer.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed

spread. The BLM agrees that the seed bank of annual grasses such as downy brome can remain potentially active for many years.

EMC-0416-002
Lengerich, Tim

Comment: Invasive species cannot be eliminated without eliminating the causes of weed invasion.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0416-003
Lengerich, Tim

Comment: Herbicides are not only poisonous and expensive, but they fail because they are "treating" symptoms, not the causes, of weed invasion and undesirable vegetation.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0444-001
Grover, Ravi

Comment: Herbicides are not only poisonous and expensive, but they ultimately fail because they are treating symptoms, not the causes, of weed invasion and undesirable vegetation. Instead, the BLM should analyze the Restore Native Ecosystems Alternative in the DEIS/PER, a citizens' alternative submitted to the BLM that addresses both the causes and the effects of weed invasion and undesirable vegetation on public lands.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystems alternative.

EMC-0456-001
Mendius, Barbara J.

Comment: I have recently hear of the BLM's intended vastly increased use of herbicides on public lands in the West. Not only is this approach severely detrimental to wildlife and very costly, it also does NOT address the causes of the problem such as road building, ORVs [off-road vehicles] and grazing.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0462-002
Newcomb, Jean

Comment: From this experience, I seriously disagree that spraying herbicides is effective. Only the symptoms are being addressed, not the causes or prevention of the invasive plant overgrowth.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0464-001
Kaufman, Albert

Comment: I believe that herbicides are not only poisonous and expensive, but they ultimately fail because they are treating symptoms, not the causes, of weed invasion and undesirable vegetation.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0465-003
Hassell, Janet

Comment: Causes that need to be addressed include practices that disturb the land. This logging, clear cutting, road building, use of off road vehicles and livestock over-grazing. Weed seeds are transported by hooves, tires, and in feces. Of course, natural means of seed travel will always occur through wind, animals, and rains. However, if we have control over the artificial and additional means of weed spread, this should reduce the overall burden of control.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0466-003
Atkin, David

Comment: The BLM should not continue to rely on the use of herbicides on the public lands. Instead, the BLM should concentrate on addressing the activities that bring in the invasive plants or contribute to their spread.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0467-001
Garvey, Lydia

Comment: The BLM plan fails to deal with the sources of invasive weed spread (grazing, logging, ORVs [off-road vehicles], roads, mining etc..),& ignorantly just addresses the symptoms rather than the causes of. The draft EIS "Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States", rather than the Goal to control the introduction & dispersal of invasives - is BLM making herbicide use itself the purpose!

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. The Purpose and Need are identified in Chapter 1 of the PEIS.

EMC-0513-002
The Wilderness Society

Comment: As a preliminary matter, The Wilderness Society wants to emphasize that BLM should be giving primary importance to finding and eradicating the causes of the noxious weeds, invasive species and other unwanted vegetation that are the target of the herbicide treatments (such as roads, off-road vehicle tracks, and transmission corridors). Unless and until BLM fulfills these responsibilities, control of unwanted vegetation cannot succeed on a long-term basis. We recommend that BLM make a formal commitment as part of this PEIS to identify and evaluate the most common causes of invasive species proliferation on public lands, including but not limited to use of off-road vehicles, and to develop a strategy for controlling these causes concurrent with a strategy for applying herbicides or using other unnatural means of eliminating existing vegetation.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. See Scope of Analysis in Chapter 1 of the PEIS.

EMC-0525-012
Western Watersheds Project

Comment: These degraded communities are extremely vulnerable to weed invasion - especially with chronic grazing or motorized disturbance. As chronic grazing, roading (often linked to livestock facilities or management and other disturbance continues:

Livestock and vehicles assist the spread of weeds via mud trapped in hooves and tires and/or on hides; Livestock transport weed seeds in their digestive systems, spreading them across the landscape in manure; Livestock trample soils and vegetation, and vehicles churn soil and smash vegetation, facilitating weed establishment; Livestock crush and trample microbiotic crusts that may inhibit weed establishment; Livestock may selecting native species over exotics, providing a competitive advantage to invasives species by eliminating competition with native species; Livestock can alter landscape variables (such as fire regimes) giving advantages to exotics. (Belsky and Gelbard 2000, Gelbard and Belnap 2003).

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. See Scope of Analysis in Chapter 1 of the PEIS. Livestock grazing is outside of the scope of analysis of this PEIS.

EMC-0525-013
Western Watersheds Project

Comment: BLM has failed to assess the combined effects of desertification, livestock grazing and exotic species/weed increase and infestation in its hazardous fuels problems. Even PRIA [the Public Rangelands Improvement Act] acknowledged that production on many BLM lands was below potential, and would decline even further. In the [P]EIS/PER, BLM constructs a fantasyland. It ignores chronic grazing as a cause of weed invasions and any need for treatment. It ignores consideration of any actions/treatments that could lessen the impacts or severity of grazing disturbance. It continues the current level of grazing while interjecting or superimposing massive treatment disturbance. This will ultimately result in even further loss of soil, microbiotic crusts, water, watershed integrity, wildlife habitat, and forage across the arid West.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0525-108
Western Watersheds Project

Comment: BLM must also conduct comprehensive assessments, in representative sites grazed by livestock, and assess the role of livestock degradation in causing hazardous fuels or weed problems.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding livestock grazing.

EMC-0525-114
Western Watersheds Project

Comment: BLM must conduct a current livestock grazing capability and suitability analysis. BLM is aware that it has based livestock use areas and stocking rates on old adjudication processes – where AUMs [Animal Unit Months] claimed and then assigned in the adjudication process were often greatly inflated by ranchers. These "adjudicated" AUMs were not based on the ability of the land to sustain such high numbers of livestock and levels of use.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0525-115
Western Watersheds Project

Comment: In the [P]EIS capability and suitability analysis, BLM must examine: Slope, distance to natural water, dispersion of "forage" across the landscape – i.e. many lands have been so depleted that it takes dozens of acres to support an AUM [Animal Unit Month] – so the costs (including in weight gain/loss of livestock) are often so great that grazing is a resoundingly losing proposition, areas inaccessible due to winter snow, summer desiccation, etc.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0525-116
Western Watersheds Project

Comment: Directly relevant to the Weed EIS [PEIS] is an assessment of the risk that continued livestock grazing may push habitats over ecological thresholds from which they can not recover. Examples: Continued heavy stocking and degradation of mountain big sagebrush opening the door to cheatgrass invasion of understory; continued heavy stocking and degradation of juniper leading to cheatgrass invasion of understory; continued heavy stocking and degradation of sagebrush leading to both juniper and cheatgrass invasion of sagebrush.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0525-117
Western Watersheds Project

Comment: BLM must also determine, for example, if lands where taxpayers may spend hundreds of dollars an acre to restore native vegetation that has been destroyed by livestock are suitable for continued grazing following treatment.

Response: Decisions concerning allowable uses, including grazing, are made in local land use plans, and are outside the scope of this analysis.

EMC-0525-121
Western Watersheds Project

Comment: BLM must assess the following existing threats to native vegetation and special status species, T&E [threatened and endangered] species, and other important biota across the project area: Wells and windmills; Pipelines; Troughs; Pipelines; Roads (often linked to facilities); Salting Sites; Weed Infestations; Powerlines; Fences; and Aquifer depletion.

Response: The impacts of herbicide use on native vegetation and special status species are described in Chapter 4 of the PEIS under Vegetation. Assessing the effects of existing facilities on public lands, including aquifer depletion across 17 states on native vegetation and special status species, is beyond the scope of analysis for this PEIS.

EMC-0525-122
Western Watersheds Project

Comment: BLM must assess the following existing threats to native vegetation and special status species, T&E [threatened and endangered] species, and other important biota across the project area: Cheatgrass-dominated understories; Cheatgrass, few shrubs; Altered understory species composition; Altered understory species structure; Altered overstory species composition; Altered overstory species structure (see, for example, Katzner and Parker 1997, and Federal Register 68 (43): 10389-10409) describing impacts of livestock-altered or thinned sagebrush to pygmy rabbit)

Response: The impacts of herbicide use on native vegetation and special status species are described in Chapter 4 of the PEIS under Vegetation. Assessing the effects of undefined altered vegetation composition and structure across 17 states on native vegetation and special status species is beyond the scope of analysis for this PEIS.

EMC-0525-124
Western Watersheds Project

Comment: [BLM must assess the following existing threats to native vegetation and special status species, threatened and endangered species, and other important biota across the project area]: Grazing season/disturbance conflicts with nesting, birthing, wintering or other critical period in species life cycle; Grazing use levels fail to provide necessary habitat components (cover or food) based on nest available science; Livestock structural alteration of shrubs

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0525-125
Western Watersheds Project

Comment: [BLM must assess the following existing threats to native vegetation and special status species, threatened and endangered species, and other important biota across the project area]: Energy project siting (wind, geothermal, other) and associated roading and infrastructure such as utility corridors and lines; Mines and mining exploration and associated roading; Oil and Gas exploration and Development.

Response: See Scope of Analysis in Chapter 1 of the PEIS. Also see NEPA Requirements of the Program in Chapter 1 of the PEIS. Site-specific projects for public land uses are assessed under NEPA at the time they are proposed. These projects are outside the scope of analysis of this PEIS.

EMC-0525-126
Western Watersheds Project

Comment: [BLM must assess the following existing threats to native vegetation and special status species, threatened and endangered species, and other important biota across the project area]: OHV [off-highway vehicle] races; Areas of high OHV use; Unregulated motorized use; Road densities; Communication towers and other vertical structures

Response: See Scope of Analysis in Chapter 1 of the PEIS. OHV use is outside the scope of analysis for this PEIS and unrelated to the Proposed Action in this PEIS.

EMC-0525-127
Western Watersheds Project

Comment: [BLM must assess the following existing threats to native vegetation and special status species, threatened and endangered species, and other important biota across the project area]: De-watering proposals (example – aquifer depletion and water export to Las Vegas), land disposal proposals.

Response: These projects are outside the scope of analysis of this PEIS and are unrelated to the Proposed Action in the PEIS. Many of these projects (e.g., water export to Las Vegas, land disposal proposals) are currently being analyzed or have been previously analyzed in site-specific EISs.

EMC-0525-128
Western Watersheds Project

Comment: Often overlooked threats from livestock facilities and structures include: Physical harm to species - obstacles such as fences that can cause injury or mortality; Structures cause species avoidance of areas, i.e. sage grouse avoid vertical structures. Providing elevated predator perches and nest predator perches (in the case of songbirds – brood parasite perches). Attract predators and act as sinks; Attract brood parasites

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0525-131
Western Watersheds Project

Comment: The impacts of grazing on native wildlife, including species displaced by treatments into neighboring or sub-optimal habitats, must be assessed. For example, inundating sage grouse nesting or brood rearing habitats with large numbers of cattle or sheep during nesting season may cause: Removal of cover necessary to protect nesting birds and to hide and provide essential insect food for chicks; cause flushing of birds from nests – thus revealing nests to predators; cause separation of broods and increased vulnerability to predation; strip essential cover to hide hens and nests and conceal chicks from aerial vision-oriented predators and screen scent from ground-based predators. If this is coupled with loss of a significant portion of nesting habitat due to a BLM sagebrush Tebuthiuron "treatment", impacts will be magnified, and

populations suffer significant losses.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis. Also see NEPA Requirements of the Program and Figure 1-1 in Chapter 1 of the PEIS. Any proposal to apply tebuthiuron in sagebrush habitat would have site-specific project impacts on resources and wildlife assessed through NEPA at the time the project is proposed.

EMC-0525-134
Western Watersheds Project

Comment: BLM must study the extent of cheatgrass in understories, and areas already dominated by cheatgrass. BLM must assess the risk of cheatgrass invasion of understories with continued or extended livestock use or disturbance. BLM cannot gloss over the role of ongoing livestock grazing in continuing disturbance that spreads and promotes cheatgrass, medusahead and other weed growth; in retarding recovery and continuing weakening of native vegetation in plant communities that still have a significant component of native species present, etc.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0525-136
Western Watersheds Project

Comment: In any discussion of plant communities where BLM claims the fuels/fuel loading is too heavy, BLM must examine causes heavy fuels related to livestock degradation, topsoil loss and change in site potential, climate change, etc.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0525-138
Western Watersheds Project

Comment: In addition, with extensive depletion over large areas, BLM must assess the diminishing returns – and increased ecological damage done by livestock having to roam over dozens if not hundreds of acres to sustain themselves/harvest an AUM [Animal Unit Month]. This may lead to more trampling impacts, more disturbance, more sites for weeds to take hold, and more livestock-vectored movement of weed seeds across the landscape. BLM must identify areas where grazing is unsustainable, or where it will cause harm to still-intact communities, as part of the capability and suitability analyses. What lands are really capable, or suitable, to be grazed post-treatment?

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0525-140
Western Watersheds Project

Comment: BLM fails to address shifted, intensified or increased use by livestock that may occur as livestock are shifted into untreated lands. Nowhere does the [P]EIS mandate removal of livestock grazed on treated lands, not merely displacement of livestock and their impacts to nearby areas. Increasingly, we are seeing BLM fail to reduce AUMs [Animal Unit Months] following fire, and Nevada BLM often takes no action whatsoever to limit livestock use of treatments. This all reduces the effectiveness of any treatments, and increases likelihood of increased weed proliferation in the wake of treatment or post-fire disturbance.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis. BLM policy is to rest treatment areas at least two growing seasons following rehabilitation after fire or until treatment goals are achieved.

EMC-0525-142
Western Watersheds Project

Comment: All impacts of livestock grazing on all elements of the [P]EIS must be assessed during drought. How does drought affect productivity of vegetation? What are the additive, synergistic and cumulative impacts of grazing depletion and drought on loss of plant vigor, weakening, or death?

Response: The analysis of drought and livestock grazing on plant vigor are outside the scope of analysis of this PEIS.

EMC-0525-143
Western Watersheds Project

Comment: How much are plants of good vs. poor vigor affected by drought? What utilization levels are appropriate on drought-stressed vegetation? What stocking rates are necessary to prevent depletion during drought? How does drought affect fuels and fire danger in plant communities weakened by the combined effects of grazing and drought? Do they become vulnerable to cheatgrass and other weeds that increase fire dangers and cause fuels problems?

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0525-156
Western Watersheds Project

Comment: BLM must conduct a full inventory and assessment of all existing livestock facilities and developments on lands identified by its Field Offices for treatment under the [P]EIS/PER, including, all water haul and salting sites, and all vegetation treatments that have been conducted on these lands. The full array of direct, indirect, cumulative and synergistic impacts of these projects and activities must be assessed.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0525-166
Western Watersheds Project

Comment: Instead of taking strong and decisive action to restore and enhance habitats and populations, BLM pursues a path of new and extended habitat alteration and fragmentation across the allotments under the guise of hazardous fuels, and restoring a "natural" fire interval that can no longer be considered natural under the chronic disturbance caused by livestock and in the face of exotic species invasions.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis. See Wildland Fire Management Program under Planning and Management at the National Level in Chapter 2 of the PER for a description of the BLM Fire Management program, including hazardous fuels management.

EMC-0525-168
Western Watersheds Project

Comment: The habitat for many native wildlife species across the [P]EIS lands is already fragmented. Fragmentation would continue and escalate with new livestock developments, livestock management practices that result in zones of livestock concentration, and other disturbances under the actions as laid out in the [P]EIS/PER.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0538-002
Trochlell, Cathy

Comment: Yes, it's true that there is a problem with invasive weeds on BLM lands. This is due to the regular introduction of those weeds through overgrazing, off-road vehicle use and other poor management practices.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0538-003
Trochlell, Cathy

Comment: I request that you use my tax dollars to eliminate grazing and ORV use on my public lands. The use of herbicides will only pollute MY air, land, water, and wildlife found on my public lands. Furthermore, the BLM should analyze the Restore Native Ecosystems Alternative in the DEIS [Draft PEIS]/PER, a citizens' alternative submitted to the BLM that addresses both the causes and the effects of weed invasion and undesirable vegetation on public lands.

Response: See response to Comment RMC-0126-004 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding analysis of the Restore Native Ecosystems alternative.

EMC-0561-002
Petroleum Association of Wyoming

Comment: PAW [Petroleum Association of Wyoming] commends the Bureau of Land Management (BLM) in its efforts compile this programmatic environmental impact statement (PEIS). It is our understanding that the primary objective of these documents is identification of herbicides suitable for use on public lands and the report does not address energy production activities as stated on page 1-6 [of Chapter 1] and the PEIS [PER] also does not address energy production as stated on page 1-4 [of the PER]. Both documents, however, have the potential to influence reclamation work that is done by our members in our efforts and commitment to land stewardship.

Response: The decisions on which herbicides are appropriate for use on public lands, and any constraints identified in the PEIS on their use, would apply to all activities that utilize herbicides, including reclamation work by authorized users of the public lands.

EMC-0562-007
The Lands Council

Comment: The National Environmental Policy Act (NEPA) and its implementing regulations require the Region to address the causes of invasive plants and to design alternatives around eliminating the introduction of them. 40 C.F.R. [Code of Federal Regulations] § 1508.25 (scope of the proposed project). The selected invasive plant management project focuses too much on herbicidal treatment of the spread of invasive plants e.g. the increasing number of populations of weeds – rather than preventing the underlying causes of these increases. The BLM standards must adequately address prevention of the spread of invasives by other means. Logging, road building, off road vehicles and livestock grazing are causes for the introduction and establishment of non-native plant species on public lands. Invasive weeds "hitchhike" on the tires of logging trucks, ORV's [off-road vehicles], and on livestock hooves. Noxious weeds such as Dalmatian Toad Flax and Knapweed are easily established when the ground has been disturbed by these activities.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public land uses.

EMC-0562-008
The Lands Council

Comment: Herbicide treatments fail because they are "treating" symptoms, not the causes, of weed invasion and undesirable vegetation. Passive restoration is a more potent management tool than the broad application of new toxic herbicides. This involves the cessation of all activities, including herbicide applications that cause or can exacerbate conditions conducive to the establishment and growth of invasive species. Instead, the BLM should close areas to grazing and exclude operators and

users where a weed problem exists. This includes closing all roads that are weed vectors as well as requiring weed free feed on all BLM lands.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public land uses.

EMC-0580-003
Okuzumi, Margaret

Comment: Please consider the causes of vegetation conversions and the spread of invasive species in the western landscapes, as well as the causes of catastrophic fire, unhealthy ecosystems and impaired wildlife habitat. Management objectives on public lands should emphasize environmentally-benign biological and mechanical control of invasive plant species, and no management activities should be permitted that may cause further introduction of non-native species.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. See also the Introduction in Chapter 1 of the PEIS for a discussion of the context under which this PEIS was developed.

EMC-0580-004
Okuzumi, Margaret

Comment: The spread of invasive plants is caused by removal of native vegetation and ground disturbance by off-road vehicles, logging and grazing. I ask BLM to stop the spread of invasive plant species by restricting or limiting these activities from intact native ecosystems, particularly in riparian areas. The PEIS must offer these types of preventative management measures as an alternative to herbicide spraying - a major shortfall of the plan.

Response: See Scope of Analysis in Chapter 1 of the PEIS. See also response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis. Restricting or limiting public land uses authorized under the Federal Land Policy Management Act (FLPMA) is outside the scope of analysis for this PEIS.

EMC-0580-005
Okuzumi, Margaret

Comment: Examining the causes of the spread of invasive plant species instead of one simplistic treatment could result in a management plan that is far more sensible and beneficial in restoring the land to long-term health and productivity. These public lands need long-term management strategies that will restore native ecosystems, not simply attempts to eliminate invasive plant species.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. Long term management strategies are developed and implemented through local land use plans.

EMC-0584-002
Western Watersheds Project

Comment: The Draft [P]EIS fails to adequately address the role of livestock, and BLM and other agency management of livestock, on the ecological health and fire regime of lands across the Project area. It fails to present scientific information and analysis necessary to understand the role of livestock in causing fuels problems – including the role of ongoing livestock grazing across the lands of the EIS area and adjoining National Forest, state and private lands.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0584-003
Western Watersheds Project

Comment: The [P]EIS and alternatives are based on BLM's false premise that it can impose fire and other treatments to bring about "historical" ranges of fire occurrence and achieve some artificially derived "desired" future conditions. This is not based on the hard, cold facts that cattle and sheep grazing and other human disturbances in the arid West have created an unnatural environmental setting – often with massive topsoil loss, lowered ecological site potential, desertification, and great vulnerability to weed invasion following disturbance. The risk of alien invasive species dominance of sites following BLM's proposed disturbance treatments interjects great risk into BLM's claims that it can restore lands by inflicting large-scale new disturbances.

Response: See the Purpose and Need for the Proposed Action in Chapter 1 of the PEIS. The PEIS and alternatives address the use of herbicides on public lands. The BLM is not proposing large scale new disturbances to restore lands.

EMC-0584-004
Western Watersheds Project

Comment: In this setting, BLM's premise that chaining, fire and other disturbance will have beneficial outcomes, especially with no significant changes in land management (reduced grazing, roading, other continued sources of degradation) is unrealistic and not based on either common sense or scientific reality.

Response: Beneficial outcomes of non-chemical vegetation treatment methods are described in the PER. Vegetation treatment projects are designed within a milieu of ongoing management activities, which may include changes to land management at the local scale in conjunction with treatment activities. This PEIS/PER does not preclude local consideration of changes to management of public land uses consistent with local land use plans.

EMC-0584-005
Western Watersheds Project

Comment: BLM must recognize the deficiencies of livestock grazing and other allocation components of Land Use Plans, and their role in contributing to hazardous fuels, weeds and other ecological problems. The livestock grazing and vegetation portions of many Land Use Plans are woefully outdated. New Land Use Plans ignore (example, Craters of the Moon, Black Rock) fail to address forage allocations in any way. There is no management requirement for conservative use levels, no specific new or updated allocation for livestock, no concrete habitat goals related to livestock use, and BLM continues to apply known harmful levels of vegetation use.

Response: See the Scope of Analysis in Chapter 1 of the PEIS. Land use planning or the content of approved land use plans is outside of the scope of this PEIS.

EMC-0584-007
Western Watersheds Project

Comment: As management on the ground over the course of the [P]EIS/PER will be carried out under out-dated old plans, and new plans with often even fewer standards and that do not address forage/stocking allocations, we believe it is not possible for BLM to predict rosy short, mid or long-term outcomes to its proposed treatments.

Response: The comment has been noted. The analysis contained in the PEIS discloses the impacts of herbicide use based on best available information.

EMC-0584-009
Western Watersheds Project

Comment: An [P]EIS grappling with weeds, and fire, fuels and vegetation treatment must address livestock grazing as a causal agent; analyze the impacts of livestock grazing in continuing to cause "unnatural" fire cycles and weed problems; honestly assess the impact of chronic livestock grazing on the ultimate outcome/effectiveness/success of any treatments; develop a range of alternatives that minimizes livestock and other disturbances as prevention and part of an Integrated Pest Management Strategy. Without including significant changes in livestock grazing

practices including reduced stocking rates and/or removal of livestock from lands at risk to cheatgrass/weed invasion or dominance, or where restoration actions may be undertaken, and more protective levels and standards of use, BLM will be wasting taxpayer dollars on this Fire EIS[PEIS] effort.

BLM must fully address livestock as a causal agent in ecosystem disruption, and alteration of composition, structure and function of native ecosystems in the arid lands (see Fleischner 1994) covered by the EIS. The role of livestock in causing any fuels problem must be fully assessed, including all direct, indirect and cumulative impacts of past and ongoing livestock use on rangeland health problems associated with fire, hazardous fuels and weeds. A wide range of up-to-date livestock management alternative components must accompany all alternatives in this [P]EIS process. These should include analysis of a range of reductions in stocking rates and use levels, and their effects on ecosystem processes, fire, fuels, weeds, restoration, rehabilitation efforts.

BLM must fully analyze reductions in, or cessation of livestock use and grazing permit retirement as part of any treatment analysis that is conducted. Federal fire funds should be used to buyout and retire grazing permits on lands that are treated and where subsequent grazing will result in new weed problems, or still-intact lands determined to be at risk to weed invasion, or determined to be at risk of crossing thresholds from which recovery may not be possible. The inextricable linked fire/fuels problems and livestock grazing effects must be addressed.

Background information that must be presented and assessed includes: Current stocking rates (average actual use as well as active permitted use) in all allotments, and in all vegetation types and all lands where Field Offices slated treatment in information used to form the basis of this [P]EIS/PER; Utilization levels and other management standards applied on the affected lands vs. current range science texts; [and] Current ecological condition of soils, vegetation, habitats related to stocking rates, levels of use allowed, etc.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis. Congress determines the scope and use of federal fire funds. At this time, federal fire funds are not authorized to be used in the livestock grazing program to buy out and retire grazing permits.

EMC-0584-015
Western Watersheds Project

Comment: The [P]EIS's discussion of vegetation communities and treatments ignores honest assessment of alterations in ecosystem composition, function and structure that exist in the real world as a result of livestock grazing and other disturbances, past vegetation treatments followed by livestock grazing, etc.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0584-017
Western Watersheds Project

Comment: The DEIS [Draft PEIS]/PER fails to provide information to tie proposed treatments to such land areas, and fails to assess the role (and ecological condition) of past treatments past and current livestock management (especially under out-dated paradigms and levels of use), and develop new goals, objectives and allocations that better address the pressing habitat needs of many important species and that address root causes of hazardous fuels problems, and thus provide better and more cost-effective protection from hazardous fuel and weed problems. What are the risks of treating wild lands, as BLM proposes, under the current alternatives, or under a new

range of reasonable alternatives?

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis. Also see Relationships among Land Use, Land Use Planning, Land Health Standards, Ecosystem Functionality, and Vegetation Treatments in Chapter 1 of the PER for a discussion on the relationship of vegetation treatments to land use planning. Goals, objectives, and allocations are determined in land use planning and are beyond the scope of analysis of the PEIS.

EMC-0584-019
Western Watersheds Project

Comment: In many areas of BLM lands across the West, sheep AUMs [Animal Unit Months] have been converted to cattle AUMs, with no necessary reduction in AUMs, and no examination of the impacts of sheep vs. cattle use, and the often decreased capability of steep, rocky or other terrain for cattle use (vs. sheep). This capability and suitability of lands for livestock grazing must be assessed as part of any treatment this process. Please see USFS [Forest Service] methods used in development of the Boise, Payette and other recent southern Idaho Forest Plans.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0584-022
Western Watersheds Project

Comment: BLM must determine if stocking of grazing lands that are not capable or suitable is a major contributing factor to fuels and weeds problems.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0584-023
Western Watersheds Project

Comment: All alternatives must include provisions for regulation of livestock disturbance based on current science and current capability and suitability determinations. This includes science-based standards of use, such as 25% or less allowable utilization of upland vegetation, no grazing during critical growing periods for native species, no grazing during nesting periods for migratory birds and sage grouse, measurement of livestock trampling damage to native vegetation and microbiotic crusts and means to minimize trampling damage, no movement of livestock from lands infested with exotics to more intact communities.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0584-024
Western Watersheds Project

Comment: BLM does not take into account the scientific literature – including that published in the Journal of Range Management – demonstrating that utilization limits historically followed by BLM (typically, 40%, 50% or 60% utilization limits) contribute to degradation of native vegetation, and plant community changes that result in fuel and weed problems, and other ecological problems affecting a host of important habitats. These ecological problems include disturbance and loss of soils and microbiotic crusts that results in extensive weed problems. See Anderson 1991, Anderson and Holte 1981, Anderson and Inouye 2001, Belnap 1995, Belnap and Gillette 1997, Belnap et al. BLM Tech Bull. 2001, Belsky and Gelbard 2000, Beymer and Klopatek 1992, Braun 1998, Connelly et al. 2004, Donahue 1999, Fleischner 1994, Freilich et al. 2003, Galt et al. 1999, Galt et al. 2000, Gelbard and Belnap 2003, Hockett 2002, Holechek 1996b, Holechek et al. 1998, Holechek et al. 1999 a and b, Holechek et al. 2000, Holechek et al. 2001.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0584-026
Western Watersheds Project

Comment: Road/ORV [off-road vehicle] trail closure and rehab/restoration treatment: Closures and restoration treatments quell the spread of flammable invasive species from disturbed road and trail edges. Roads are known to serve as conduits for weed invasion (Gelbard and Belnap 2003). Then, domestic livestock spread weeds from road or trail margins crosscountry into wild land areas. Road closure coupled with grazing reductions can have large-scale positive effects, as roads as weed conduits can be closed, and livestock reductions minimize spread of weeds already present within the area.

Allowing natural successional processes and healing processes to occur in plant communities that are still relatively intact is the most cost-effective method of attaining natural fire cycles, reducing buildup of hazardous fuels over time, etc. Natural mortality occurs in sagebrush, sagebrush-bitterbrush and other vegetation types. Allowing natural processes to play out, while removing or minimizing those agents that are disturbing natural ecological processes takes patience, but minimizes risks of exotic invasion that accompany aggressive intervention such as fire or mowing.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. The benefits of passive treatments are described under Prevention of Weeds and Early Detection and Rapid Response in Chapter 2 of the Final PEIS.

EMC-0584-060
Western Watersheds Project

Comment: We often encounter areas on public lands – such as leafy spurge spraying in the Lost River Area or white top spraying near Battle Mountain or on the Owyhee Front – where all native veg. has been killed by herbicides, and leafy spurge continues to thrive. The role of continued livestock grazing post-treatment in continuing weed invasion must be addressed – and the [P]EIS does not do this.

Response: Livestock grazing is outside the scope of analysis of the PEIS. Post-treatment objectives include, but are not limited to, rest from grazing for up to two growing seasons following treatments or until management objectives are met as determined through monitoring. Many noxious weeds, especially leafy spurge, are extremely pernicious and difficult to control. Herbicide applications may at times include non-target vegetation within the project area in order to achieve effective results.

EMC-0584-085
Western Watersheds Project

Comment: Recently discovered mercury contamination of Idaho waters and lands from gold roasting in Nevada must be considered in this analysis, also as these substances will pollute waters on top of the chemical, sediment or other substances from treated lands.

Response: Air and water quality impacts from hard rock mining activities are outside the scope of the analysis of the PEIS.

EMC-0585-002
Western Watersheds Project

Comment: It is impossible to determine exactly what the [P]EIS covers. In [P]EIS at [page] 1-4 Scope of Analysis BLM states: "the [P]EIS does not evaluate vegetation treatment activities involving herbicides not directly related to the need to reduce hazardous fuels, or to modify the vegetation community to improve rangeland health...". But BLM also states that the [P]EIS does not address treatments designed to

increase forage production or the effects of livestock grazing on vegetation. Yet, elsewhere it sounds like it does. It is extremely difficult to get a straight answer, either from reading the [P]EIS, or in WWP's [Western Watersheds Project's] inquiries and attendance at public meetings, to get a straight answer on what herbicide use and treatments are, or are not, covered by this [P]EIS. No criteria are established to allow treatments for various purposes to be differentiated.

Response: As noted in the comment and in Chapter 1, the PEIS evaluates treatments related to the need to reduce hazardous fuels and improve rangeland and forestland health. Although herbicide treatments would improve forage for livestock, this was not the focus of the PEIS, and rangeland improvement to benefit livestock has been evaluated in earlier EISs. Rangeland and forestland improvements to benefit fish and wildlife, cultural resources, wilderness values, and visual resources were not the focus of earlier livestock EISs, and thus have been covered in more detail in the PEIS and PER.

EMC-0585-018
Western Watersheds Project

Comment: BLM ignores assessing the role of chronic livestock grazing disturbance; its own extensive past vegetation treatments (often undertaken for livestock); livestock facilities and often associated roading; and previous treatments that have been claimed to be undertaken to reduce "invading" species, "reintroducing fire" or other disturbance, and wildlife and habitat improvement and the hazardous fuels funding has been used -- in fostering spread of hazardous fuels such as cheatgrass.

Response: See responses to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis and Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0585-096
Western Watersheds Project

Comment: Mining, oil and gas, and other activities conducted on public lands de-stabilize soils and alter vegetation in wild lands. These activities involve the use of harmful substances that may pollute lands and waters, as well as disturb underlying rocks or aquifers and may bring harmful substances to the surface or bring these substances into contact with ground or surface waters. These impacts on top of herbicide or treatment disturbance have not been assessed.

Response: See Scope of Analysis in Chapter 1 of the PEIS. These activities are outside the scope of analysis of this PEIS.

EMC0585-244
Western Watersheds Project

Comment: BLM claims that "if livestock grazing is managed to maintain the vigor of native perennial plants especially grasses, the chance of weeds invading rangeland is much less". Yet, BLM never provides data (such as that from current FRH [Federal Rangeland Health] assessments), analysis, acreage figures or maps, showing where such management is occurring. Nor does it provide any information on the lands where native grasses have been depleted, and are rarely present, or present at only reduced levels. Plus, in this claim, BLM undercuts the role of forbs, shrubs, trees and other native vegetation, and intact function, structure and composition of vegetation communities in limiting or slowing invasions (see Fleischner 1994, describing livestock alteration of composition, function and structure of native ecosystems in the arid West). (2-15).

Response: Please refer to the Decision to be Made and Scope of Analysis section of Chapter 1 of the PEIS. Evaluation of livestock grazing management is outside the scope of the PEIS. The BLM agrees that healthy rangelands and landscapes, exhibiting characteristics of intact function, structure and composition of plant communities,

inclusive of forbs, shrubs, trees, and other native vegetation, can help to slow down or prevent invasions. Vegetation treatments proposed by the BLM are designed to accomplish these goals along with site-specific objectives.

EMC-0619-006
Bellovary, Christopher

Comment: BLM has failed to consider the causes of vegetation conversions and the spread of invasive species in the western landscapes, as well as the causes of catastrophic fire, unhealthy ecosystems and impaired wildlife habitat. Management objectives on public lands should emphasize environmentally benign biological and mechanical control of invasive plant species, and no management activities should be permitted that may cause further introduction of non-native species. The spread of invasive plants is caused by removal of native vegetation and ground disturbance by off-road vehicles, logging and grazing. BLM can stop the spread of invasive plant species by restricting or limiting these activities from intact native ecosystems, particularly in riparian areas. The PEIS offers none of these preventative management measures as an alternative to herbicide spraying. This is a major shortfall of the plan, and need to be evaluated as an alternative, or else this PEIS will be woefully incomplete and insufficient to pass judicial review.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public lands uses. Prevention is discussed in Chapter 2 of the PEIS and PER under Prevention and Early Detection of Weeds.

EMC-0619-007
Bellovary, Christopher

Comment: Looking at the causes of the spread of invasive plant species instead of simply one type of treatment could result in a management plan that would be far more sensible and beneficial in restoring the land to long-term health and productivity. These public lands need long-term management strategies that will restore native ecosystems, not simply attempts to eliminate invasive plant species. The Programmatic Environmental Report (PER) that was issued along with the PEIS does nothing to remedy these shortcomings; it simply addresses treatments other than herbicide spraying that may be used to control invasive plants.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public lands uses. Long-term management strategies are outlined in the goals and objectives of local land use plans. The PER discloses the effects of non-chemical treatment methods on public land resources. The PEIS and PER do not represent a management plan.

EMC-0623-005
Defenders of Wildlife

Comment: Curtail Deliberate Introductions. For any noxious weed strategy to be effective BLM must consider the root causes that have led to the widespread invasion of invasive exotics. Therefore, the [P]EIS should investigate the role of BLM's own and other agency activities with respect to introduction of invasive species. Deliberate introduction has been a root cause of the spread of many noxious weeds (Tamarix, Melaleuca, etc). Executive Order 13112 directs all federal agencies to cease activities that lead to the proliferation of invasive species. BLM should consider as a management alternative the adoption of a precautionary stance toward introductions of plants, seeking native alternatives wherever feasible. The [P]EIS should also consider avenues of coordination with other agencies engaged in revegetation work to eliminate the use of exotic species.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public lands uses. Executive Order [E.O.] 13112 does not direct agencies to cease activities that lead to the proliferation of invasive species. Rather, E.O. 13112 directs federal agencies to not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States. The BLM does not propose to deliberately introduce any noxious weeds or invasive species on public lands. Coordination with other agencies is described in Chapter 1 of the PEIS under Interrelationships and Coordination with Agencies.

EMC-0623-006
Defenders of Wildlife

Comment: Evaluate Impact of Land Use Practices. The [P]EIS should also consider the role of land management practices in facilitating the spread of invasive plants. In particular, the [P]EIS should study of role of livestock grazing and motorized vehicle use in contributing to the spread of noxious weeds and the resulting loss of ecosystem health. Livestock grazing and motorized vehicles both carry the seeds of exotic species throughout BLM lands and facilitate establishment of these species by disturbing soil and the native vegetation community. The [P]EIS should recognize the detrimental effects of motor vehicle use and livestock grazing. Restriction of grazing, motor vehicles and other activities may well be a critical element in both the rehabilitation of lands affected by invasives and the protection of lands not already impacted. Restriction of grazing and vehicle use on such lands should be considered in management alternatives.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public lands uses.

EMC-0623-012
Defenders of Wildlife

Comment: Focus foremost on preventing new weed infestations, by immediately ceasing deliberate introduction of exotic species; evaluating current land use and management practices and discontinuing practices that have a high potential to inadvertently spread noxious weeds and implementing mitigation strategies to minimize introductions associated with moderate risk practices; and implementing a monitoring and rapid response program to quickly detect and eliminate new invasions.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public lands uses.

EMC-0627-002
EMC-0633-004
Rude, Monica (Desert Woman Botanicals)
Wanek, Catherine

Comment: Second of all, let's look at why the invasive plants are spreading in the first place, often because the soil has been disturbed by logging and off-road vehicles, the native plants eaten by cattle, all of which create an opportunity for more aggressive plants to take over. Why don't you consider restricting these activities, a sort of preventative management, which would also help restore native ecosystems, instead of further degrading them with chemicals? Desert lands are very fragile, easily damaged and take a long long time to recover from casual damage, if they ever do recover. Every time we do something to the land, it has an impact, often one we cannot predict.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed

spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public lands uses.

EMC-0628-004
Needs, Kelly

Comment: It is unreasonable and unethical to propose a vegetation treatment that does not take into account economic factors that adversely effect the land in question. Commercial logging, livestock, and energy production are direct causes of habitat destruction and weed vectors and ignoring these facts does not make them go away. The government refusal to confront these issues makes every American pay twice for the insult. First to have our valuable land used at the cost of the taxpayer and then to pay for out of control problems such as habitat loss and massive weed populations not only with money but incalculable risks to our health.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public lands uses.

EMC-0633-003
Wanek, Catherine

Comment: Also, invasive plants are spreading in the first place because the soil has been disturbed by off-road vehicles and the native plants have been consumed by cattle -- which allows more aggressive plants to take over.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public lands uses.

EMC-0640-023
Animal Welfare Institute

Comment: Furthermore, to make matters worse, the BLM explicitly excluded from its analysis any discussion of livestock grazing, off-road vehicle use, logging activities, oil and gas development, or other human uses of BLM managed lands that contribute to the introduction and spread of invasive exotic species on public lands in the west. It simply makes no sense to engage in a concerted effort to control, eliminate, or manage invasive exotic species using techniques, including the use of poisonous chemicals, that will adversely impact, temporarily or long-term, soils, air and water quality, non-target vegetation, fish, invertebrates, amphibians/reptiles, birds, and mammals without taking proactive steps to reduce some of the primary pathways or mechanisms that caused the invasive exotic species to take hold in the first place.

Again, if the BLM had properly defined the scope of its analysis it should have provided a more complete strategy to address the threat of the spread of invasive exotic species on western public lands by encompassing both the causes of the problem and a full array of potential solutions. Such solutions could include, but would not be limited to, vegetation management (as discussed in the PEIS and PER), closure of grazing allotments, restriction in ORV [off-road-vehicle] recreational access to BLM lands, closure and reclamation/restoration of illegal and unnecessary roads, restrictions on oil and gas development, and other limitations or restrictions on human use intended to minimize the chance of the introduction or spread of invasive exotic species. The Restore Native Ecosystems alternative proposed by American Lands Alliance provides such a comprehensive strategy to address such threats and should be adopted by the BLM as a framework for the preparation of a new programmatic document to address its management issues of concern.

To address such deficiencies and, in particular, to both properly define the scope of the PEIS and to clarify the decision to be made, the BLM should broaden the parameters

of its analysis to include both causes and potential treatments for the management issues of concern (i.e. hazardous fuel reduction, improving ecosystem health, controlling weeds and invasive species, restoring fire damaged lands, and manipulating vegetation to improve wildlife habitat), comprehensively address the environmental impacts of all such activities in relationship to the issues of concern, and reissue the PEIS, PER and associated documents for public review. Such a holistic approach to this issue will not only result in a more informed and ecologically responsible decision, but it will also be consistent with both the plain language and intent of NEPA.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public lands uses. See also response to Comment RMC-0222-013 regarding analysis of the Restore Native Ecosystems alternative. The Scope of Analysis for the Proposed Action is properly defined and outlined in Chapter 1 of the PEIS.

EMC-0641-003
Idaho Conservation League

Comment: While treatment is an important aspect of this project, the BLM should prioritize efforts to prevent the initial introduction, disturbance of soils, and vectors for the spread of weeds into the area. In particular, we believe that more should be done to address major causes of the spread of noxious weeds such as high road densities, overgrazing, soil disturbance from vegetation management, and irresponsible ORV [off-road vehicle] use.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread; response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public lands uses; and response to Comment RMC-0218-005 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding prevention.

EMC-0641-008
Idaho Conservation League

Comment: The BLM needs to require the development of updated Travel Management Plans that incorporate aggressive strategies for the control of noxious weed infestations. Travel Plans should include a requirement for the establishment of a system that designates specific roads, trails, areas, and time frames for motor vehicle use. Though the adoption of such a designation system may not be appropriate or feasible on a regional scale, on a local scale, it is a crucial part of a proactive, comprehensive noxious weed management program. We hope that the BLM will incorporate significantly stronger standards for travel plan compliance as part of both this ROD and the Travel Plan ROD.

Response: Off-road vehicle use and travel management are outside the scope of analysis of this PEIS, as discussed in Chapter 1 under Scope of Analysis. Travel management plans are developed in conjunction with land use planning at the local level.

EMC-0641-009
Idaho Conservation League

Comment: Additionally, the PEIS should consider road decommissioning as an effective way of reducing noxious weed invasions and recovering native ecosystems. The PEIS should include a road density analysis, which identifies unclassified, high-risk, and low-use roads that could feasibly be decommissioned and obliterated.

Response: See response to Comment EMC-0641-008 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0641-010
Idaho Conservation League

Comment: ORVs [off-road vehicles] act as major vectors for the spread of noxious weeds both by carrying seeds of invasive species throughout BLM lands and by promoting the establishment of these species by disturbing soil. The BLM should coordinate with the Idaho State Department of the Interior, the Idaho Department of Parks and Recreation, and local Cooperative Weed Management Agencies regarding options for the prevention and control of illegal and irresponsible ORV use. The [P]EIS needs to include an analysis of the contribution of cross-country ORV use to the spread of noxious weeds. Managers should recognize which species of noxious weeds are spread by ORVs and which species take advantage of ORV-disturbed trails.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public lands uses. See Scope of Analysis in Chapter 1 of the PEIS; ORV use is outside the scope of analysis of this PEIS.

EMC-0641-012
Idaho Conservation League

Comment: Livestock are significant vectors of noxious weed. Livestock can transport weed seeds in their hooves and hides as well as in their digestive tract. In addition, overgrazed areas are significantly more susceptible to noxious weed invasion. The EIS fails to recognize the relationship between livestock grazing and the spread of noxious weeds, and the alternatives provided include no measures to control and prevent infestations related to grazing activities. The issue of grazing is particularly significant to this PEIS as the majority of proposed treatments would occur in Nevada, Idaho, Oregon, and Wyoming, four grazing intensive states.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding livestock grazing.

EMC-0641-013
Idaho Conservation League

Comment: The BLM needs to assess the role that overgrazing has played in noxious weed expansion and assess different management strategies to reduce this threat. Specifically, the BLM should analyze how changing the frequency and intensity of grazing will affect noxious weed spread and native species restoration. We recommend that the BLM follow the lead of the Forest Service's Pacific Northwest Region which adopted a standard that uses "available administrative mechanisms to incorporate invasive plant prevention practices into rangeland management." The mechanisms to be utilized include the revision of permits and allotment management plans and annual operating instructions.

Response: See response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding livestock grazing. The BLM livestock grazing program has similar prevention practices in its grazing program administration.

EMC-0643-010
California Indian Basketweavers Association

Comment: However, we assert as we did in 2002 that it is not legally or scientifically valid to ignore the "cause and effect" bases for weed establishment while conducting analysis of the environmental impacts of alternative treatments including herbicides to kill weeds. It is not possible to accurately evaluate a range of alternatives without analysis and understanding of the sources and causes of weed establishment.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. The Alternatives analyzed in the PEIS are appropriate for the Purpose and Need for the Proposed Action found in Chapter 1 of the PEIS.

EMC-0646-209
Californians for Alternatives to Toxics

Comment: CATs [Californians for Alternatives to Toxics] is concerned that the BLM has failed to discuss, analyze, or evaluate weed vectors as part of the PEIS. The BLM should determine the major sources of weed spread (waterways, vehicles, area visitors, livestock grazing, wind and/or wildlife) and include a plan to prevent the cause of weed spread, not just treat the symptoms. Including preventative measures as part of any treatment strategy is critical for long-term control of invasive species and noxious weeds. The BLM's PEIS is doomed to be unsuccessful without first focusing on the cause of the weed infestations and utilizing a holistic native species ecosystem health approach to combating exotic species. For that reason CATs supports the Restore Native Ecosystems Alternative (which we didn't see evaluated as one of the alternatives, even though we know a coalition of groups presented it to the BLM during the scoping phase of the PEIS). We will attach a copy as Appendix B as part of our comments.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. The BLM *Partners Against Weeds - An Action Plan for the BLM* (USDI BLM 1996) outlines the prevention strategies being implemented by the agency. See responses to Comments RMC-0126-004 and RMC-0222-013 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystems alternative.

RMC-0222-096
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The DEIS [Draft PEIS]/PER also does not address the potential of removing roads to restore weed free habitats. Ripping roadbeds, restoring stream crossings, and recontouring roads were all found to reduce weed invasion. Bradley (1997) found that ripping the roadbed discouraged weed invasion in western Montana. In northern California, Madej et al. (2001) reported that following full recontour and stream crossing restoration some weeds emerged on hot dry terrain; however, very few weeds appeared in the more common moister terrain. Following hundreds of miles of full road recontour, few weeds were reported in north central Idaho (USDA FS [Forest Service] 2003).

Response: The PEIS addresses the effects of herbicide use on human health and public lands resources. Road removal and road re-contouring are management actions unrelated to the purpose and need of the PEIS, and are beyond the scope of analysis. Road closure, removal and re-contouring decisions are made at the local field office level based on the goals and objectives contained in local land use plans.

EMC-0455-002
Tashjian, Randy

Comment: Rather than address the causes of spreading invasives by eliminating these activities, the BLM proposes to address the symptoms by increasing the use of herbicides that poison the air, land, water, wildlife and humans and require the use of mechanized equipment for application. This is not the best way to handle this situation, in my opinion.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0455-003
Tashjian, Randy

Comment: Invasive species cannot be eliminated without eliminating the causes of weed invasion.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0455-004
Tashjian, Randy

Comment: Herbicides are not only poisonous and expensive, but they fail because they are "treating" symptoms, not the causes, of weed invasion and undesirable vegetation.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0525-106
Western Watersheds Project

Comment: BLM can not ignore evidence that its limited old data does show - i.e., only a small fraction of larger size grasses present are present in most sites that should be dominated by these species. Thus, desertification has occurred, and "production" is greatly less than that of good or better condition sites, and this is typical of nearly all sites. BLM must also tie water developments, water hauling or other livestock management practices to site depletion and alteration of species structure, composition and weeds, hazardous fuels and fire problems.

Response: Please refer to Chapter 1 of the PEIS, Scope of Analysis. Evaluation of livestock grazing and facilities is outside the scope of the PEIS.

EMC-0525-111
Western Watersheds Project

Comment: BLM must conduct a comprehensive analysis of pre-existing projects and disturbance across the landscape, and include analyses of treatments and disturbance factors across land ownership boundaries. BLM must also assess significant ecological problems that may have arisen in the wake of past manipulation, hazardous fuels or other treatments.

Response: An analysis of this magnitude is outside the scope of the 17-state PEIS, and is not essential to a reasoned choice among alternatives to determine which herbicides considered in this PEIS are appropriate for use on public lands. An analysis similar to the one described in the comment was undertaken in the mid-1990s by the Interior Columbia Basin Ecosystem Management Project, over portions of a four-state area. The science assessment team conducted this analysis, which was used by the EIS team to develop a Draft EIS and a subsequent Supplementary Draft EIS. However, no Record of Decision for the Final EIS was implemented by the Forest Service or BLM for this project. One reason is that such an assessment, even over a four-state area, is not scientifically defensible because no validated model(s) exist to support the simulations or analysis. Models and their attendant analyses must be replicable, verifiable, and valid, both empirically and statistically, for an agency to rely upon them in its decision-making. As no such models currently exist, it is not possible for the BLM as an agency to compile and analyze such data in this manner. The cost of developing and validating appropriate models to address ecological questions at the sub-continental scale would be exorbitant, and would not contribute significantly to the decisions to be made through this PEIS.

EMC-0585-105
Western Watersheds Project

Comment: [Page] ES-5 [of the Draft PEIS] claims treatments "over the long term" would make landscapes "more appealing" as native vegetation was restored. Yet, there is no evidence provided that native vegetation would be restored, as BLM fails to

address root causes of weed problems/treatment needs. This claim is typical of analysis throughout the [P]EIS. As the [P]EIS does not address causes of weeds, it can not assume that post-treatment restoration of native vegetation will occur – especially over the long term, as the same land management practices (grazing, roading, oil and gas, etc.) that have resulted in the proliferation of cheatgrass and other weeds will harm or preclude the recovery of native vegetation.

Response: See response to Comment RMC-0126-002 under Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0585-108
Western Watersheds Project

Comment: SE [Executive Summary]-6 [of the Draft PEIS]. "although the number of domestic livestock and wild horses and burros that public lands can support has declined from historic levels, treatments should improve rangelands for these animals, and ensure that the public lands can support viable populations of wild horses and burros and a healthy ranching industry". BLM fails to mention that – despite the number that public land can support having declined, stocking rates of domestic livestock on the very same lands often have. Lands overstocked with domestic cattle and sheep is a fundamental cause of weed problems and degradation that this [P]EIS avoids addressing. Plus, even in areas where AUMs [Animal Unit Months] have remained the same, the average weight of cattle and sheep has increased due to breeding, hormone implants, etc. This means that the amount of forage consumed, and disturbance caused, has increased.

Response: Stocking rates of domestic livestock have decreased on public lands, and there has been a gradual decrease in the amount of grazing use since the Taylor Grazing Act was passed in the mid-1930s. This decrease is reflected in both the number of AUMs permitted and available for use and the number of AUMs actually used, and the trend continues today. Domestic livestock can create or contribute to invasive species problems. These issues must be dealt with at the local level. The rangeland health assessment is one key point in time to address the contribution of livestock grazing in promoting invasive species. The scope of the PEIS is intended to deal with specific vegetation treatments, and grazing management in general is outside the scope of this particular action.

EMC-0585-110
Western Watersheds Project

Comment: The [P]EIS wrongly attributes nearly all of this change in vegetation and increase in hazardous fuels to fire exclusion policies. BLM ignores Best Available Science by failing to address and assess impacts of livestock grazing, roading, its own past vegetation manipulation projects, and other human-induced disturbance on vegetation change and accompanying changes in severity and intensity of wildfire.

Response: Fire exclusion policies have played a significant role in hazardous fuels build up over the past century. Other factors affecting vegetation and leading to the build up of hazardous fuels include numerous anthropogenic and natural influences. See Chapter 3, Affected Environment, and Chapter 4, Environmental Consequences, and the Cumulative Effects Analysis in the PEIS for a description of the context of current vegetation conditions.

EMC-0585-173
Western Watersheds Project

Comment: [Page] B-29 [of Appendix B of the Draft PEIS] further discusses use of expanded list of herbicides on "public Domain Forestland", and energy and mineral sites. Yet, the [P]EIS claims it does not address use of herbicides on these sites. Spraying imazapic and sulfometuron methyl including aerially – on forests may have serious harmful consequences.

Response: The section is referred to as an Overview of the BLM Vegetation Treatment Program in the Human Health Risk Assessment, found in Appendix B. This appendix discusses how herbicides are used and the methods applied, inclusively, for all the various BLM resource programs that involve potential vegetation treatments using herbicides and contact with humans.

EMC-0585-254
Western Watersheds Project

Comment: The [P]EIS/PER, in ignoring the impacts of these projects on Forest products and values, violates the provisions of the Land Use Plans in many of the affected wild land areas.

Response: Vegetation treatments are required to be in conformance with local land use plans prior to being approved for implementation. Effects of vegetation treatments on forest products as a commodity are assessed in the NEPA analysis of the guiding land use plan. The PEIS assesses the effects of herbicide use on vegetation, not the products of vegetation. See Scope of Analysis in Chapter 1 of the PEIS.

EMC-0597(a)-002
Beeland, DeLene

Comment: Let's get to the heart of the three main issues as to why we have invasive grasses: leased grazing allotments used by private ranchers for cows, sheep and goat production; off-road vehicle "wreak-reation"; and oil and gas drilling, pumping, piping and associated roads. If the following root issues were addressed in more detail, invasive grasses would decline and there would be no need for aerial spraying of herbicides.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0643-017
California Indian Basketweavers Association

Comment: Further, it has been well documented in the historical and scientific literature that the BLM has a long history of programs and policies to *clear* native sagebrush, shinnery oak, juniper and pinyon pine from this region to make more rangeland, to provide fuelwood and charcoal, and to produce timber for mining. Some of these programs are on-going today. Treatment alternatives that amount to treating the symptoms only, rather than the causes of unwanted vegetation changes, are a waste of taxpayers' money during a time of tight budgets. This course may also result in causing further harm when evaluated correctly in the context of cumulative impacts. Accurate analysis is essential in order to develop appropriate alternatives and to evaluate the impacts of the use of herbicides at this scope, and requires "cause and effect" analysis of the root causes and sources of non-native species invasions and altered fire regimes. Such analyses will provide the BLM with the information needed to plan cost-effective and ecologically sustainable alternatives to restore public lands. It is not accurate for the BLM to portray the issues so narrowly that appropriate alternatives cannot even be developed.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. Alternatives developed for the PEIS address the Purpose and Need identified in Chapter 1 of the PEIS.

EMC-0646-094
Californians for Alternatives to Toxics

Comment: Since many of the issues are similar or even identical to the current proposed program, we would respectfully ask that the public records for both of the Cottonwood Fire Vegetation Management Projects EAs, and the public record for the current Cottonwood Fire Vegetation Management Project FEIS, be incorporated by reference into the public record for this program, the BLM Vegetation Treatments

Using Herbicides PEIS.

Response: The public record for the site-specific projects referenced is outside the scope of this PEIS.

EMC-0646-219
Californians for Alternatives to Toxics

Comment: Logging, whether part of fuel reduction thinning efforts, or timber harvesting, changes canopy levels, causes disturbances to soil and vegetation, and opens lands to possible invasive species infestations. For example, the scotch and french brooms both grow best in dry, disturbed soils with plenty of sunlight, such as those created with new partial cutting timber harvest techniques (Raj 2002). The literature also says that brooms rapidly invade following logging and land clearing and conversely don't do well in heavily forested, heavy shade areas (CDFA Encycloweedia website, Huckins and Soll 2004, Hoshovsky 1986). Logging equipment, vehicles, and workers also facilitate the movement of exotic weed seeds. The BLM should analyze the impacts of logging and fuel reduction activities will have on the spread of invasive species and noxious weeds both on and near BLM lands.

Response: Hazardous fuels reduction treatments will be designed to reduce the potential for crown fire in the wildland urban interface and in forest types where the native fire regimes have been significantly altered. In many cases, these treatments will create stand densities that are characteristic of the native forest structures that existed prior to the exclusion of fire. The overriding goal is to treat vegetation on lands only where necessary, and to prioritize treatment methods based on their effectiveness and likelihood of having minimal impact on the environment. To assist with vegetation management planning, key resource elements, such as plant community types, aquatic habitats, sensitive areas, and invasive species concentration areas, are inventoried and mapped regionally and district-wide. Inventories and maps allow field managers to identify areas of high ecological integrity; to ensure that there is suitable habitat for wide-ranging species; to identify areas where land uses may be incompatible with long-term ecosystem health; and to identify areas that could benefit from improved management. Inventories and mapping are also done at the local level to help managers better understand how proposed projects fit in with vegetative conditions on a larger scale, such as within ecoregions or watersheds. The BLM also cooperates with other agencies, organizations, and landowners in regional planning efforts, including establishment of Cooperative Weed Management Areas, as discussed in Chapter 2 of the PEIS under Vegetation Treatment Planning and Management. In addition, the BLM will use Standard Operating Procedures to control invasive species and noxious weeds following ground-disturbing vegetation treatments.

EMC-0646-246
Californians for Alternatives to Toxics

Comment: Without a description of which species are most problematic, what their response is to various treatment options, what their current and anticipated scope of invasion is or what are the various regional influences, the DEIS [Draft PEIS] fails to provide the evaluation necessary for informing the public and making an informed decision. For all the DEIS [Draft PEIS] tells us regarding the influences of the environment on the vegetation management program, we could guess that the problem is occurring on Mars, or in the sands of Saudi Arabia, or perhaps in Florida or Nova Scotia. NEPA requires more than this of a programmatic EIS. Without adequate description of the problem and the range of responses that may be taken, and with constant assurance that all that's necessary will be described at the more site-specific level in an EA or EIS, it is not possible to gain an adequate vision of what is in store under the various alternatives with the current DEIS [Draft PEIS]. That is not consistent with the demands of NEPA. The analysis cannot be delayed to the future

because those future NEPA documents must tier to this one, and without a solid basis in the programmatic EIS, those documents will fail. To put it plainly, such piece mealing is patently illegal under NEPA. The decision maker and the public would have to scramble in the future to read every project proposal and NEPA document that flows from the current EIS to piece together a picture of the extent of the program, the priority given to particular species, the treatment options most likely to be employed, and what effects regional differences may make in the approach to controlling invasive plants. This is one of the primary failures of the DEIS [Draft PEIS] as it is currently written.

Response: The PEIS assesses the effects of herbicide use on human health and public land resources, including sensitive species. The PEIS does not assess invasive species and their response to specific treatments. The public lands covered by this PEIS are described on Map 1-1 in Chapter 1 of the PEIS. The NEPA Requirements of the Program in Chapter 1 of the PEIS include a description of how future analyses will be conducted at the site-specific level at the time a project is proposed and ready for analysis. Analysis of unspecified site-specific treatments is not possible at this programmatic level. Future EAs and EISs for site-specific projects may tier onto this PEIS. Tiering does not constitute piece-mealing under NEPA.

EMC-0646-247
Californians for Alternatives to Toxics

Comment: As it currently stands the BLM's PEIS is doomed to be unsuccessful without first focusing on the cause of the weed infestations and utilizing a holistic native species ecosystem health approach to combating exotic species. For that reason CATs [Californians for Alternatives to Toxics] supports the Restore Native Ecosystems Alternative (which should be added to the Final PEIS for consideration). Of the alternatives included in the Draft PEIS, we can only support Alternative C, the no pesticides alternative. Yet no alternative can be adopted until a fully informative NEPA document is prepared. As described above, this Draft PEIS does not achieve the informational standard required by NEPA. We urge you to correct these deficiencies in the Final PEIS.

Response: See response to Comment RMC-0126-002 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding the causes and vectors of weed spread. See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystem alternative. The PEIS meets the informational standards required under the Council on Environmental Quality regulations implementing NEPA for informed decision-making relative to the Proposed Action and Purpose and Need identified in Chapter 1 of the PEIS.

EMC-0648-005
Idaho Cattle Association

Comment: As the BLM takes a more aggressive approach in controlling weeds, as is greatly needed, we must however stress the importance that other existing BLM range programs are not depleted. With decreasing budgets, we are concerned that the BLM will not be able to effectually implement this [P]EIS and the associated monitoring that would be required.

Response: See response to Comment EMC-0584-076 under PEIS Alternatives, Monitoring. Implementation of the decision to approve or not approve specific herbicides analyzed in this PEIS for use on public lands is not dependent upon funding of resource programs and associated projects.

FXC-0027-003
Firmage, Robert and Gertrud

Comment: We would suggest that greater attention might be given to the contribution of overgrazing to such unwanted propagation as well as the introduction of seeds into wilderness areas through unrestricted ORV [off-road vehicle]- and ATV [all-terrain vehicle] use.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

FXC-0028-002
Little, Amanda Jane

Comment: Of course, the problem is complex due to many factors. But it is those factors (overgrazing, unrestricted motor vehicle use and pollution) that need to be considered more seriously on the side of the environment.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

FXC-0032-004
Germino, Matthew J. (Idaho State University)

Comment: Herbicide and other eradication efforts fail because they only treat the symptoms and not the causes of exotic plant invasions. Also, there is far too much uncertainty in the environmental risk of using herbicides as well as biological control agents to justify their use. Moreover, there is uncertainty in just how much certain weeds are really a problem and really need to be eradicated.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. Environmental risk uncertainty is addressed in the human health and ecological risk assessments found in Appendixes B and C of the PEIS.

FXC-0059-005
Evans, Gail

Comment: In order to combat the spread of invasive plant species, the causes of invasive plant introduction and dispersal must be revisited, namely: livestock grazing, logging, roads, off-road vehicles, and such ground-disturbing activities as gravel pits and mining. These activities must be severely limited on public land.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public land uses.

FXC-0070-002
Latir Neighborhood Association

Comment: The weeds have flourished through soil disturbance and seed mobility brought about by poorly managed land use (livestock grazing, off road vehicles, etc). Without prevention (curtailing these activities), no amount of perpetual poison application will solve the problem. Living organisms have an astonishing ability to adapt. The only real effect of herbicides, long term, is to select for herbicide resistant weeds. In the big picture, application of chemicals will never eradicate the weeds, but rather make them heartier.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public land uses. Total eradication of weeds is an unrealistic goal and is not part of the BLM proposed action in this PEIS. Chemical treatment methods have been shown to be effective on vegetation.

FXC-0071-021
Campbell, Bruce

Comment: While page 1-4 of the Draft Programmatic EIS mentions that certain activities will not be evaluated in the documents – for example, as it says on page 1-4 of the Draft Progr. EIS: "Thus, this PEIS does not evaluate vegetation management that is primarily focused on commercial timber or other forest product enhancement or use activities that are not related to improving forest or rangeland health or work authorized under the Healthy Forest Restoration Act of 2003." Page 6 of 8 of BLM's Frequently Asked Questions says that "The PEIS/PER will not address vegetation management that is primarily focused on commercial timber or other forest product enhancement and use, livestock forage enhancement and use". But, the Healthy Forests Act, despite its nice-sounding name, is a bill focusing on helping timber companies log valuable trees (even in locations usually off-limits) under the guise of fire safety (even though removing large trees including under the "goods for service" ploy) actually exacerbates fire risk, especially the risk of catastrophic fire. Thus, I call for analysis in a Supplemental Draft Programmatic EIS and ER about the purpose and need for herbicide spraying in 17 Western states. And while it is claimed that the issues mentioned earlier in this paragraph will not be addressed or evaluated, clearly the main reason for herbicide spraying on forestland is to replace natural diversity of trees with monoculture conifer plantations, and the main reason to change plant species on rangeland is to help the grazing industry. I discovered sections on Rangeland and on Public Domain Forests on page B-29 [of Appendix B] of the Draft PEIS – so it was mentioned for various uses but certainly not thoroughly analyzed. Will there be thorough analysis of such in a Supplemental Draft PEIS or PER or in the Final PEIS or PER?

Response: The purpose and need for herbicide use in 17 western states is analyzed in the PEIS and PER. The Draft PEIS assesses the effects of herbicide use in vegetation treatments to reduce hazardous fuels, control weeds and invasive species, benefit fish and wildlife habitat, improve riparian and wetland areas, and improve water quality in priority watersheds. A Supplemental EIS to analyze the purpose and need again is not required. Appendix B, Human Health Risk Assessment, applies to all activities within the BLM that may utilize herbicides. The discussion in Appendix B, Overview of the BLM Vegetation Treatment Program, provides supplemental information on all BLM programs that use herbicides relative to human health risk.

PHC-005-003
K. Fite

Comment: What I see here is BLM is proposing, in the report, massive, massive new disturbance – expanding disturbance from mechanical methods, fire, and other methods on public lands. While at the same time, not undertaking actions that are needed to address the causes of weeds and the causes of any heightened risk.

Response: See response to Comment RMC-0126-002 under Proposed Action and Purpose and Need, Scope of Analysis.

RMC-0055-004
Lamberts, Frances

Comment: I therefore urge the Bureau to pay greater attention to causative, land-disturbing activities—range overgrazing, excessive off-roads motoring, forest clearance, mining, roads proliferation and the like—in preference to treatment through mechanical eradication and herbicides. The latter types of treatments cannot truly be effective, it would seem, unless the causes of noxious weeds proliferation are addressed. I recommend, to this effect, that the Bureau consider the choice of the Restore-Native-Ecosystems alternative in the Programmatic EIS.

Response: The BLM has a mandate (see Introduction in Chapter 1 of the PEIS) to address increased hazardous fuels through direct reduction activities through a full range of treatment methods, as well as to manage for noxious weeds and invasive

species in the same manner. Mechanical and herbicide treatments through an integrated vegetation management program are considered effective for vegetation treatments and weed management. For all authorized activities, the BLM incorporates standard operating procedures and noxious weed and invasive species prevention measures into its land use authorizations. This is a direct acknowledgement that certain uses and activities have potential effects on resources; therefore, preventative and mitigating measures are put into place through development of the NEPA analysis and subsequent authorization for any project.

Elimination or curtailment of uses completely from public lands, such as described in the Restore Native Ecosystem Alternative in Appendix G, is contrary to numerous statutes and regulations, and outside the scope of analysis of the PEIS. The Scope of Analysis in Chapter 1 of the PEIS states that the PEIS does not evaluate policies and programs associated with land use activities, and does not make land use allocations, nor amend land use plans.

RMC-0067-009
Wyoming Outdoor Council

Comment: BLM should ensure that the causes of invasive weed invasions are addressed; as proposed BLM will only treat the symptoms of the problem, which will do little or no good.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of weed spread.

RMC-0072-005
Zimmermann, Adele E.

Comment: If this is an effort to protect communities which have invaded wild lands from fire, it is the responsibility of those who chose to build in an area subject to wildfires to protect their ill-placed homes. Wholesale destruction of vegetation in wild lands to protect a few reckless homeowners is unwarranted.

Response: Lands administered by the BLM tend to be intermingled with state and private lands. Private landowners have the right to build on their lands as they see fit, in compliance with local zoning laws. The Bureau does work with local communities to influence local zoning laws, and to provide information to landowners on how to make their homes more defensible in the case they are threatened by a wildland fire.

RMC-0126-002
Stevens, Dean

Comment: Invasive species cannot be eliminated without eliminating the causes of weed invasion.

Response: Elimination of invasive species and noxious weeds is an unrealistic goal given the widespread nature of this global problem. With current technology, the best that can be attained is successful containment and control of invasive and noxious weed species where they exist. One of the first steps is to identify the infestation area, develop a management scheme to address the problem, introduce control measures to contain or reduce the infestation, and implement prevention measures to halt further spread and establishment of new infestations. Determining the causes of invasive species spread is problematical in that the mechanisms and vectors for spread are many and varied and rooted in the history of the settlement of this continent and the West.

Many of the public categorize the perceived "causes" of invasive species spread, as evidenced by comments on this and similar EISs, under four or five basic categories: livestock grazing, timber harvest, off-highway vehicle (OHV) use, and oil and gas exploration and development. By eliminating these disturbance activities, weed spread

would be reduced and the need for vegetation treatments would also be reduced or eliminated. However, the dynamics of weed spread are complex and cannot simply be tied to causes of extractive uses or recreation. As stated in response to a similar comment in the *Northwest Area Noxious Weed Control Program EIS* (USDI BLM 1985a), in relation to livestock grazing, "Heavy grazing can contribute to the noxious weed problem by reducing desirable vegetation, allowing noxious weeds to better compete. One cannot say that noxious weeds occur as a result of or only in areas heavily grazed by livestock. Noxious weeds occur in forest land, good condition rangeland, and areas ungrazed by livestock (p. 94)." While this response is dated, it still holds true. Indeed, noxious weeds and invasive species are gaining foothold in many protected special areas such as wilderness study areas and wilderness areas that have little or no history of livestock grazing, timber harvest, OHV use, or oil and gas exploration. Many intact and healthy ecosystems have invasive and noxious weeds that cannot be attributed to any specific cause or land use. It is important to note that the vast majority of public lands where these activities take place are not infested with invasive or noxious weed species.

The primary weed vectors are wind, water, wildlife, and self- propagation. Secondary factors are ground disturbance and fire. Human influences are responsible for much of the spread and establishment of weeds we know today. Many weeds are documented on private lands and have spread onto public lands without help from livestock, OHV recreationists, or other commodity producers and vice versa. In areas of commingled land ownership—public, private, state—separating the "causes" to a common infestation would be futile. Because a disturbance takes place, it is not a forgone conclusion that invasive or noxious weeds will establish. There needs to be 1) conditions favorable to establishment of the species, 2) a seed or propagule source nearby, and 3) an effective vector to transport the seed or propagule to the site. If a source is not present, then the risk from infestation is minimal.

The BLM is mandated to manage vegetation for healthy plant communities, address invasive and noxious weed species where they occur, and implement prevention, containment, and control measures. Within an integrated pest management program, herbicides have consistently been demonstrated to be effective for vegetation control alone or in combination with other treatment tools, such as mechanical, fire, biological, and manual techniques, including passive management, in those cases where rehabilitation objectives can be met through those means. The key issue is managing vegetative competition and maintaining conditions that favor healthy plant communities that can outcompete invasive plants or that do not allow niches into which invasive plants can establish and spread.

RMC-0126-003
Stevens, Dean

Comment: Herbicides are not only poisonous and expensive, but they fail because they are "treating" symptoms, not the causes of weed invasion and undesirable vegetation.

Response: See response to Comment RMC-0126-002 under Proposed Action and Purpose and Need, Scope of Analysis.

RMC-0139-004
Jacobson, Don

Comment: Invasive species cannot be eliminated without eliminating the causes of weed invasion. Herbicides are not only poisonous and expensive, but they fail because they are "treating" symptoms, not the causes, of weed invasion and undesirable vegetation.

Response: See response to Comment RMC-0126-002 under PEIS Ch. 2 under Proposed Action and Purpose and Need, Scope of Analysis.

RMC-0160-002
Natural Habitat

Comment: We agree with our colleagues, who have studied the draft, that you are addressing the symptoms rather than the causes and will be doing much more harm than good. You have made herbicide use itself the purpose rather than a credible concern about the causes of widespread invasive plants.

Response: See response to Comment RMC-0126-002 under PEIS Ch. 2 under Proposed Action and Purpose and Need, Scope of Analysis.

RMC-0160-005
Natural Habitat

Comment: Of special concern to our group is: Uncontrolled livestock grazing; Off-road vehicles; [and] Prescribed fire with resumption of heavy livestock grazing.

Response: The concerns have been noted. See response to Comment RMC-0126-002 under Proposed Action and Purpose and Need, Scope of Analysis.

RMC-0167-002
Soda Mountain Wilderness Council

Comment: Unfortunately, because both the draft environmental impact statement ("DEIS") and programmatic environmental report ("PER") fail to adequately address the *causes* of invasive species problem (instead opting to focus on methods to treat areas already invaded by weeds), the BLM has not yet created a successful strategy to deal with one of the West's most rampant causes of environmental degradation. For this reason, SMWC [Soda Mountain Wilderness Council] submits the following comments to encourage the BLM to rethink their approach so that BLM will come up with an effective solution to the problem of invasive weeds, rather than causing additional environmental problems by overconfidently applying herbicides to our public lands indiscriminately.

Response: The Purpose and Need for the PEIS is stated in Chapter 1 of the PEIS. The BLM acknowledges there are causes to invasive species spread, an issue that is discussed under Prevention and Early Detection of Weeds in Chapter 2, under Noxious Weeds and Other Invasive Vegetation in Chapter 3, and throughout Chapter 4 of the PEIS and PER. The decision to be made—determining which USEPA-registered herbicides will be available for use by the BLM for vegetation treatments and control overall, including, but not limited to, treatments addressing invasive and noxious species—does not require detailed analysis of the causes of invasive species proliferation in order to implement various BLM programs using herbicides. The decision to determine which USEPA-approved herbicides will be available does require detailed analysis of the environmental effects of the use of these herbicides on humans, animals, sensitive species, and other resources. Extensive risk assessments for human health and plants and animals were conducted to support a decision. The decision to utilize herbicides in an integrated pest management context for vegetation control has been affirmed in all past EIS Records of Decision, based on the need to control vegetation to meet ecological health goals and objectives.

The BLM disagrees with the assertion that it has no successful strategy in place to address these problems. The *Partners Against Weeds - An Action Plan for the BLM* (USDI BLM 1996) outlines the strategy the BLM follows to address invasive and noxious weed spread, including general and specific goals and objectives. This strategy is based on prevention, identification and inventory, control, and rehabilitation of infested lands within a multiple use context. A key feature of this strategy is to work with local partners, conservation groups, private landowners, and agencies, to form cooperative weed management areas, share resources and funding, and manage and

control invasive and noxious weeds. Individual states, such as Nevada, have developed state-wide strategies based on the BLM model, which have demonstrated success in reducing infestations and restoring land health across the West. BLM application of herbicides is a controlled and conscientious process beginning with identifying the need, designing the project, and ensuring appropriate safeguards are in place prior to and after a project is implemented. This process is accomplished in an integrated pest management context, and the need for herbicides is determined by the best science weighed against other methods or combinations of methods. The BLM does not agree that the process to determine if herbicides are to be used in any given circumstance and how they are applied is indiscriminate. To do so would violate the Federal Insecticide, Fungicide and Rodenticide Act and ignore the BLM's obligation to comply with NEPA, Endangered Species Act, and numerous other statutes and regulations.

RMC-0167-004
Soda Mountain Wilderness Council

Comment: However, the BLM hamstrings itself (to the detriment of the public lands) by focusing only on herbicides and other treatments, rather than the primary vectors that cause the spread of invasive weeds (including roads and livestock grazing). To achieve the stated goal that is quoted above, it is imperative that BLM focus on the primary causes of the invasive weed problem. In addition, the BLM should not give short shrift to passive treatments that can be used as effective treatment methods, and which do not have the negative ecosystem and human health issues associated with herbicide.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding vectors and spread. See expanded discussion under Prevention of Weeds and Early Detection and Rapid Response in Chapter 2 in the Final PEIS and PER regarding passive treatments and their role.

RMC-0167-006
Soda Mountain Wilderness Council

Comment: It is simply irrational for an agency to seek to "improve ecosystem health by controlling weeds and invasive plant species and managing vegetation to benefit fish and wildlife habitat, improve riparian and wetlands areas, and improve water quality in priority watersheds" without analyzing means to curb the introduction of invasive weeds (before the spread happens) and without fully analyzing the benefits associated with passive treatments of invasive weed?

Response: See responses to Comments RMC-0167-002 and RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

RMC-0167-010
Soda Mountain Wilderness Council

Comment: The BLM is legally obligated to revisit its approach to control invasive weeds and nonnative plant species and consider vectors that cause the spread of invasive weeds (such as livestock grazing).

Response: See response to Comment EMC-0562-008 under Proposed Action and Purpose and Need, Scope of Analysis.

RMC-0200-002
Lindsay, Dianne

Comment: The PEIS/PER fails to adequately acknowledge the "cause" of vegetation problems. The Proposed Action and Purpose and Need are erroneous as stated: ([Draft PEIS] page 1 of the Executive Summary, paragraph 4 and line 8.) "Invasive vegetation and noxious weeds threaten soil productivity … It should state "Livestock grazing, timber extraction and other resource extraction threatens soil productivity…"

Response: The Proposed Action and Purpose and Need are stated in Chapter 1 of the PEIS. The BLM has determined the statement in the Executive Summary is correct.

No change to the text is required.

RMC-0200-003
Lindsay, Dianne

Comment: The PEIS/PER fails to outline the best way to improve ecosystem health is by limiting resource extraction. This option is not included.

Response: See response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public land uses. See Scope of Analysis in Chapter 1 of the PEIS. Limiting resource extractive activities is outside the scope of analysis of this PEIS.

RMC-0211-012
Ghandi, Theresa Marie K.

Comment: Using cheat grass as a reason to apply herbicides annually to prevent wildfires does not get at the root cause of the presence of the cheat grass and its spread through out 73% of leased public lands, 270 million acres, in western states used for cattle grazing. Approximately 2000 large ranchers have leases that cover about 74-78% of federally leased grazing lands (data from a 1992 US Government Accounting Office study). Rather the cattle grazing, pulling up native species (such as bunch grasses) by the roots, breaking up the biotic soil crusts (lichens and algae), which cover much of soil in native systems, get trampled, churned up, and decline which worsens conditions for the native perennial grasses further, and also make it more difficult for seedlings of these species to establish. Herbicide treatments will fail until the root cause, large ranchers grazing cattle, is eliminated. Should BLM continue the grazing leases, then any plan to eliminate cheat grass [downy brome] will fail, short of ranchers switching to buffalo and restoring native soil and plant species as a condition of their leases.

Response: Elimination of livestock grazing is beyond the scope of this analysis. Livestock grazing is authorized under the grazing regulations at 43 CFR [Code of Federal Regulations] 4100. Land use plan decisions provide for allocations of public lands for livestock use. See Scope of Analysis in Chapter 1 of the PEIS. The PEIS does not state that downy brome is the reason to apply herbicides annually to prevent wildfires. It is not reasonable or cost effective to attempt to spray herbicides on downy brome infested rangelands, annually, in their entirety, for fire suppression. Herbicide treatments may feasibly occur after a fire, e.g., as a pre-emergent to prevent or retard the introduction of downy brome and allow native species to outcompete this aggressive invader. Once downy brome is established in a rangeland situation, the eventual restoration of perennial grasses and shrublands is a long-term process requiring different management strategies based on local conditions. These could include techniques such as mechanical disking and seeding of desirable species, or as appropriate, livestock grazing management or passive techniques including rest from grazing for rehabilitation success purposes.

RMC-0214-021
Natural Resources Defense Council and National Wildlife Federation

Comment: BLM neglected to analyze the reasons for the spread of invasive species. BLM has failed to fulfill the most basic requirement of NEPA which is to scientifically analyze the subject at hand. The agency is proposing a solution before it has documented the nature of the problem. Any rigorous scientific analysis cannot occur unless there is an identification and subsequent examination of the phenomena. BLM did not take a look (let alone a 'hard look') at the phenomena associated with the spread of invasive species that are central to the problem of invasive species.

Response: See responses to Comments RMC-0126-002 and RMC-0214-019 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

RMC-0214-022
Natural Resources Defense Council and National Wildlife Federation

Comment: The Bureau fails to address the contributions that activities such as livestock grazing, building and maintenance of roads and trails, and motorized recreation make to the establishment and spread of invasive plant species on the public lands. These activities transport seeds and other propagules onto the land, then create ideal conditions for the invaders' establishment by disturbing the native vegetation and soil.

Response: See responses to Comments RMC-0126-002 under Proposed Action and Purpose and Need, Scope of Analysis and RMC-0214-019 under PEIS Alternatives, Vegetation Treatment Planning and Management.

RMC-0214-023
Natural Resources Defense Council and National Wildlife Federation

Comment: Under Executive Order 13112, Sec. 2, paragraph (3), the Bureau is obliged to avoid authorizing, funding, or carrying out "actions that it believes are likely to cause or promote the introduction or spread of invasive species ... unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions."

Response: The BLM is not proposing any actions it believes are likely to cause or promote the introduction or spread of invasive species. The BLM is proposing to adopt tools to aid in the reduction and spread of invasive species on public lands.

RMC-0214-024
Natural Resources Defense Council and National Wildlife Federation

Comment: Of all of the activities that contribute to the spread of invasive species, livestock grazing is paramount. But the D[raft] PEIS barely investigates the relationships that livestock grazing and the spread of noxious weeds share. BLM asserts that analysis of livestock grazing is outside the scope of the D[raft] PEIS ([Draft] PER [page] 1-6). Arbitrarily excluding the examination of known relationships between the spread of invasive species and an activity on BLM lands that directly contributes to the spread of invasive species is not permissible under the dictates of NEPA.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of weed spread in relation to livestock grazing. The Draft PEIS in Chapter 1 under Scope of Analysis states: "This PEIS does not evaluate policies and programs associated with land use activities authorized by the BLM, such as livestock use, off highway vehicle (OHV) use, and timber harvesting, and does not make land use allocations nor amend land use plans (Federal Register 2002)." The scope of the PEIS does include an examination of the effects of herbicide use on livestock grazing, as with all BLM programs. The PEIS broadly examines the use of herbicides in relation to hazardous fuels reduction activities and managing and controlling invasive species for the benefit of wildlife habitat. The effects of livestock grazing on rangeland health has been previously assessed in the Rangeland Reform '94 EIS (USDI BLM 1994) and most recently in the October 2004 Final EIS (USDI BLM. 2004. *Proposed Revisions to Grazing Regulations for the Public Lands.* FES 04-39. Washington, D.C.) and March 31, 2006, addendum to the Proposed Revisions to Grazing Regulations for the Public Lands (2006. *Addendum to the Final Environmental Impact Statement FES 04-39 Proposed Revisons to Grazing Regulations for the Public Lands.* Washington, D.C. Available at: http://www.blm.gov/grazing/). The livestock grazing program is also assessed in Resource Management Plan EISs, which outline the goals and objectives for landscape health that livestock grazing practices must meet. Limitations or restrictions on grazing due to invasive species spread are determined through activities

such as allotment monitoring, permit authorizations, and watershed assessments.

RMC-0214-025
Natural Resources Defense Council and National Wildlife Federation

Comment: Given that it is BLM's regulatory responsibility to facilitate multiple use on its lands, BLM should be critically analyzing solutions to the invasive species issues that benefit multiple use activities such as livestock grazing. Sustainable grazing can benefit from strategies that recognize that overgrazing can lead to significant infestations of invasive species. Overgrazing invites invasive weeds to consume the range, ultimately hindering the potential forage capacity of the range and the success of a livestock grazing enterprise. On the other end of this approach, BLM choose in the D[raft] PEIS/PER to promote livestock grazing as a "tool" for the suppression and elimination of noxious weed communities (PER ch.4).

Response: As discussed in Chapter 1 of the PER, "the BLM strives to attain a balance between the use of the land under its jurisdiction, and the protection of the environmental, historic, cultural, and scenic values that are so important to the American public." The BLM recognizes that human uses, including livestock grazing, can harm the land, and BLM managers try to limit the threats and risks to healthy lands. The effects of overgrazing, and the measures the BLM is taking to correct these effects, are discussed for several resources in Chapter 4 of the PEIS, primarily under Cumulative Effects Analysis. However, as discussed under Scope of Report in Chapter 1 of the PER and Scope of Analysis in Chapter 1 of the PEIS, the BLM did not evaluate policies and programs associated with land use activities authorized by the BLM, including livestock use, in these documents; these activities have been analyzed in earlier EISs. Livestock grazing is a tool to control invasive vegetation, and since the PER and PEIS focus on invasive vegetation control, the use of livestock to control vegetation was discussed in the PER.

RMC-0214-026
Natural Resources Defense Council and National Wildlife Federation

Comment: Clearly BLM is promoting the activity of livestock grazing without also looking seriously at the harmful relationship between livestock grazing and the spread of invasive species like Downy Brome. If the BLM was serious about complying with NEPA and thoroughly examining the problem of invasive species, it would have identified the vectors that lead to the spread of these communities. And it would have paid special attention to the ecological relationship that livestock grazing has with the invasion of cheatgrass, which is threatening to eliminate many opportunities for sustainable livestock grazing in the West.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of weed spread. Also see response to Comment RMC-0214-024 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

RMC-0214-028
Natural Resources Defense Council and National Wildlife Federation

Comment: BLM should also consider additional steps not referred in the D[raft] PEIS that would be beneficial in slowing the spread of invasive plants on public lands. Many plant species that are invading natural systems in the West are not yet designated as "noxious"; these plants will escape regulation under this provision. Examples of species not now designated as noxious weeds that could be transported in hay, straw, or mulch include cheat grass and other *Bromus* species, various wheatgrasses, several *Setaria* grasses, and spreading knotweed. The agency should identify plant species invading its lands that are not now listed as "noxious" and work with state agricultural and transportation officials, including existing Invasive Species Councils; with the agricultural industry; with conservation organizations; and with public land users and ranchers to curtail the inadvertent spread of these plants, as well.

Response: The PEIS and PER address all invasive species, not just species designated as noxious weeds. Standard Operating Procedures and other protection measures identified in Tables 2-8 and 2-9 in the PEIS, and 2-5 in the PER would help to reduce the spread of invasive vegetation and reduce the effects of vegetation treatments on resources. As noted in Chapter 1 of the PEIS, under Interrelationships and Coordination with Agencies, the BLM coordinates extensively with invasive species councils and other environmental groups, scientific and trade organizations, and other federal, state and local agencies to manage vegetation and control the spread of invasive vegetation.

RMC-0217-004
Sierra Club Utah Chapter

Comment: This paragraph segues from a discussion of hazardous fuels to the inherent harm resulting from invasion by exotic plant species and noxious weeds. There is no transition or relationship provided by this paragraph. This is stated despite the fact that the exotic cheat grass is a major hazardous fuel on public lands. The paragraph also fails to deal with the full range of permitted activities that are major contributors to altered fire regimes and fire suppression. Livestock grazing, road building, water diversions and impoundments, and timber cutting have all contributed to the suppression of fires. In some plant communities these permitted activities far out weigh fire fighting in terms of fire suppression.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of weed spread. The text in the Introduction of Chapter 1 of the PEIS and PER has been revised to reflect relationship between downy brome (cheatgrass) and hazardous fuels and to clarify the contributions of public land activities to altered fire regimes.

RMC-0218-004
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: What's wrong with this picture? In addition to heavy-handed management instead of more natural, passive restoration techniques, the BLM's plan fails to deal with the many sources of invasive weed spread, such as the primary vectors of invasive plant introduction and dispersal: Livestock grazing, logging, off-road vehicles, roads, and other ground-disturbing activities such as mining and gravel pits. You simply can't solve a problem by addressing the symptoms rather than the causes. Indeed, the real purpose of this plan may have more to do with clearing the land for more cattle and sheep than getting serious about controlling invasive plants. Although invasive plants and reducing the risk of "catastrophic" fire (a favorite Bush Inc. public relations rationale for logging and magic words for getting federal funding) are referenced in the text , the actual title of the draft [P]EIS is "Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States"--rather than the purpose or goal being to control the introduction and dispersal of invasive plants, which is ostensibly the purpose, judging by the bulk of the text.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of weed spread. The Purpose and Need, which are stated in Chapter 1 of the PEIS, do not include proposals for clearing land for more cattle and sheep. As stated under Scope of Analysis in Chapter 1 of the PEIS, the PEIS does not address vegetation treatments exclusively designed to increase forage production. The title of the PEIS is accurate. There is no stated goal in the PEIS to control the introduction and dispersal of invasive plants. The purpose of the PEIS is to examine the effects of herbicide use on public land resources. The actual use of herbicides is determined at the project development stage in an integrated pest management context. The BLM is not proposing to exclusively use herbicides on public lands.

RMC-0218-029
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: Many issues, such as potential impacts to sage grouse, were not adequately analyzed with an eye to other cumulative impacts combined with the proposed action (e.g. Livestock grazing, roads, development, ORV [off-road vehicle] use, hunting, mining non-chemical control methods proposed, etc.) and the need to deal with root cause of invasive plant spread that are embedded in status quo management practices (e.g. livestock grazing, logging, soil disturbance, quarries, roading, etc.) that are considered too sacrosanct to touch. (e.g. of sage grouse issue analysis in NCAP [Northwest Coalition for Alternatives to Pesticides] comments).

Response: The Proposed Action in the PEIS does not propose any treatments that would directly or indirectly impact sage-grouse. Herbicide or non-herbicide vegetation treatments in sage-grouse habitat or with the potential to impact sage-grouse populations would be assessed in site-specific NEPA analysis at the time the project was proposed. Direct, indirect, and cumulative effects on sage-grouse would be assessed within the context of the site-specific analysis at the time the project was proposed. Because of the programmatic nature of this EIS, it is not possible to assess the effects of herbicide use on any one species, since there is no site-specific data on where a treatment project would occur or what species may be present. The PEIS assesses the impacts on plant communities as described in the ecoregions covered under the analysis for Wildlife Resources in Chapter 4 of the PEIS.

See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of weed spread. Cumulative effects to vegetation and wildlife resources are discussed in the respective resource sections of the Cumulative Effects Analysis section in Chapter 4 of the PEIS. See the Wildlife Resources section in Chapter 4 of the PEIS for a description of the herbicide exposure characterization that was developed to assess effects to the full range of species that may occur on public lands. See Appendix C of the PEIS for a full discussion of the exposure characterization process used in the ecological risk assessments. The exposure characterization for wildlife species was developed in collaboration with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the Environmental Protection Agency, and uses the best available science to assess impacts to wildlife species at the programmatic level.

RMC-0218-039
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: Why were these control methods insufficient? It is likely that their insufficiency was due to failure to deal with the root causes of invasive plant introduction and dispersal, in which case, more of the same "treatment" will continue to be ineffective.

Response: See response to Comment RMC-0222-013 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding causes of invasive plant introduction and dispersal.

RMC-0218-044
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: Precommercial thinning and prescribed fire (and in some cases, shrub mowing) can be used to accomplish these ends without the hazardous use of toxic chemicals. In the case of prescribed fire, the effect is much more similar to natural processes. Herbicides should only be used as a last resort to control or eradicate exotic invasive species, if they are used at all, not to artificially clear land of sagebrush for livestock or thin stands of trees for maximum commercial plantation growth or public lands. Yet these expansions of the uses to which herbicides are applied are not analyzed or justified in the DEIS [Draft PEIS] in violation of NEPA.

Response: As discussed under Scope of Analysis in the Decisions to be Made and Scope of Analysis section of Chapter 1 of the PEIS, the PEIS does not address herbicide use relative to livestock grazing or commercial timber production. Also see response to Comment RMC-0049-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

RMC-0218-046
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: We are also very concerned by admissions on pp. [pages] 4-62 - 4-63 [of the Draft PEIS] that even under the "No Action" alternative (status quo management) (and presumably under the preferred alternative, although this is not clear), herbicide application would focus on "controlling" many native desert species that no one but ranchers would usually consider a problem – including sagebrush, rabbitbrush, pinyon trees (a native cultural plant of significance and limited occurrence), juniper trees, "other evergreen woodland species" (p. 4-62 [of the Draft PEIS]) and plant community indicators in the Sonoran and Chihuahuan desert such as mesquite (also of Native cultural importance), creosotebush and snakeweed, as well as oak species! (p. 4-63 [of the Draft PEIS]) Who gave the BLM a mandate to "control" all these native desert species which form the critical underpinning of distinct habitat niches for adapted wildlife?! This seems like a thinly veiled plan to convert the temperate desert, temperate steppe, subtropical desert and subtropical steppe ecoregions to cattle and sheep pasture on a large scale. Artificial conversion via poisoning with toxic chemicals is even more insidious than using logging or prescribed fire in that the chemicals to be used are acknowledged to change the native plant species composition and biodiversity of the application sites.

Response: See Scope of Analysis in the Decisions to be Made and Scope of Analysis section of Chapter 1 of the PEIS. Conversion of plant communities to cattle and sheep pasture is outside the scope of this PEIS. The BLM is guided by statutory and regulatory considerations in regard to application of herbicides on public lands. Intentional over-contamination of public lands with would violate a number of statutes, including, but not limited to the Federal Insecticide, Fungicide, and Rodenticide Act, NEPA, and the Federal Land Policy and Management Act. The BLM has not closed any public lands to public use as a result of herbicide treatments, nor artificially converted ecoregions to cattle and sheep use.

RMC-0218-050
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: The use of toxic herbicides planned for use in these environments are thus acknowledged to potentially convert fundamental plant species composition, altering ecological niche habitats and affecting biodiversity as well as removing targeted native components of these ecosystems (e.g. pinyon pine, sagebrush, mesquite, etc.) This planned conversion of native plant communities to something else (presumably livestock pasture) and the potential conversion of these native ecosystems to artificial environments, sometimes dominated by the very invasive plants the DEIS [Draft PEIS] implies it is the purpose of this program to eradicate (e.g. Downy brome, medusahead and Russian thistle) must be analyzed thoroughly in the DEIS [Draft PEIS] as part of the intentional or foreseen consequences and purpose of the action alternatives with herbicide use (and through tree and brush manual and fire-removal, part of the "No Herbicides use" alternative as well) yet the DEIS [Draft PEIS] appears to incorporate no such analysis or admission that conversion to pasture is part of the plan. Without such admission and analysis, decision-making may be made in ignorance of the true intent or consequences of the program.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. Total eradication of weeds is an unrealistic goal and is not part of the BLM

Proposed Action in the PEIS. Chemical treatment methods have been shown to be effective on vegetation.

RMC-0218-052
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: As the NCAP [Northwest Coalition for Alternatives to Pesticides] comments describe at length, it is known that herbicide use, livestock grazing and prescribed fire have all harmed sage grouse and their essential habitat components, yet this was not analyzed in the DEIS [Draft PEIS] (a violation of NEPA disclosure, analysis and scientific accuracy requirements) nor was the predictable loss of critical habitat for sage grouse and possible direct loss of individual sage grouse adequately considered and mitigated (a violation of the APA [Administrative Procedures Act] and ESA [Endangered Species Act].)

Response: The BLM has complied with all NEPA disclosure, analysis, and scientific accuracy requirements for the Proposed Action described in Chapter 1 of the PEIS. The BLM has violated neither the APA, nor the ESA in the development of the PEIS. See response to Comment RMC-0218-029 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the proposed action and analysis of impacts to sage-grouse. Although the sage-grouse is the subject of petitions for listing, it is not a listed species at this time, nor has critical habitat been identified for this species; thus the sage-grouse is not subject to ESA requirements. In any case, should sage-grouse be considered a listed species, the BLM would treat it as a listed species, and consult under the ESA.

RMC-0218-053
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: Livestock grazing is obviously within the scope of this DEIS [Draft PEIS] as it could both contribute to the spread of invasive plants as a root cause of their introduction and dispersal (and has done so) and could benefit from invasive plant control. Yet the impacts of livestock grazing re: the spread of invasives are not analyzed in the DEIS [Draft PEIS].

Response: See response to Comment RMC-0214-036 under PEIS Alternatives, Monitoring. Livestock grazing is outside of the scope of the PEIS. The intent of the PEIS is not to assess the alleged spread of invasive species via livestock grazing.

RMC-0218-054
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: It is interesting how enthusiastic the BLM is about using herbicides to counter the rapid expansion of invasive plants across public lands as "one of the primary threats to ecosystem health" (DEIS [Draft PEIS] p. 4-73), when in reality, active management practices by the BLM, including livestock grazing, logging, mining, roading and allowing the use of off-road vehicles are far greater threats to the ecosystem and also all introduce invasive plants and disperse them throughout public lands. Yet known means to control these management practice vectors of invasive plant introduction and dispersal are not considered and analyzed, although dealing with them is absolutely essential to stopping or slowing the invasive weed problems.

Response: See response to Comment RMC-0126-002 under Proposed Action and Purpose and Need, Scope of Analysis.

RMC-0218-055
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: Similarly, there is no analysis in the DEIS [Draft PEIS] of the need to change or reduce the scale of these management practices themselves (beyond vehicle cleansing to reducing overall soil disturbances, eliminating unnecessary roads, prohibiting larger forest canopy openings, reducing livestock number and access to riparian areas, banning open pit mining, controlling the number and vehicle access/use of quarries, etc.) The fall back argument is FLPMA's [Federal Land Policy Management Act's] multiple use requirement, but there is no reason the BLM can't

control (regulate) or change the nature of these management activities or reduce or prohibit them in sensitive areas, so these core roots of the problem are basic to the purpose and need of the BLM plan, within the scope of the project, and must be thoroughly analyzed and considered in an alternative (or more than one alternative) as required by NEPA. This could easily have been done by analyzing (and hopefully adopting) the "Restore Native Ecosystems Alternative" already carefully prepared. Why was this scientifically defensible citizen's proposal not included as an alternative to be considered instead of buried in an appendix? This is an obvious breach of NEPA's requirements for a full range of alternatives.

Response: The BLM agrees that it does have discretion under FLPMA to control (regulate) or change the nature of management activities or reduce or prohibit them in sensitive areas. This is accomplished through the land use planning process (FLMPA Section 202) at the local level, and is not the subject of this PEIS. As stated in the Scope of Analysis in Chapter 1 of the PEIS, this document does not evaluate policies and programs associated with land use activities authorized by the BLM, and does not make land use allocations nor amend approved land use plans. Also see response to Comment RMC-0126-04 regarding analysis of the Restore Native Ecosystems alternative.

RMC-0221-004
Center for Biological Diversity

Comment: In general, this type of overarching, programmatic analysis can only be useful if there is also site-specific analysis conducted for each and every on-the-ground application. At best, a programmatic EIS can only identify and analyze the likely impacts of such an expansive project by reference to general parameters. This D[raft] PEIS does not even meet those general standards because it fails to identify and analyze the causes of the problem it is attempting to solve and it has completely failed to adequately identify and analyze likely impacts of the project, including, but not limited to, impacts to native species, ecosystems, air and water quality, and human health. If the BLM chooses to go forward with this ill-conceived project, the BLM should acknowledge that programmatically approved treatments will not be appropriate on any of the public lands that it is charged with managing and that it must prepare subsequent site-specific EISs for each and every such project.

Response: The PEIS is not intended to programmatically approve any vegetation treatments, and specific treatments are not proposed in this document. It has been clearly identified in the Draft PEIS that site-specific NEPA analysis, as well as ESA [Endangered Species Act] consultation, must be completed prior to any project approval. Chapter 1 of the PEIS, under NEPA Requirements of the Program, and Figure 1-1 in Chapter 1 of the PEIS, describe the "step-down" process used to ensure the appropriate analysis is conducted at each level of consideration for vegetation treatments.

See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis in regard to causes and vectors of weed spread. As a point of clarification, the BLM has not proposed this analysis to solve a problem of the causes of weed spread, but to assess the effects of herbicide use on human health and public land resources. Impacts to native species, ecosystems, air and water quality, and human health from proposed herbicide use are described in Chapter 4 of the PEIS (Environmental Consequences).

RMC-0221-016
Center for Biological Diversity

Comment: First, and most importantly, the BLM has failed to consider the causes of vegetation conversions in the western landscapes and the causes of catastrophic fire, unhealthy ecosystems, and impaired wildlife habitat. Looking at the causes of the

problem along with proposed treatments is critical to restoring the land to long-term health. The lands managed by BLM need long-term preventative management, not just triage. The BLM's misidentification of the proper scope of the project fundamentally undermines the adequacy of the DEIS [Draft PEIS]. The BLM cannot separate the ways in which its management practices have allowed and continue to allow nonnative plants to flourish and invade large areas of the western landscape from its proposals to "treat" those non-native plants where they have taken hold. This overall flaw in BLM's conception of the proposed project has inevitably led to a DEIS [Draft PEIS] whose scope and stated purpose and need are far too narrowly conceived. Limiting the scope of the proposed project and the DEIS [Draft PEIS] to only vegetation treatments using herbicides is both nonsensical and violates NEPA's requirement that an EIS look at the whole of the action including "the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity." 42 U.S.C. [United States Code] § 4332(C)(iv).

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. See also the discussion under Chapter 4, Cumulative Effects Analysis, under Vegetation for a discussion of conversions in the western landscapes and the causes of catastrophic fire, unhealthy ecosystems, and impaired wildlife habitat. See response to Comment RMC-0218-055 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding BLM management practices and the proper avenue for addressing changes in resource management or allowable activities on public lands. Discussion of the relationship between short-term uses of the human environment and the maintenance and enhancement of long-term productivity is found under Relationship between the Local Short-term Used and Maintenance and Enhancement of Long-term Productivity in Chapter 4 of the PEIS.

RMC-0221-028
Center for Biological Diversity

Comment: As part of the D[raft] PEIS, the BLM must identify other ongoing projects that impact the areas affected by the proposed project. In this instance, the BLM has failed to include many significant ongoing activities that impact the introduction, establishment, and spread of invasive plants in the environmental baseline analysis, the no-action alternative, or in the cumulative impacts analysis.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of invasive species spread. The environmental baseline is adequately described under Chapter 3 Affected Environment, as well as the cumulative impacts discussion found in Chapter 4 of the PEIS. The environmental baseline has also been previously discussed in the four EISs considered in the PEIS. The No Action Alternative of the PEIS, which is the continuation of management described in the previous EISs, takes the baseline into account.

RMC-0221-029
Center for Biological Diversity

Comment: One of the fundamental causes of vegetation-type conversion, catastrophic wildfires and non-native weed invasions in the West is livestock grazing. Livestock are grazed on 165 million acre of BLM lands on the seventeen western states, but the DEIS [Draft PEIS] fails to address livestock as a vector of non-native species, widespread surface disturbance, and impaired watersheds leading to vegetation-type conversion, contributing to the very conditions that this DEIS [Draft PEIS] seeks to address.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed

spread. The PEIS is responding to the need for additional tools to meet the intent of the Administration and Congress to address healthy landscapes through the National Fire Plan and the Healthy Forests Restoration Act of 2003.

RMC-0221-034
Center for Biological Diversity

Comment: The impacts of livestock on our public lands are not limited to general vegetation effects – the specific impacts to particular ecosystems is also well known. The DEIS [Draft PEIS] addresses the impacts of the alternatives on these areas, but fails to enumerate the disturbance and vegetation conversion caused by livestock in these areas.

Response: See response to Comment RMC-0214-024 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

RMC-0221-042
Center for Biological Diversity

Comment: All of these impacts of livestock grazing can contribute to the establishment and colonization of non-native species, but the DEIS [Draft PEIS] fails to address these causative factors and instead retains its focus on herbicide treatments alone. The BLM should reduce the spread of invasive weeds by livestock grazing by retired permits in infested areas, suspending livestock grazing in areas of high disturbance and in ecologically-susceptible areas (riparian corridors, post-fire, wet meadows, disrupted biological crusts), and avoiding grazing in areas with intact native vegetation communities. One of the most comprehensive treatments available to the BLM is to limit livestock grazing in our public lands, improving the aesthetic and ecological landscape for all public lands users and diminishing the need to use chemical and biological controls.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread. See also response to Comment RMC-0221-016 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

RMC-0221-043
Center for Biological Diversity

Comment: Off-highway vehicle ("OHV") use is a widespread and potentially harmful land use that the BLM failed to consider in the DEIS [Draft PEIS]. Preventing further colonization and invasions of non-native plant species can be partially attained through strict management of this type of recreation, and yet the DEIS [Draft PEIS] fails to address this type of preventative and proactive "treatment" in its analysis.

Response: Off-highway vehicle management is properly addressed through land use planning, and is outside the scope of this analysis. See Scope of Analysis in Chapter 1 of the PEIS. Prevention is discussed in Chapter 2 of the PER and PEIS under Prevention of Weeds and Early Detection and Rapid Response. See also response to Comment RMC-0167-002 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding BLM prevention strategies.

RMC-0222-003
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: We are further concerned that the DEIS [Draft PEIS] and PER that BLM has produced are contrary to the National Environmental Policy Act (NEPA). There is a direct link – cause and effect – between some land uses (such as livestock grazing), the spread of invasive species and the need for "vegetation treatments" (e.g., manipulation, burning, herbicide spraying. It is folly not to address these links in the DEIS [Draft PEIS]/PER. Furthermore, splitting out non-chemical vegetation treatments from herbicides (while avoiding the issue of passive restoration altogether) in two separate documents (one of which is an EIS and the other a "report" is "segmentation," which is disallowed under NEPA.

Response: The PEIS has been developed following the CEQ [Council on Environmental Quality] regulations and is in compliance with NEPA. The PER accompanies the PEIS to provide supporting information for the Alternative C analysis (No Use of Herbicides), cumulative impact analysis, and the Biological Assessment, pertaining to the effects of non-herbicide vegetation treatments on public lands resources. See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes of weed spread. Passive restoration is a valid technique for addressing vegetation problems and is not precluded from use by the analysis of effects of herbicides on human health and public land resources. Passive treatments are addressed in Chapter 2 of the PEIS and PER. Developing an environmental report to disclose effects of non-herbicide treatments on an estimated number of acres to support an EIS analysis does not constitute segmentation. Segmentation is the process of conducting individual analyses resulting in individual decisions for segments of a single connected action, such as a highway or transmission line. In the context of vegetation treatments, segmentation would take the form of analyzing and approving multiple contiguous smaller treatment projects derived from larger landscape-based proposal.

The baseline acre figure used in the PER is a fixed number representing potential acres to be treated. This figure was identified in the Department of Interior Cohesive Strategy policy document as the number of acres that would need to be addressed to make progress towards reducing hazardous fuels to prevent catastrophic fire. See the discussion Chapter 2 of the PEIS for Alternatives Considered but Eliminated from Detailed Analysis.

See response to Comment RMC-0214-011 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments for a discussion of the development of the PER.

RMC-0222-006
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Finally, in addition to the number of states and acres treated, the BLM has proposed a broader vegetation management program with different and greater goals that would employ more active (and no passive) treatment methods on more habitat types and in different combinations than was authorized in previous environmental impact statements and agency records of decision. As the [Draft] PER ([page] 1-1) states, "previous EISs primarily focused on vegetation control of competing and unwanted vegetation for resource enhancement (forestry and rangelands), noxious and invasive weed control related to surface use activities (oil and gas, rights-of-way), and reduction of hazardous fuels to protect resources at risk from wildfire damage." The new BLM vegetation management program as described in the NEPA-less PER is intended to "reduce hazardous fuels, improve rangeland health, and manage and control vegetation affecting other resources." ([Draft] PER: [page] 1-5. emphasis added) including wildlife habitat and watersheds. Thus, the BLM seeks to expand its current program from basic weed and hazardous fuel control to a landscape-scale vegetation management program with significant environmental impacts. This enlarged program requires further analysis under NEPA, particularly as it is linked to major increases in herbicide use.

Response: The BLM has not proposed a broader vegetation management program with different or greater goals than currently exist today. The analysis focuses on an increase in the number of acres to be potentially treated by herbicides, based on the policy context described in Chapter 1 of the PEIS. The resource programs, vegetation, and habitat types included in the analysis are the same as those that have been previously assessed for herbicides in the past. No previous analysis has considered

Alaska, however. Therefore, the environmental impacts of herbicides on the vegetation and habitat types in that state have been included in the analysis in the PEIS.

RMC-0222-032
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The Restoration Alternative conditions herbicide use on avoidance of unnecessary invasive species spread by livestock (EIS [Draft PEIS]: G-8):

Action- Prevention 3- Reduce spread of invasive weeds caused by domestic livestock grazing:

1. retire domestic livestock grazing permits at earliest opportunity where grazing has been found to promote invasion or persistence of invasive species
2. prioritize invasives prevention and restoration activities for areas where domestic livestock grazing has been permanently ended
3. manage livestock movement patterns to insure animals are not moving seeds of invasive species from infested to uninfested areas
4. suspend livestock grazing on non-cohesive soils in perennially saturated meadows
5. manage livestock grazing to favor native species
6. avoid grazing in systems still containing a strong component of native perennials, biological soil crusts, or other features known to act as natural barriers to invasion or increase of invasive exotic species.

Perhaps the BLM politically does not want to rein in livestock grazing in this manner, but it is under a NEPA obligation to consider how reductions in the need for herbicide use might directly, indirectly, or cumulatively result from such constraints on livestock grazing.

Response: Although grazing can contribute to some invasive species problems, one cannot assume that all invasive species problems are associated with grazing of domestic livestock. The comment makes some good suggestions, such as managing grazing to favor native vegetation, and managing livestock movement patterns to avoid moving seeds of invasive plants from infested areas to uninfested areas. The BLM does manage the grazing program with these kinds of objectives in mind. The BLM rangeland health assessments consider the presence of invasive species when assessing overall rangeland health, and if the BLM determines that livestock grazing is significantly contributing to invasive species problems, the grazing management is changed to address the problem. The BLM is not able to implement all of the actions identified in this comment because, when taken as a whole, they are too restrictive and would cause the agency to be in violation of several laws, including the Taylor Grazing Act, and the Federal Land Policy and Management Act. These laws direct the agency to manage for multiple uses, and specifically identify grazing as an acceptable use of the public lands managed by the BLM. This comment suggests that if livestock grazing is found to promote invasion or persistence of invasive species, the only option available to address the issue would be to retire the grazing permits. Similarly, if livestock grazing is managed to favor native species, then grazing would be avoided in those areas to provide a barrier to further invasions. Since livestock grazing would be eliminated regardless of whether invasive species were present, the BLM would be unable to remain in compliance with those laws that direct the agency to manage for multiple uses that include grazing. The PEIS has been revised to include some discussion of how other activities can affect invasive species problems. Although the effects of these other activities are discussed in relation to the need for vegetation treatments, these activities are outside the scope of the PEIS analysis, and comments concerning changes in those activities must be addressed during site-specific decisions

and/or local land use planning efforts.

RMC-0222-033
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: As another example, the DEIS [Draft PEIS] does not estimate how control of invasive species (a Purpose of the PEIS) might be increased by following the Restoration Alternative's conditioning of herbicide use on prevention of off-road vehicle use that results in invasive species (DEIS [Draft PEIS]: [Appendix G, page] G-9), e.g.: Action- Prevention 5 - Precede all road or off-road vehicle route reconstruction, and any consideration of adding existing or illegal user-created roads and off-road vehicle routes to the transportation system, by NEPA analyses of their impacts, including potential to facilitate the spread of invasive species into native ecosystems. Action- Prevention 6 - Close or restrict non-essential, designated routes for motorized vehicle travel in areas of high risk for spread of invasive species.

The DEIS [Draft PEIS] admits ([page] 2-13) that Alternative E (the BLM's version of the Restoration Alternative) would "place greater emphasis on passive restoration...where...activities [e.g., livestock grazing and ORV [off-road vehicle] driving] have promoted a less desirable vegetation community [e.g., invasive species] or increased erosion [i.e., a condition associated with invasive species]," but avoids analyzing the meaning for this herbicide use, stating:

Since these activities [e.g., livestock grazing and ORV driving] are allowed under FLPMA [Federal Land Policy and Management Act], however, restrictions on their use would only be considered to the extent they are consistent with BLM vegetation and land use management practices (e g . excluding grazing animals from recently seeded areas).

Response: The BLM conducts NEPA analysis on all federal actions. The spread of noxious weeds and invasive species is one of the critical elements of the human environment and is considered in all NEPA analyses undertaken by the BLM. The reconstruction of off-highway vehicle (OHV) routes, placement of OHV routes into BLM transportation systems, and closure or restriction of OHV use and routes is outside the scope of the analysis of the PEIS. There is no established relationship between OHV road closures and the need to use herbicides.

RMC-0222-035
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Consider the following failure to include prevention in livestock management: Continue to graze livestock where grazing has been found to promote invasion or persistence of invasive species more invasive species (i.e., a greater number of invasive species and/or increased introduction, establishment and/or spread of invasive species)

- more herbicide treatments
- more forage for cattle
- continued or increased cattle grazing
- more invasive species
- more herbicide treatments - and so on.

Response: The BLM includes prevention practices in its livestock grazing program, e.g., use of weed-free forage and quarantine prior to placement of livestock onto the range, in addition to the terms and conditions of grazing use authorizations. The scenario presented above, which assumes more herbicide treatments due to livestock grazing and the premise of increased livestock grazing, is unsubstantiated in fact, ignores other potential integrated weed management vegetative treatments using non-herbicide methods (including passive techniques), and is outside the scope of analysis

of the PEIS. See Scope of Analysis in Chapter 1 of the PEIS. The PEIS does not address vegetation treatments exclusively designed to increase forage production or the effects of livestock grazing on vegetation.

RMC-0222-043
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Elsewhere, the DEIS [Draft PEIS] ([page] 4-45) does note that merely poisoning invasive species may not result in native vegetation returning:

Some treatments are very successful at removing weeds over the short term, but are not successful at promoting the establishment of native species in their place. In such cases, seeding of native plant species would be beneficial. Weeds may resprout or reseed quickly, outcompeting native species, and in some cases increasing vigor as a result of treatments. The success of treatments would depend on numerous factors, and could require the use of a combination of methods to combat undesirable species.

Although the above passage refers to the need to "use a combination of methods to combat undesirable species", the DEIS [Draft PEIS] in fact gives only the example of seeding species as an example of combining methods. For example, the DEIS [Draft PEIS] never mentions combining herbicide use with removal of livestock grazing or ORV [off-road vehicle] use.

Response: Most of the discussion on using multiple methods to control vegetation, including use of active treatments (e.g., use of herbicides, fire, mechanical control) in combination with passive treatments (e.g., removing livestock, ORV management), is found in Chapter 2 of the PER (Site Selection and Treatment Priorities; Vegetation Treatment Methods; and Vegetation Treatment Standard Operating Procedures and Guidelines sections). Much of this material is included in the Final PEIS to help the reader better understand BLM vegetation treatment policies and procedures.

RMC-0222-082
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The Programmatic Environmental Report (PER) proposed a three-fold increase in vegetation treated directly, from 2 million to 6 million acres per year (PER [page] ES-2). These treatments will have significant impacts in and of themselves. Likewise, they will include ground disturbances and removal of vegetation, favoring invasive species, the primary response to which will be herbicides, which will have additional impacts (PER [page] ES-2). This should not be examined in a report, but through NEPA, which will: Fully analyze reasonable alternatives for vegetation treatments, including the Restoration Alternative ([Draft] [P]EIS, Appendix I) and insure public review of the scientific accuracy of conclusions regarding benefits and impacts.

Response: See response to Comment RMC-0214-011 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments regarding development of the PER and its relationship to the PEIS. See Appendix I in the Final PEIS for the Policy Analysis Summary of the Restoration Alternative. The PER accompanies the PEIS and is subject to the same public review and comment as the PEIS regarding its scientific accuracy of conclusions.

RMC-0222-091
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to

Comment: Another recent (2005) publication from the Pacific Northwest Research Station (USDA FS [Forest Service]) has a similar conclusion. "Herbicides, prescribed fire, and other methods kill weeds, but without a source of native seeds or a long-term strategy for restoration, the treated areas are recolonized by the same species or by other, potentially more damaging, invasive plants." The publication does point out, however, that this problem can be solved by addressing the causes of invasive plant problems: "Research can contribute information on best practices to minimize invasive

Pesticides), and O'Brien, Mary

risks in road maintenance, recreation, range management, prescribed fire, thinning, wildlife habitat improvement, and timber management." Such an analysis is necessary for the DEIS [Draft PEIS]/PER to succeed, but it has been ignored in both the[P]EIS and NEPA-less PER.

Response: The BLM does not dispute the conclusions of the reference cited. See Site Selection and Treatment Priorities, and Revegetation, in Chapter 2 of the PER for a discussion on post-treatment restoration practices. The BLM considers restoration and site rehabilitation when designing and planning vegetation treatment projects, and does not consider treatments without follow-up actions to ensure the project meets site restoration objectives. The BLM agrees with the conclusion that research can contribute information on best practices to minimize invasive risks. The BLM relies on available past and current research, as well as professional expertise, in applying best practices to vegetation treatment projects.

RMC-0222-136
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The BLM scarcely acknowledges the effects of livestock grazing on sage grouse (PER: [pages] 4-80 - 81) and its role in the spread of invasive species, and ultimately shirks responsibility for managing grazing in the DEIS [Draft PEIS] /PER by stating that such land use decisions are outside the scope of either document. "Although this PER addresses vegetation treatments, it will not directly address any other aspects of the livestock grazing program" (PER: [page] 1-6). Similarly, the PER only addresses soil stabilization as it specifically relates to vegetation treatment activities (and not soil disturbance related to land use, such as livestock grazing, which creates seedbeds for invasive weeds) (PER: [page] 1-6). The BLM claims that it is not permitted to "to restrict, limit, or eliminate FLPMA [Federal Land Policy and Management Act]-authorized activities as a means to restore land health" in the DEIS [Draft PEIS] /PER (PER: [page] 1-6).

Response: The effects of livestock grazing on sage-grouse and the spread of invasive species are outside the scope of analysis of this PEIS. Under NEPA, analysis of impacts of livestock grazing effects on any resource requires a proposed action directly related to livestock management, e.g., livestock grazing permit authorizations, changes in grazing use or grazing systems. See Proposed Action and Scope of Analysis in Chapter 1 of the PEIS for a full description of the issues analyzed in this PEIS.

RMC-0222-137
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: However, the BLM is also required by FLPMA [Federal Land Policy Management Act] to manage public lands "in a manner that will protect the quality of …environmental …resources" (PER: [page] 1-7). There are many cases across the West where the agency has adjusted grazing intensity, duration, and season of use to achieve resource goals on public lands without compromising multiple-use management. FLPMA allows the BLM to make such adjustments, and the Restore Native Ecosystems Alternative [RNE] includes a full set of grazing prescriptions to control invasive species and restore native vegetation. Unfortunately, the BLM failed to develop its own grazing rules for public lands beset by invasive species.

Response: The BLM agrees that grazing practices may be adjusted to meet resource goals and objectives. The regulations governing adjustments to livestock grazing, found at 43 CFR [Code of Federal Regulations] 4100, are not the subject of this PEIS. Grazing regulations are addressed in separate EISs related to grazing management, including the Range Reform EIS (1995), and more recently in the Proposed Revisions to Grazing Regulations for the Public Lands (BLM October 2004). See Appendix I in the Final PEIS for a policy analysis of the RNE alternative. The grazing prescriptions

contained in this alternative are outside the scope of the analysis of the PEIS.

Proposed Action and Purpose and Need, Documents that Influence the Scope of the PEIS

EMC-0646-101
Californians for Alternatives to Toxics

Comment: Once again, because the issues are identical, we would respectfully ask that the public record for the Forest Service's R6 [Region 6] Invasive Plant Program EIS, 2005, (which the BLM is tiering to), be incorporated by reference into the public record for this program, the BLM Vegetation Treatments Using Herbicides PEIS. Some of the comments provided in Appendix A refer to the document USDA 2003 (or Bakke 2003).

Response: The public record of the Forest Service's Region 6 Invasive Plant Program EIS is outside the scope of this PEIS. This PEIS does not tier to the Region 6 EIS. The BLM has incorporated by reference into this PEIS the results of recent toxicological analyses conducted by the Forest Service. Council on Environmental Quality regulations at 40 CFR [Code of Federal Regulations] 1502.21, Incorporation by Reference, state: Agencies shall incorporate material into an [EIS] by reference when the effect will be to cut down on bulk without impeding agency and public review of the action.

RMC-0163-003
Skrine, Eugene

Comment: The last EIS the BLM used to assess, compare and disclose the effects of its vegetation treatment program, including - herbicides, manual, mechanical, biological control, and the use of fire was developed in the late 1980s and early 1990s. A lot has been learned about the underlying causes and behaviors of invasive plants since that time. The BLM's 1980s analysis is likely out of date, and in need of revision (Malheur case). Without this type of updated analysis, how can the true effects of the treatments be disclosed? Without this type of more inclusive analysis, how can even the tradeoffs between the use of different herbicides be accurately disclosed, i.e., "how does the public know how critical a certain chemical is to meeting the need for action? Is this chemical the only way, or can the problem also be controlled, possibly better, thru a combination of methods, including, prevention, and nonchemical treatment methods?"

Response: As noted in the Introduction in Chapter 1 of the PEIS, because much of the analysis done in the late 1980s and early 1990s is out of date and covered fewer acres than the current proposal, the BLM decided to update the information on herbicide (PEIS) and other treatment (PER) uses and their effects. The analysis of effects from the use of herbicides on plants and animals was based on risk assessments prepared since the late 1990s (and in 2005 for the 10 herbicides analyzed by the BLM), and on humans for 6 herbicides evaluated in risk assessments in 2005 and a literature review of effects of the other herbicides done in the late 1990s. The PEIS and PER analyzed a variety of treatment methods, and combinations, including passive treatments.

Proposed Action and Purpose and Need, Relationship to Statutes, Regulations, and Policies that Influence Vegetation Treatments

EMC-0606-001
Johnson, Kathy

Comment: Why are the previous years', (1986 all the way through to 1992!)!!!! studies/times/monies having to be replaced? Where is the oversight committee and who is it? Where is the accountability for those four existing, (implemented?) EIS's.

Response: The Council on Environmental Quality (CEQ) provides oversight to implementing the National Environmental Policy Act (NEPA). Environmental impact analysis often requires periodic updating to account for new information and to reflect

the current environmental baseline relative to a proposed action. Replacing existing EISs with new analyses furthers the purposes of NEPA and is within the agency's discretion to do so and is required under regulation when the agency determines new analysis is necessary for understanding environmental effects of agency decision-making (43 CFR [Code of Federal Regulations] 1502.4, 1502.9). The CEQ counsels in its 40 Most Asked Questions, for EISs that concern on-going programs, EISs more than 5 years old should be carefully re-examined to determine if the criteria under 43 CFR 1502.9 compel preparation of an EIS supplement. The agency made the decision to complete one programmatic EIS rather than supplement 4 separate EISs.

RMC-0087-006
Central Valley California Regional Water Quality Control Board

Comment: At the very least, the evaluation of new active ingredients must confirm that their use will result in compliance with applicable water quality regulations. Also note that new products may not be applied to water unless allowed by the NPDES permit.

Response: See response to Comment RMC-0087-004 under PEIS Proposed Action and Purpose and Need, Relationship to Statutes, Regulations, and Policies. As stated in Chapter 1 under Relationship to Statutes, Regulations, and Policies, the BLM must comply with the Clean Water Act and Safe Drinking Water Act, among other state and federal regulations and statutes.

RMC-0218-057
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: The following was not considered (as required) in the BLM PEIS or appendixes: "Project practices must be consistent with direction from the February 3, 1999 Executive Order on Invasive Species (Executive Order #13112), which requires federal agencies to use relevant programs and authorities to prevent the introduction and spread of invasive species (Noxious Weed Risk Assessment, Appendix B)." (as quoted from the 18 Fire Competing Vegetation Control Environmental Assessment, p. 60, emphasis ours – Deschutes National Forest, Bend-Fort Rock District).

Response: The BLM is guided by the relevant authorities listed under Relationship to Statutes, Regulations, and Priorities of Chapter 1 of the PEIS, including Executive Order 13112. The BLM actively uses its relevant programs and authorities to prevent the introduction and spread of weeds. The PEIS examines the use of herbicide tools for managing vegetation, including the use of herbicides to reduce and prevent the spread of weeds.

RMC-0218-058
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: There is a need to ensure compliance with the Clean Water Act in regard to prohibiting additional water quality impacts to 303(d) listed water quality – listed streams, which was not met by the BLM PEIS, PER or appendixes regarding potential herbicide-induced water quality impairment to these streams. This should have been analyzed and additional herbicide or other management impairment to 303(d) listed streams prohibited at the programmatic level.

Response: BLM offices are required to coordinate with state agencies and the USEPA concerning activities on federal lands in 303(d) listed waterways, to ensure that planned activities meet the requirements for no further degradation of those water bodies. Degradation includes both immediate and cumulative impacts. Central to this analysis is why the water quality has been degraded and whether the action would contribute to further or sustained impacts relative to the specific impairment(s) of that water body. If this examination shows further or sustained impairment, then these agencies will examine alternatives and their impacts and make decisions based on these discussions and written comments.

Streams listed under section 303(d) are listed by the offending pollutant, such as sediment, temperature, or a specific metal. In non-agricultural areas it is highly unlikely that a stream would be listed on 303(d) for pesticides/herbicides. In the rare event that a stream on public lands is listed on 303(d) for pesticides/herbicides, the BLM would not continue to apply pesticides/herbicides in that stream's drainage basin. Water quality monitoring is a requirement of every application of pesticide or herbicide. Chemical application plans require review and approval by hydrologists to ensure, among other things, compliance with the Clean Water Act.

RMC-0087-004
Central Valley California Regional Water Quality Control Board

Comment: Prior to applying aquatic pesticides directly into a waterbody in California, the BLM must apply for a Statewide General NDPES [National Pollutant Discharge Elimination System] permit for use of aquatic pesticides. Information regarding this permit and the applicable fee schedule can be found at this website: http://www.waterboards.ca.gov/aquatic/index.html.

Response: The BLM will follow USEPA, or, if applicable, USEPA-approved state guidance, in these matters, including any requirements for permits. Also see response to Comment RMC-0087-006 under PEIS Proposed Action and Purpose and Need, Relationship to Statutes, Regulations, and Policies and PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

EMC-0213-002
Mike Carroll (Larimer County Weed Control District)

Comment: You should cite EPA approval of herbicides under the FIFRA (Federal Insecticide, Fungicide and Rodenticide Act) registration process and the danger of limiting BLM's vegetation management tools.

Response: A discussion of the FIFRA process is in Chapter 1 of the PEIS under Federal Laws, Regulations, and Policies that Influence Vegetation Treatments.

EMC-0267-002
Medbery, Angela

Comment: All people using pesticides on public lands need to be trained, certified, registered and/or licensed with regular continuing education according to the relevant state regulation.

Response: As discussed in Chapter 1 of the PEIS under Relationship to Statutes, Regulations, and Policies, "All the herbicides evaluated in this PEIS are registered with the USEPA, and all applicators that apply them on public lands (i.e., certified applicators or those directly supervised by a certified applicator) must comply. . ." It is the policy of the BLM, as stated in Manual 9011 (.12) (B.) (5) (a.), that all persons applying pesticides, both general and restricted use, on BLM-administered lands be certified or under the direct supervision of a certified applicator. The BLM plan for training and certification of pesticide applicators, Appendix 2 Handbook H-9011-1, Chemical Pest Control, outlines how the BLM certifies its applicators. This process is very similar to the method by which individual states certify their respective applicators. In both cases, the certification plans are approved by the USEPA. One notable exception is that state certification is required only for "restricted use" pesticides, while the BLM certification is required for the application of both "general" and "restricted use" pesticides.

EMC-0278-013
Lutjens, William (BLM)

Comment: What ability will the BLM have to abide by the Carlson-Foley Act of 1968 without the aid of herbicides?

Response: The BLM will continue to abide by all applicable statutes and regulations regarding herbicide use, including the Carlson-Foley Act.

FXC-0041-008
Gunnison Watershed Weed Commission

Comment: I would also encourage BLM to address environmental issues by educating those entities in the final decision by explaining EPA's registration process, the best available science (Integrated Pest Management), and the extent of the noxious weed issue particularly if herbicides are not used.

Response: The extent of the weed problem is discussed in detail in Chapter 3 of the PER and PEIS under Noxious Weeds and Other Invasive Vegetation in the Vegetation section of the chapters. Use of best available science is discussed in Chapter 2 of both documents under Vegetation Treatment Planning and Management; the USEPA registration process is also discussed in Chapter 2 of the PEIS under Herbicide Active Ingredients Evaluated under the Proposed Action, and in Chapter 1 under Relationships to Statutes, Laws, and Regulations. Information on registering herbicides can also be found on the USEPA website at: http://www.epa.gov/pesticides/regulating/index.htm.

FXC-0071-022
Campbell, Bruce

Comment: I do not believe that BLM is abiding by a number of laws in regards to this extensive herbicide spraying proposal. The previous paragraph mentions basically that specific needs for vegetation management are not thoroughly addressed, yet if both rangeland and forestland herbicide application (and "needs") were thoroughly evaluated, some sane conclusions would be to greatly reduce activities which create increasingly dry forests (such as logging big trees and planting overstocked monoculture conifer plantations) as well as reduce road-building and vehicular use (including logging-related transport as well as off-highway vehicle use) in order to not spread noxious and invasive weeds. In this theme of the need to prevent conditions which some feel necessitate herbicide applications, and in the spirit and letter of the need to obey laws of the USA, I feel that Executive Order 13112, Invasive Species, is being violated since it "directs federal agencies to prevent the introduction of invasive species". The Carlson-Foley Act of 1968 and Plant Protection Act of 2000 calls for BLM to "prevent, or retard the spread of any noxious weeds in federal lands." The Clean Air Act, Clean Water Act, and Safe Drinking Water Act are all violated by these plans.

Response: See Relationship to Statutes, Regulations and Policies in Chapter 1 of the PEIS. The BLM does not agree that any statutes or Executive Orders (EO) are violated by the Proposed Action analyzed in the PEIS. The Proposed Action is consistent with the direction cited in the Carson-Foley Act and E.O. 13112, as noted in this section of the PEIS.

Proposed Action and Purpose and Need, NEPA Requirements of the Program

EMC-0155-002
Kozlowski, James C. (National Society for Park Resources, National Recreation and Park Association)

Comment: No longer will BLM have to take the necessary "hard look" at the environmental impacts of any proposed use of herbicides and pesticides in a particular situation. Rather, once adopted, a programmatic EIS necessarily assumes that the environmental impacts of herbicide and pesticide use by BLM has been adequately addressed on a nationwide basis, making any further analysis of the issue unnecessary in subsequent site specific environmental documents. Contrary to BLM's view, I do not think that site-specific analysis of vegetation treatment activities is unrealistic, nor is repetitive or routine, given the potential environmental impacts.

Response: As discussed in Chapter 1 of the PEIS under NEPA Requirements of the Program, the PEIS provides overall guidance to the BLM on the use of herbicides and Standard Operating Procedures (SOPs) and other mitigation that must be followed by local field offices for specific projects. However, field offices would still be required

to conduct their own NEPA analysis of project-specific impacts and to coordinate closely with the public during this analysis. Local field offices can use information provided in the PEIS when developing their own environmental assessments. For example, information on risks to plants, animals, and humans that resulted from the risk assessments could be used by local field offices to determine appropriate treatments, SOPs, and mitigation.

EMC-0405-004
Hoover, Victoria N.

Comment: Site-specific information, needed to make decisions, is lacking. A programmatic EIS like this, that generalizes management, fails because it is impossible to know if a vegetative treatment is appropriate, or what its impacts would be, without detailed site-specific information. Some management actions might be appropriate, but this document does not allow members of the public to ascertain the facts, so it is quite useless, and contrary to the requirements of the National Environmental Policy Act (NEPA) to disclose the impacts of a proposed action.

Response: The information required to make decisions on adopting the use of certain herbicides on public lands is presented in the PEIS. A Programmatic EIS represents a broad analysis and is not intended to be site-specific. Site-specific analysis will occur at such time as a project is proposed.

EMC-0503-008
John Day-Snake Resource Advisory Council

Comment: We feel that BLM should describe the process by which this [P]EIS will be used to develop on-the-ground treatments. Provide enough detail to describe the step-down process to on-the-ground projects.

Response: See NEPA Requirements of the Program and Figure 1-1 in Chapter 1 of the PEIS.

EMC-0584-087
Western Watersheds Project

Comment: The BLM must require as part of the [P]EIS/PER ROD [Record of Decision] that all future projects that are tiered or related to this EIS undergo, further environmental review at the level of an EA [Environmental Assessment] or EIS with full and open public comment and participation in the process.

Response: See response to Comment EMC-0155-002 under PEIS Proposed Action and Purpose and Need, NEPA Requirements of the Program.

EMC-0584-090
Western Watersheds Project

Comment: BLM should use this [P]EIS process to set science-based post fire/treatment standards to be incorporated in all ESR [Emergency Stabilization and Rehabilitation] agency plans.

Response: The purpose of the PEIS is to provide an analysis of impacts to human health and public land resources resulting from the expected increase in the use of herbicides. The PER provides Standard Operating Procedures that are relevant to vegetation management and restoration activities at the programmatic level and may be incorporated into locally developed ESR plans, as appropriate.

EMC-0585-005
Western Watersheds Project

Comment: The [P]EIS analysis is to be used so that at the NEPA document level, "they [BLM] don't have to do another 30,000 to 60,000 dollar risk assessment". So when it comes time to do the project, BLM plans to do NEPA but apply BMPs [Best Management Practices] laid out in the PEIS. Yet, PEIS BMPs are woefully deficient, and there is no requirement to conduct NEPA at a level of at least an EA [Environmental Assessment] or EIS that will allow full public participation.

Response: See NEPA Requirements of the Program and Figure 1-1 in Chapter 1 of the PEIS. Site-specific NEPA analysis, including public participation, is required for all vegetation treatment projects. Site-specific mitigation measures would be developed at the project level based on the site-specific analysis, and would be applied to the project in addition to the Standard Operating Procedures and requirements developed through this PEIS.

EMC-0585-086
Western Watersheds Project

Comment: BLM punts to its Land Use Plans for uses and allocations. Many BLM Land Use Plans are based on tremendously outdated information, and allow a broad array of very damaging activities – facts that BLM has not analyzed and assessed in the PEIS. These include gross over-allocation of AUMs [Animal Unit Months] (especially since unreliable and unsustainable cheatgrass and other weed production now envelops so many grazing allotments), and lands completely Open to motorized uses or plans on paper, but no Travel Plans that allow control of roading. As reduction or cessation of livestock use on lands is a passive treatment, it must be addressed in the [P]EIS.

Response: Assessment of the data used to develop approved BLM land use plans, or the allocations derived from the public process in development of an approved land use plan, is outside of the scope of this project. Passive treatments are discussed in Chapter 2 of the PEIS and PER under Prevention of Weeds and Early Detection and Rapid Response. The reduction or cessation of livestock grazing is a resource allocation decision, not a vegetation treatment proposal. Passive treatments are proposed, designed and decided in the same manner as any other treatment method the BLM utilizes for vegetation control and must meet land use plan goals and objectives in a similar manner. Removing or curtailing an authorized use from public lands does not necessarily constitute a passive vegetation treatment.

PHC-005-007
K. Fite

Comment: So what we have here is an agency proposing massive new disturbance – and going back to Nevada again – having just reviewed the ELRMP [Ely Resource Management Plan], what does the [Ely] RMP propose to do, but treat millions of acres of pinyon juniper, woody vegetation. They aren't focusing on the cheatgrass, or the extensive crested wheatgrass seedings, which are basically biological deserts out there. No, they are planning radically disturbing, through the use of fire, through the use of mechanical methods, valuable pinyon juniper forests.

Response: The BLMs Resource Management Plan (RMP) planning process is the appropriate forum to outline future vegetation treatment programs, objectives, and treatment methods. The allocations proposed in the Ely Draft RMP are outside the scope of this programmatic analysis.

RMC-0070-004
California Regional Water Quality Control Board

Comment: These objectives require that no levels of herbicides be detectable in waters (including wetlands) of the Lahontan Region at any time. Your [P]EIS should: (1) clearly acknowledge these requirements, (2) provide for adequate mitigation measures to assure compliance with these objectives, and (3) provide for adequate monitoring and reporting to assess compliance with these objectives.

Response: Actions to meet local herbicide-use requirements and mitigation and monitoring measures would be developed at the local field level, as discussed in Chapter 1 of the PEIS under NEPA Requirements of the Program.

RMC-0095-010
New Mexico Department of Game and Fish

Comment: We therefore recommend that a Supplemental D[raft] PEIS be developed to addresses these issues. The Supplemental may need to develop new alternatives for public consideration, but at the least, should propose new best management practices, standard operating procedures, and recommended mitigations, standards and guidelines based on the findings of the new analyses.

Response: Council on Environmental Quality regulations at 40 CFR [Code of Federal Regulations] 1502.9 provide the standards for issuing a Supplemental EIS. The regulation states: Agencies 1) Shall prepare supplements to either drafts or final environmental impact statements if: (i) The Agency makes substantial changes in the proposed action that are relevant to environmental concerns; (ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts. The issues identified in the Draft PEIS have been adequately analyzed at the programmatic level. The BLM has not made any substantial changes in its proposed action, nor has the analysis or public comment identified significant new circumstances or information relevant to environmental concerns which would compel BLM to publish a supplemental EIS.

RMC-0221-047
Center for Biological Diversity

Comment: The D[raft] PER states that 3.5 million acres would be treated primarily for hazardous fuels reduction and to control fires in the WUI. This is more than half of the total vegetation treatment area identified in the D[raft] PER and D[raft] PEIS of 6 million acres annually. Because there is no meaningful identification or analysis of the impacts of the project on WUI areas, site-specific NEPA analysis of any such projects must be undertaken when those site-specific projects are proposed. The BLM cannot rely on this D[raft] PEIS or D[raft] PER to truncate future NEPA analysis or to categorically exclude any of these actions from subsequent site-specific analysis.

Response: The section in Chapter 1 of the PEIS under NEPA Requirements of the Program clearly states that step-down, site-specific NEPA analysis is required. Local level analysis will meet the requirements of NEPA; analysis will be focused on whatever issues (such as listed in the comment) are identified locally by the BLM and the public.

EMC-0630-011
Porter, Mark C. (Wallowa Resources)

Comment: Another area of the [P]EIS that needs clarification is how this document will be put into use on the ground. There was not a clear process outlined as to how the adopted [P]EIS will be used by the districts and management units to go about on the ground work.

Response: The NEPA Requirements of the Program are given in Chapter 1 and on Figure 1-1 of the Draft PEIS.

Proposed Action and Purpose and Need, Interrelationships and Coordination with Agencies

EMC-0155-004
Kozlowski, James C. (National Society for Park Resources, National Recreation and Park Association)

Comment: Given the potential impact of the proposed programmatic EIS might on National Parks and Monuments in 17 states, I question whether this proposed project was adequately coordinated with the National Park Service in addition to the other federal agencies noted by BLM. In addition, to the National Park Service, I would hope that BLM would promote coordination among state and local recreation resource managers in the states potentially affected by the proposed programmatic EIS.

Response: The BLM regularly coordinates with local, state, and federal agencies, including the National Park Service (see Interrelationships and Coordination with Agencies in Chapter 1 of the PEIS), and environmental and conservation

organizations. This coordination occurs at the national and local levels of the BLM. In addition, agencies were provided with copies of the Draft PEIS and PER and asked to provide comments on the documents.

EMC-0295-002
Thompson, Julie

Comment: I would like to see the BLM apply some type of pressure/encouragement to the county governments in the areas where you are planning to use the herbicides. Many counties have a prison population that could be transported to these remote areas to do some manual labor. If I had a choice to sit in a cell or get out into the back country for a few days, do some camping and see the stars, I'd pull weeds to do it. We have other options besides chemicals. Please be a little more creative in accomplishing your goals. This is the wilderness we are talking about.

Response: As discussed under Interrelationships and Coordination with Agencies in Chapter 1 of the PEIS, the BLM is actively involved in coordinating with local governments and in participating with local Cooperative Weed Management Areas. The BLM utilizes numerous partnerships across the public lands to leverage its funding and capacity to manage vegetation on the ground. Many BLM field offices also utilize volunteers and other types of labor, including low-risk prison populations, for BLM non-herbicide vegetation treatment projects.

RMC-0205-024
Oregon Department of Agriculture

Comment: We recommend that BLM establish direct communication with the public water system operator or community liaison downstream of the BLM land management areas. There are no requirements to develop or implement "drinking water protection plans" in Oregon, but the communities that elect to move forward voluntarily will request that BLM be involved in the planning and protection of that source area.

Response: Interrelationships and Coordination with Other Agencies is discussed in Chapter 1 of the PEIS. Local BLM field offices are encouraged to coordinate with local agencies and the public concerning any herbicide project that could affect ground or surface drinking or agricultural water sources. The BLM agrees that it should be involved in planning drinking water protection plans for local communities.

EMC-0315-002
Arizona Game and Fish Department

Comment: We request that close coordination between the [Arizona Game and Fish] Department and BLM occur prior to the implementation of treatments to reduce negative impacts to wildlife and wildlife habitat.

Response: See response to Comment RMC-0144-018 under Proposed Action and Purpose and Need, Interrelationships and Coordination with Agencies.

EMC-0315-004
Arizona Game and Fish Department

Comment: The [Arizona Game and Fish] Department supports the idea of vegetation treatments designed to improve fish, wildlife, and native plant habitats. We applaud the Bureau's efforts to use additional tools and strategies to address vegetation concerns, particularly invasive species issues. We request that the Department be involved with treatment planning and implementation level activities. Additionally, we request BLM coordinate with the Department regarding potential negative impacts to any potentially affected wildlife population (including game species) prior to implementation of treatments.

Response: See response to Comment RMC-0144-018 under Proposed Action and Purpose and Need, Interrelationships and Coordination with Agencies.

EMC-0446-014
The Nature Conservancy

Comment: We believe that the PEIS and PER should put greater emphasis on coordination with other Federal and State agencies on vegetation management treatments and new herbicide proposals to meet the stated intent of building collaborative relationships. The BLM coordinates with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service [NMFS] on potential impacts to Federally-listed, proposed and candidate species. The BLM should also initiate coordination with USFWS on conserving migratory Birds of Conservation Concern, both at the project level and for new herbicide proposals. Department of the Interior and BLM policy requires annual coordination with state wildlife agencies on management proposals. To be most successful, this coordination should be designed to pro-actively meet conservation and recovery goals for all species of concern rather than merely avoiding "jeopardy" or minimizing adverse effects to these species. The PEIS and PER should require early and pro-active coordination with all agencies involved in the management of fish, wildlife and rare plant resources.

Response: Coordination with other agencies and interested parties is discussed in several sections of the PEIS, PER, and Biological Assessment (BA). These sections include Chapter 1 (Interrelationships and Coordination with Agencies), Chapter 2 (Coordination and Education in PEIS, and Coordination in PER), and Chapter 5 (Consultation and Coordination) in the PEIS; Chapter 1 (Interrelationships and Coordination with Agencies) and Chapter 2 (Coordination) of the PER; and Chapter 3 of the BA (Species Status Species Management Consultation Protocol). Coordination with agencies is also discussed extensively in Appendixes B (Human Health Risk Assessment), C (Ecological Risk Assessment), E (Protocol for Identifying, Evaluating, and Using New Herbicides, and G (Tribal and Agency Consultation). The USFWS, NMFS, and USEPA coordinated extensively with the BLM during preparation of the risk assessments and in evaluating risks to species of concern.

EMC-0533-021
Colorado Farm Bureau

Comment: For example, the Animal and Plant Health Inspection Service (APHIS) has published for public comment a Draft Action Plan on Noxious Weeds. Like the BLM document, the APHIS draft does not mention coordination with BLM or other agencies in implementing its action plan. We submit that BLM and APHIS must work together on both of these plans if either one is to be effective. We have suggested to APHIS that they work with BLM, and we suggest to BLM that they work together with APHIS and other agencies.

Response: See Chapter 1 of the PEIS under Interrelationships and Coordination with Agencies. The BLM coordinates with federal agencies that administer laws that govern activities on public lands. The BLM and APHIS operate cooperatively through a national-level Memorandum of Understanding (MOU). The Action Plan from APHIS referenced in the comment is The Draft Weed Action Plan developed by APHIS for the implementation of the Plant Protection Act. The Action Plan is related to APHIS regulatory plans, not specific to interagency cooperation. However, the BLM would coordinate with APHIS on implementation of the Plant Protection Act and other activities on BLM-managed lands, per the National MOU.

EMC-0584-086
Western Watersheds Project

Comment: BLM and the Forest Service often embark on fire-related/treatment projects. The interrelationships of all ongoing or planned activities in this region, including across ownership boundaries, must be fully explored.

Response: See Chapter 1 of the PEIS under Interrelationships and Coordination with Agencies. The BLM and Forest Service cooperate extensively on projects involving fire management. They were the two primary agency leads on the development of the

National Fire Plan (USDI and USDA 2001a) and *Protecting People and Sustaining Resources in Fire Adapted Ecosystems: A Cohesive Strategy* (USDA and USDI 2006b). The BLM also worked closely with the Forest Service during development of the Interior Columbia Basin Ecosystem Management Project, which covers fire and other natural resource management activities on BLM- and Forest Service-administered lands in the Pacific Northwest.

RMC-0144-003
Wyoming Game and Fish Department

Comment: Several of the activities, as cited in many sections, will have impacts to fish and wildlife resources, their habitats, and associated recreational opportunities. We recommend that BLM consult with State Fish and Wildlife Agencies prior to, and during development, implementation and monitoring of vegetation treatment activities.

Response: See response to Comment RMC-0233-017 under PEIS Proposed Action and Purpose and Need, Interrelationships and Coordination with Agencies.

RMC-0233-009
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: We applaud BLM's commitment to the concept in the D[raft] PEIS/PER and recommend that they engage in a cooperative effort with the Service, State wildlife agencies, and the U.S. Forest Service (USFS) to develop a consistent, seamless monitoring approach for HFRA [Healthy Forests Restoration Act] projects in the final PEIS/PER. The State of Utah offers as an example, the Utah Partners for Conservation and Development, an organized interagency entity which coordinates vegetation restoration projects and can provide the structure and support in which to design such a monitoring system.

Response: See response to Comment RMC-0081-003 under PEIS Alternatives, Coordination and Education. The BLM supports collaborating on an interagency basis to develop consistent monitoring approaches for vegetation treatments, including HFRA projects. At this time such a monitoring system has not been designed. This PEIS recognizes the value and need for monitoring of vegetation treatments. However, development of a monitoring approach among all federal and state regulatory and wildlife agencies, specifically for HFRA projects, is beyond the scope of this PEIS.

RMC-0233-017
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: We recommend that the BLM ensure that proposed management actions in the final PEIS/PER not conflict with either State or local working group activities designed to benefit sage-grouse. We encourage BLM to contact each State wildlife agency sage-grouse coordinator to facilitate communication and coordination on these issues for the final PEIS/PER.

Response: The BLM coordinates extensively with state fish and wildlife agencies on issues related to sage-grouse and other fish and wildlife. BLM representatives often are participants in committees developing and overseeing sage-grouse restoration plans and activities in the western U.S.

EMC-0446-010
The Nature Conservancy

Comment: Regional coordination/integration of vegetation management practices: For vegetation management of this magnitude (24 percent of all BLM-managed public land would be treated in the first decade) coordination of treatment goals, priorities and areas to be protected should occur above the project and field office levels. Due to the scale of treatments in some areas (over 50 percent of all fuels reduction projects would occur in one ecoregion) specific regional strategies that include additional multi-agency regional analysis, priority setting among adjacent landowners, and management guidelines is needed to ensure projects are designed to restore ecological function rather than contribute to the continued decline of certain community types, particularly sagebrush and other shrub communities. The BLM's Great Basin

Restoration Initiative makes a good start in describing general treatment needs for public land within the Great Basin, but the treatment goals need to be more specific for particular plant communities and ecological condition, better integrated with sagebrush management guidelines, consistent with regional sage-grouse and other special status species restoration strategies, and prioritized with other agencies conservation and restoration strategies to be effective.

Response: The implementation recommendations on the types of vegetation methods identified in the Great Basin Restoration Initiative and other initiatives for vegetation treatments are incorporated in the analysis of the PEIS and PER for the purpose of managing vegetation to restore ecological function, reduce fuels, and control and manage noxious and invasive weeds. The BLM's interrelationship and coordination with agencies is discussed in Chapter 1 of the PEIS under Interrelationships and Coordination with Agencies. At the local level, BLM field offices closely coordinate projects with their partners and adjacent landowners, and will incorporate the broad level analysis within this PEIS into local land use plans and more specifically into site-specific level analysis.

RMC-0070-007
California Regional Water Quality Control Board

Comment: Your [P]EIS should specify that this office requires ample notification of specific weed control projects which utilize pesticides within the Lahontan Region. Such notification is necessary for us to be able to assess compliance with State water quality standards. Your [P]EIS should also specify that this office will receive copies of monitoring results related to water quality within the Lahontan Region.

Response: See Chapter 1 of the Final PEIS under Interrelationships and Coordination with Agencies. The type of coordination described is accomplished at the local field office level. The text has been revised to clarify this relationship. Specific notification and monitoring requirements for your agency need to be communicated to the field office within your jurisdiction. In most cases these relationships are already established among the state regulatory and federal agencies.

RMC-0081-003
Arizona Game and Fish Department

Comment: The Department supports the idea of vegetation treatments designed to improve fish, wildlife, and native plant habitats. We applaud the Bureau's efforts to use additional tools and strategies to address vegetation concerns, particularly invasive species issues. We request that the Department be involved with treatment planning and implementation level activities. Additionally, we request BLM coordinate with the Department regarding potential negative impacts to any potentially affected wildlife population (including game species) prior to implementation of treatments.

Response: Site-specific analysis is coordinated with the appropriate county, state, and federal agencies. It is crucial that the BLM coordinate with local state fish and game agencies when developing local site-specific analysis for vegetation treatment projects.

RMC-0144-018
Wyoming Game and Fish Department

Comment: Pages 2-31 and 2-32 [of the Draft PEIS] cite that fish and wildlife may be harmed or killed using some herbicides. State fish and wildlife agencies are responsible for wildlife management and we are concerned that the BLM may not adequately consult and coordinate with those agencies in the planning, development, execution and post treatment management of the treatments. We believe strong partnerships between the BLM and state agencies will alleviate these concerns.

Response: Management of wildlife on the public lands is a partnership between the BLM, which manages the habitats, and the appropriate state wildlife agency, which manages the animals. All vegetation treatments will affect some wildlife and/or its

habitat. The BLM is required to seek the involvement of the public in the environmental analysis, land use planning, and implementation decision-making process to address local, regional, and national interests. The BLM is ultimately responsible for land use plan decisions, including vegetation management on public lands. Collaborative relationships with stakeholders, including individuals, communities, governments, and the state wildlife agency, improves communication, provides the BLM with a greater understanding of different perspectives, and helps the BLM find solutions to issues and problems. The NEPA process requires the BLM to notify the public of a proposed project, and give the public an opportunity to comment on the site-specific analysis done for the project. It is critical for the BLM to notify potentially affected parties of treatment activities that occur on public lands and provide an opportunity to comment on the proposed action, and to take any steps needed to mitigate the effects of the action. Treatment actions may be modified in response to comments posed by the public.

RMC-0144-023
Wyoming Game and Fish Department

Comment: We compliment the BLM on the work, program goals and objectives addressed in the documents. We strongly recommend the BLM include a requirement to consult and collaborate with state wildlife agencies in the planning, implementation, and monitoring of vegetation treatments based on the potential short and long-term effects on fish and wildlife populations and their habitat and associated wildlife recreational activities. Strong partnerships could alleviate many of these concerns.

Response: The BLM agrees. See the discussion in Chapter 1 of the PEIS regarding interrelationships and Coordination with Agencies.

Proposed Action and Purpose and Need, Consultation

EMC-0619-005
Bellovary, Christopher

Comment: 16 USC [United States Code] § 1536(a)(2) [ESA [Endangered Species Act] § 7(a)(2)] requires that the BLM receive appropriate Biological Opinions from the Fish and Wildlife Service and National Marine Fisheries Service before engaging in official agency action that may result in harm to threatened and endangered species. At this point, I haven't seen any indication that this has been performed, but clearly would need to be done before the BLM can engage in the spraying of these herbicides. I strongly suggest that this oversight be remedied.

Response: See response to Comment RMC-0214-040 under PEIS Alternatives, Special Status Species. It is anticipated that the Services will issue a Biological Opinion or written concurrence with the BLMs finding that the proposed action "may affect, but is not likely to adversely affect" listed species or critical habitat.

Proposed Action and Purpose and Need, Public Involvement, Scoping, and Issues

EMC-0585-078
Western Watersheds Project

Comment: BLM has failed to evaluate a reasonable range of alternatives, and take a hard look (best done through comparisons of relative impacts under various alternative), of the large-scale vegetation manipulation and treatment that it proposes.

Response: As discussed in Chapter 1 of the PEIS under Development of the Alternatives, the BLM developed a range of alternatives based on information obtained from the public during scoping. In turn, the alternatives analysis was based on the number of acres proposed for treatment for each alternative and reflects the scale of vegetation treatment proposed for each alternative.

RMC-0057-006
California Wilderness Coalition

Comment: The D[raft] [P]PEIS fails to consider an alternative that prohibits mechanical treatments in areas with wilderness characteristics. Council on Environmental Quality (CEQ) regulations require a reasonable range of alternatives to be presented and analyzed in the [P]EIS so that issues are "sharply defined" and the EIS provides "a clear basis for choice among options..." 40 C.F.R. [Code of Federal Regulations] § 1502.14. CEQ regulations and court decisions make clear that the discussion of alternatives is "the heart" of the NEPA process. Environmental analyses must "[r]igorously explore and objectively evaluate all reasonable alternatives."

Response: See response to Comment RMC-0057-007 under PEIS Proposed Action and Purpose and Need, Development of the Alternatives.

RMC-0057-007
California Wilderness Coalition

Comment: Given the extensive concern for WSAs [wilderness study areas] and other areas with wilderness characteristics demonstrated during the scoping process, the BLM should have prepared an action alternative that responds to these concerns. This violates NEPA's requirements to develop a full range of alternatives and to explore each in detail (40 CFR [Code of Federal Regulations] 1502.14, 1505.1).

Response: The PEIS programmatically covers all public lands administered by BLM, including special areas such as WSAs, wilderness, and areas with wilderness characteristics. Concern regarding vegetative treatments in these areas is noted. Activities conducted in WSAs are guided by non-impairment and minimum tool requirements outlined in the Wilderness Study Area Interim Management Plan (IMP) Handbook H-8550-1. Activities in designated wilderness are guided by the Wilderness Act, Wilderness management plans, and minimum requirements and tool analysis. Activities within areas with wilderness characteristics are guided by local land use plans. In all cases, for any proposed project with potential effects to these special areas, impacts are assessed through project-specific NEPA analysis and mitigation applied where appropriate. Scoping did not result in identification of any issues that remain unresolved and need to be addressed through a separate alternative specific to wilderness, on a national programmatic basis.

RMC-0067-007
Wyoming Outdoor Council

Comment: BLM should revisit its preferred alternative and select an alternative that relies less on the broadcast use of herbicides and instead focuses on biological means of control and very selective use of herbicides as the means of reducing catastrophic wildfires and invasions of noxious weeds.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

Proposed Action and Purpose and Need, Preview of the Remainder of the PEIS

EMC-0585-241
Western Watersheds Project

Comment: Table 1-1 [of the Draft PEIS] claims livestock grazing is addressed in 2 places, 1-1, 2-15 (statement that BLM 'recommends' as a SOP [Standard Operating Procedure] that grazing animals be fed only weed free forage for a minimum of 96 hours prior to going onto public lands', and also bundles a mention of 'poor gazing management' under 1-4, 2-14 (eliminates consideration of no grazing alt.), and Chapter 4. 2-15 states [text missing from comment].

Response: Livestock grazing and related issues are covered elsewhere in the PEIS, especially in Chapter 4, and in the PER. We have included references to these sections in Table 1-1 of the Final PEIS.

Alternatives, Introduction

RMC-0138-003
Pitkin County Weed Advisory Board

Comment: The Pitkin County Weed Advisory Board fully supports alternative B, although we feel great caution should be exercised in expanding herbicide use and increasing the number of acres to control. We feel other alternatives would hold back weed control progress on the 262 million acres the BLM controls.

Response: Your comment has been noted.

Alternatives, BLM Programs Responsible for Herbicide Treatments

EMC-0640-029
Animal Welfare Institute

Comment: An approach that emphasizes allowing natural factors to control ecosystem processes where and when applicable is entirely consistent with the legal framework under which the BLM operates. Specifically, BLM's multiple use mandate only requires the agency to allow for appropriate multiple use of its land. It does not mandate that the BLM facilitate such use by manipulating nature or natural processes in ways that would adversely affected native species of fauna or flora.

Response: See Purpose and Need for the Proposed Action in Chapter 1 of the PEIS. The BLM is not proposing to facilitate multiple use of the public lands by manipulating nature or natural processes in ways that would adversely affect native species of fauna or flora. BLM vegetation treatments are designed to meet land use plan goals and objectives for vegetation for the overall benefit of native species and their habitat.

PHC-005-006
K. Fite

Comment: As part of the treatments that are going to be conducted under the Healthy Forests Initiative, fire funds will be used to buy these herbicides that are going to be sprayed on public lands, while at the same time, we aren't addressing the unnecessary roading on public lands. We aren't addressing the run-a-muck now, oil and gas exploration, including in Brian's home state of Nevada, where there are now suddenly all these proposals for ramped oil and gas exploration across very fragile sagebrush landscapes in sage grouse habitats, pygmy rabbit habitats, etc.

Response: Herbicide projects would be funded through a variety of BLM natural resource programs, not exclusively fire funds. Off-road vehicle use, access, and oil and gas leasing issues are addressed in land use plans and are outside the scope of this PEIS.

RMC-0130-002
Craig, Diane

Comment: What my biggest concern is – is who is to gain? It certainly is not our lands, they have evolved perfectly on their own accord and have their own built in abilities to deal with invasive plants (introduced by man and domesticated animals I might add); it certainly is not the people who use the lands after all who would choose willfully and consciously to walk through a cocktail of poisons, carcinogens, mutagens and hormone disrupting chemicals. It certainly would not be the wildlife that would have something to gain after all do they have bank accounts to roll that huge sum of dollars into as the taxpayers pay for this both on a national and local level. I for one am abhorred that the money I work honestly and hard for would be used to exterminate so many species on our planet.

Response: See responses to Comment EMC-0646-174 under PEIS Environmental Consequences, Cumulative Effects Analysis and Comment RMC-0049-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated. The BLM manages public lands on behalf of the American public.

EMC-0544-004
Public Lands
Advocacy

Comment: [The following concern should be addressed:] How oil and gas operations will be managed while vegetation is being re-established

Response: The BLM has several oil and natural gas development environmental standard operating procedures for noxious and invasive weed prevention and control. Refer to BLM Washington Office Instruction Memorandum 2004-194 on environmental Best Management Practices policy and the "Operations BMPs" identified at: http://www.blm.gov/bmp/Technical_Information.htm. The BLM resource specialist evaluates each oil and natural gas drilling and production proposal and determines, on a site-specific basis, the most appropriate noxious weed prevention and control measures or Best Management Practices for the situation.

Alternatives, Vegetation Treatment Planning and Management

EMC-0027-003
McNeel, Hank

Comment: I feel that a much stronger emphasis should be placed on how the Bureau of Land Management and their cooperators utilize a combination of Integrated Weed Management. I realize that you are mainly covering herbicides in this PEIS but if you do not stress the balanced approach of an Integrated Weed Management approach much of the public still think that all the BLM does is use herbicides. You need to have a brief on the comparison of different control techniques and methods from the Annual Integrated Weed Management Reports that the Washington Office is supposed to receive from all BLM State Offices annually.

Response: Chapter 2 of the PER discusses the treatment methods and planning that would be used by the BLM, including Site Selection and Treatment Priorities. We have expanded the discussion in this section, and have included this material in the Final PEIS to help the public better understand that the BLM would use fire use and manual, mechanical, and biological control treatment methods, in addition to herbicide use, and that herbicide use would comprise only about 16% of treatments. Also see responses to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation and Comment RMC-0222-059 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response.

EMC-0145-002
Wahl, Mark

Comment: Integrated vegetation management is now a science in a mature phase that can obviate much pesticide usage. The toxics in very small quantities are being shown by current research to be extremely harmful to wildlife.

Response: Herbicides would be used on only about 16% of acres treated annually, as discussed in the response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation. Based on ecological risk assessments conducted for the PEIS (see Appendix C of the PEIS), most of the proposed treatment scenarios would result in low risk to wildlife, and Standard Operating Procedures and mitigation identified in Tables 2-8 and 2-9 of the PEIS would help to further reduce these risks.

EMC-0233-002
Dyber, Kenneth James

Comment: I do not feel this is an effective way to deal with an invasive plant problem. Before drenching our lands with herbicides, please consider the reasons for this invasive plant problem, such as use of off road vehicles, large timber harvests & livestock grazing. These practices all encourage invasive weeds on BLM land.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0286-004
Elzinga, Stephen
(Eagle County Weed and Pest Department)

Comment: Each Colorado BLM Field Office should be required to develop and implement an Integrated Weed Management Plan (IWMP) (Local governing bodies in Colorado operate under this requirement). Each BLM Field Office should have a staffer, a professional series position, tasked with meeting that unit's IWMP management objectives.

Response: See response to Comment RMC-0210-053 under PEIS Alternatives, Coordination and Education.

EMC-0291-002
Maxwell, Bruce
(Montana State University)

Comment: I believe that much more attention needs to be given to premanagement assessment of the weed populations in order to make economic and environmentally sound decisions. Herbicides, or any other form of management should not be allowed to be used on public lands until there is scientifically sound evidence that populations are invasive and represent a significant threat to management goals. Literature that makes general statements about the invasiveness of species is not adequate to become a rationale for management of these species. There seems to be a general assumption that species listed on noxious weed lists are extremely invasive under all conditions and will always have a significant impact, regardless of the management objective. Plant species are not invasive. Species can have populations that are invasive, but there are no cases that, I know of, where all populations of any given weed species are invasive. We have accumulated many measurements over the past 10 years that convincingly draw into question these assumptions that have become commonplace. I am defining invasive as a population that is consistently increasing in density and/or spatial extent. The definition of invasive also commonly includes a population that is having a significant impact on management objectives

Response: Noxious weeds are a legal definition promulgated by state law. Not all noxious weeds are considered extremely invasive under all conditions. Invasive plants exhibit characteristics that tend toward long-term dominance of a vegetation community. Please refer to the Glossary of the PEIS and PER for definitions of invasive plants and noxious weeds. Invasive species may also include biological organisms, including but not limited to, animals, insects, and parasites.

EMC-0306-005
Klamath RiverKeeper Program and Klamath Forest Alliance

Comment: In order for the BLM to implement the proposed action it would require a consistent annual budget at the level required to implement its' proposed program. Government budget are subject to fluctuations and shortfalls. The effective management of invasive plants can only occur if there is consistent and thorough management annually. Without persistent and thorough annual management the program can not be successful.

Response: See responses to Comment RMC-0038-009 under PEIS Alternatives, Vegetation Treatment Planning and Management and Comment RMC-0144-025 under PEIS Alternatives, Vegetation Treatment Planning and Management.

EMC-0306-006
Klamath RiverKeeper Program and Klamath Forest Alliance

Comment: The use of herbicides will eliminate various other non-target plants on the application sites. Reducing desired native plant population and concentrations will create a condition that increases the potential and likelihood for invasive plants. Furthermore, the ineffective control of invasive plants by using herbicides will result in the development of herbicide resistant invasive plants.

Response: See response to Comment EMC-0646-191 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding the types of vegetation targeted by herbicides. Herbicide resistance is the inherited ability of a plant to survive

an herbicide application to which the wild-type was susceptible. Resistant plants occur naturally within a population and differ slightly in genetic makeup but remain reproductively compatible with the wild-type. Herbicide resistant plants are present in a population in extremely small numbers. The repeated use of one herbicide allows these few plants to survive and reproduce. The number of resistant plants then increases in the population until the herbicide no longer effectively controls the weed. Herbicide resistance is not the natural tolerance that some species have to an herbicide. The appearance of herbicide-resistant weeds is strongly linked to repeated use of the same herbicide or herbicides with the same site of action in a monoculture cropping system or in non-crop areas.

See Comment EMC-0267-007 under PEIS Alternatives, Herbicide Modes of Action and Treatment Methods for strategies to minimize development of resistant weed species.

EMC-0306-015
Klamath River Keeper Program and Klamath Forest Alliance

Comment: To achieve effectiveness, all BLM Programs/Projects must clearly identify the Goals and objectives, including the desired future condition. The desired future condition needs to identify what plant community (native or not) is needed at each site. A plant community that best meets the goals and objectives needs to be part of the desired condition. Identification of the type of ecosystem being managed will help provide varying direction. Ecosystem ex: Agricultural, Urban/Suburban, and Wildland. All laws, regulations, and policies need to be followed.

Response: The Draft PEIS addresses the use of herbicides as a tool to treat vegetation. Goals, objectives, and desired future conditions are expressed in the controlling local land use plan that provides the context for any proposed vegetation treatment, as discussed under Scope of Analysis in the Decisions to be Made and Scope of Analysis section of Chapter 1 of the PEIS. This PEIS does not make any land use decisions or allocations.

EMC-0306-016
Klamath River Keeper Program and Klamath Forest Alliance

Comment: To achieve effectiveness, all BLM Programs/Projects must develop a comprehensive strategy, that identifies all of the integrated elements, including a cost benefits analysis and the level of success that is expected. (See SRRC [Salmon River Restoration Council] 13 Steps Program at www.srrc.org or in its' brochures and handouts). Proven methods need to be utilized, where appropriate. Strategies need to include various assessments and recommendations including: identifying what values needs to be protected and restored; what are the risks associated with the noxious weeds; opportunities and constraints; short and long term cost of management, and timeline of actions to be taken. Action Plans must include tasks such as: preventing the spread at all levels; stakeholder education; coordination /communication; completing a comprehensive inventory of all prioritized species; developing annual work plans for each species; tracking and effectiveness monitoring; and an inclusive program that covers all of the vectors and emphasizes early detection, rapid, response, thorough and persistent treatment, zero seed prescription, and uses the most appropriate tool. Each population needs to visited at least 3 times a year and have at least 2 sets of eyes per visit. Many species need to be managed year round. All life stages need to be easily identified.

Response: See response to Comment RMC-0049-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated. Local land use and activity plans guide and outline the strategies for local action plans. The frequency of visits to monitor plant populations is based on the site-specific analysis and the goals and objectives that the project is designed to meet.

EMC-0306-017
Klamath River Keeper Program and Klamath Forest Alliance

Comment: To achieve effectiveness, all BLM Programs/Projects must include a strategy that includes the management and evaluation of all of the invasive plant species present at the 4th or 5th Field Watershed scale, which may include more than one planning unit and managing agencies jurisdiction.

Response: See response to Comment EMC-0306-016 under PEIS Alternatives, Vegetation Treatment Planning and Management. BLM watershed evaluations are conducted at the Hydrologic Unit Code (HUC) level appropriate to the scale of the evaluation. Typically this is at the 4th or 5th Field Watershed scales.

EMC-0306-018
Klamath River Keeper Program and Klamath Forest Alliance

Comment: To achieve effectiveness, all BLM Programs/Projects can not just manage a single species of prioritized invasive species. A full community of invasive species needs to be managed simultaneously.

Response: See response to Comment RMC-0049-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated. The PEIS does not propose management of any single prioritized species. The BLM manages across a full range of vegetation types. Priorities for management are determined through local land use, activity, and project planning.

EMC-0306-020
Klamath River Keeper Program and Klamath Forest Alliance

Comment: To achieve effectiveness, all BLM Programs/Projects must have a means of support that can insure the level of treatment to achieve the desired level of control. Approach needs to be consistent with the areas customs and culture, as well as be received with acceptance and support by the local community.

Response: See responses to Comment EMC-0306-016 under PEIS Alternatives, Vegetation Treatment Planning and Management and Comment RMC-0049-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0343-001
Lockhart, Mary Ann

Comment: The plan as described sounds as if you are "throwing out the baby with the bath," This plan suggests wholesale spraying without doing the necessary preliminary precise identification of what invasive [species] you will be dealing with and what herbicide would be the most effective without being destructive of everything else.

Response: See Response to Comment EMC-0486-020 under PEIS, Alternatives, Vegetation Treatment Planning and Management. Treatments under an IPM framework require such identification of the species and the most effect and appropriate herbicide.

EMC-0446-006
The Nature Conservancy

Comment: We are concerned that the proposed major expansion of vegetation treatments on public land by the BLM discussed in the Draft PEIS and PER is not supported by identified ecological goals for each ecoregion, restoration objectives for individual plant communities, adequate mandatory guidelines for selecting and applying appropriate treatment methods, and appropriate monitoring strategies at multiple scales that will measure both accomplishment in meeting restoration objectives as well as effects to other resources. We will discuss these concerns in more detail for each document in the sections below.

Response: See response to Comment EMC-0446-071 under PER Vegetation Treatment Programs, Policies, and Methods, Monitoring.

EMC-0446-013
The Nature Conservancy

Comment: Altered landscapes: The PEIS and PER need to acknowledge that there are significant areas on public land that are so highly altered that they are not economically or practically recoverable. For example, in areas of significant downy brome (*Bromus tectorum)* infestation, inappropriate (prescribed fire) or insufficient (plowing or tilling without appropriate native plant restoration techniques) actions in these areas may cause increases in downy brome infestation and fire frequency. Guidance needs to be provided for areas where specific treatments are not appropriate in specific ecosystems, for example, restricting the use of prescribed fire in sagebrush plant communities below elevation gradients where downy brome is most likely to invade.

Response: See response to Comment RMC-0049-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated. Parameters for the use of specific techniques for vegetation control are developed at the local planning level based on site-specific conditions and the identification of highly altered landscapes where certain treatment techniques may not be advisable.

EMC-0446-045
The Nature Conservancy

Comment: The PER should include ecologically-based goals for restoration that quantify desired outcomes. The PER should describe how the BLM intends to measure goals to "sustain the condition of healthy lands, and, where land conditions have degraded, to restore desirable vegetation to more health conditions" (PER 4-32). These goals, objectives, priorities and strategies should be based on the best available science for the specific plant communities scheduled for treatment not on general concepts of fire risk and fuels treatment drawn from other habitat types.

Response: See response to Comment EMC-0446-050 under PEIS Alternatives, Site Selection Methods.

EMC-0486-020
Siskiyou Project

Comment: Passive restoration needs to take place, stop the logging and reduce the grazing cattle among other things. "Prevention and early detection is the cheapest and most effective wed control method. Prevention and early detection strategies that reduce the need to vegetative treatments for noxious weeds could lead to a reduction in the number of acres treated for noxious weeds in the future by reducing or preventing their establishment" (DEIS [Draft PEIS], p. 2-16). In addition, "There are several drawbacks and limitations to herbicide use … Weeds may develop a resistance to a particular herbicide over time" (DEIS [Draft PEIS], p. 2-14) and therefore chemical treatment should only be considered as a very last resort.

Response: The BLM agrees that prevention and early detection is the cheapest and most effective form of weed control. In those instances where weeds have become established, a vegetation treatment using one or more methods is employed. The BLM follows an integrated approach to vegetation treatment, commonly called integrated pest management (IPM) or integrated weed management (IWM), and recognizes this approach as the most effective approach to treating vegetation. An underlying principle of IPM is to utilize available tools for vegetation treatments in a manner that emphasizes the appropriate tool or method(s) for any particular project or circumstance. There is no priority order implied in using mechanical, manual, biological, fire, or herbicide treatments, or passive treatments. In some cases, a combination of methods may be appropriate for a given situation, such as use of mechanical methods in combination with fire, or use of a pre-emergent herbicide following a prescribed fire or wildland fire to prevent or reduce invasion by downy brome. In other cases, a method may not be appropriate for a situation, such as herbicide spraying near human habitation, or using prescribed fire within a wildland

urban interface, where the risk of harm or damage to people and structures is likely. In some cases a small weed infestation may be effectively eradicated using herbicides first, ending the risk of invasive species spread altogether for that area. In each situation, a project plan is developed, appropriate risk analysis is undertaken and a method is selected through site-specific NEPA analysis. In this manner, the decision-maker has a full array of tools to choose from to best meet the needs of the situation. To mandate use of chemicals as a last resort only does not provide the early detection and rapid response flexibility needed to address vegetation problems.

EMC-0496-001
DeLong, Colleen

Comment: Please address the invasive species problems on the lands you manage carefully and with a strong land stewardship ethic. Please do not focus only on only short term goals of cattle production. Consider the whole picture, including soil and water quality, wildlife habitat, and restoring native plant communities, and long-term ecosystem health.

Response: As discussed in Chapter 2 of the PEIS and PER, multiple programs within the BLM have an interest in land management and stewardship. The PEIS and PER describe the benefits to plants and humans and other animals that use public lands, and little effort was spent on vegetation management for cattle production. As noted in Chapter 1 of the PEIS under Scope of Analysis, the PEIS does not address vegetation treatments exclusively designed to promote livestock forage. If one reviews the topics covered in Chapters 3 and 4 of the PEIS and PER, it becomes evident that these documents address a diversity of resources.

EMC-0496-004
DeLong, Colleen

Comment: Follow best management practices for timing and dosage for all herbicides, and use herbicides only in conjunction with an integrated pest management approach that also uses other tools such as mechanical control, controlled burning, and carefully screened biological control organisms. Minimize use of any herbicide that is a known groundwater contaminant, developmental or reproductive toxin, acutely toxic, carcinogen or endocrine disruptor. Take strong steps to avoid harming wildlife, by evaluating non-target impacts and taking a realistic look at the dangers of combinations of chemicals and of "inactive" ingredients like surfactants. Halt aerial spraying.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation. Best management practices and mitigation measures to protect resources, including groundwater and wildlife, during herbicide applications are identified in Tables 2-8 and 2-9 of the PEIS. Risks to wildlife from combinations of chemicals and inactive ingredients were discussed in the ecological risk assessments prepared for each herbicide in support of the PEIS. Under Alternative D in the PEIS, aerial spraying would not be allowed on public lands.

EMC-0499-006
Knight, John

Comment: Below is the integrated weed management definition found in Section 7270.5 of the California Food & Agriculture Code, Division 4, Part 4 Weeds, Article 1.7 Noxious Weed Management. It reads in whole: For the purposes of this article, "integrated weed management plan" means an ecosystem-based control strategy that focuses on long-term prevention of weeds through a combination of techniques, such as biological controls, judicious use of herbicides, modified land management, and cultural practices, and where control practices are selected and applied in a manner that minimizes the risks to human health, nontargeted organisms, and the environment. This definition would be a good standard to follow regarding the complicated issue of invasive species.

Response: The PER focused on a program of integrated weed management that included prevention and use of several control methods (manual and mechanical methods, fire use, biological control, and use of herbicides). As the PEIS focused specifically on herbicide treatments, it was not clear to many readers of the PEIS that herbicide treatments were but a small part of the BLM's overall vegetation management program. A discussion of integrated weed management principles and strategies has been included in Chapter 2 of the Final PEIS under Integrating Vegetation Treatments.

EMC-0503-015
John Day-Snake Resource Advisory Council

Comment: It is far more controversial addressing the use of herbicides to treat unwanted vegetation to reduce plant competition and enhance the growth of desired species than to control noxious weeds. The use of herbicides for wildland reduction of native species is highly controversial and either this use should be removed from the document or carefully justified. Using herbicide in this manner directly resulted in the lawsuit in Oregon, which completely eliminated the use of herbicides on public lands. Why risk the continuance of the injunction?

Response: See responses to Comment RMC-0049-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated and Comment EMC-0646-174 under PEIS Environmental Consequences, Cumulative Effects Analysis.

EMC-0503-016
John Day-Snake Resource Advisory Council

Comment: There should be more emphasis placed on developing weed management plans that would outline priority strategies, monitoring and delineate treatment recommendations based on the biology of the invasive species.

Response: See responses to Comment RMC-0205-013 under PEIS Alternatives, Vegetation Treatment Planning and Management and Comment EMC-0446-071 under PER Vegetation Treatment Programs, Policies, and Methods, Monitoring.

EMC-0505-008
U.S. Environmental Protection Agency

Comment: All management options outlined in the PEIS and PER have potential advantages and risks, and herbicide use is no exception. Based on significant increases of herbicide use described in the PEIS there is the potential for increased impacts to surface and ground water, drinking water, protected beneficial uses, and non-targeted flora and fauna. With respect to ground water recharge, herbicides which photo- or bio-degrade may be problematic if they end up in an abiotic subsurface zone. Other effects such as plant reproductive, endocrine and secondary effects are now understood as potential problems. With this in mind, we suggest that if a risk analysis reveals a potential adverse impact to surface or ground water quality, and particularly in recharge areas or source water watersheds, associated to using an herbicidal method over non-herbicidal, extra consideration should be given to the better understood option, with the least risk potential. In most cases this would be a non-chemical approach, as the risks from non-herbicidal management methods are generally better understood.

Response: As discussed in Chapter 2 of the PEIS under Site Selection Priorities, the BLM would take actions to minimize the need for vegetation controls, use effective non-chemical methods of vegetation control, use herbicides only after considering the effectiveness of all potential methods, and prioritize treatments based on their effectiveness and their likelihood of having minimal impacts on the environment. The purpose of the PEIS and PER is to identify the risks and benefits of using each treatment method, in different regions of the country and for different types of land management, so that BLM land managers can use the most suitable treatment option.

EMC-0505-016
U.S. Environmental Protection Agency

Comment: BLM proposes a three-fold increase in the amount of land proposed for fuels management. To achieve this endpoint the Final PEIS might address the major variables taken into consideration and resources needed to implement this goal, e.g., weather, moisture content, winds, other fire/activities, smoke direction, and availability of manpower.

Response: Based on the major variables noted, the commenter suggests that all acres will be treated through prescribed burning. Prescribed fire is but one of five treatment methods the BLM would use to treat vegetation (see Chapter 2 of the PER for a description of the treatment methods). Certainly the number of acres treated and treatment method utilized will be dependent on a host of variables, including, to name a few, funding availability, prescribed burning windows, and NEPA decisions, as well as those mentioned in the comment. All of these factors will be taken into consideration as specific projects are conceived and planned.

EMC-0508-003
Bockness, Scott (Montana Weed Control Association)

Comment: [The Draft] BA [Biological Assessment] at [page] 1-1: "At the time earlier EISs were completed, the BLM was proposing to treat only about 16% of the total acreage that would be treated under the program that is now being proposed". This exposes the fallacy of the BLM claim that the old EISs covered the effects of the non-herbicide vegetation treatments to be conducted.

Response: The previous EISs addressed the use and effects of non-herbicide treatments in the areas for which the EISs were developed. The use of non-herbicide methods in an integrated pest management framework has been affirmed in all past EISs, based on impact analysis. This PEIS does not propose any new decisions relative to the use of non-herbicide treatments. The determination of acres assessed in this PEIS is discussed under Determination of Treatment Acres in Chapter 2 of the PEIS. Although the acres identified for analysis exceed estimates of earlier EISs, the actual number of acres treated is dependent upon the goals and objectives identified in individual land use plans, many of which are still in place since the previous EISs were developed. This PEIS does not authorize specific treatments nor increase the rate of treatments over current implementation. The impacts relative to non-herbicide treatments are estimated to be the same as the impacts identified in previous EISs.

EMC-0525-055
Western Watersheds Project

Comment: BLM's [P]EIS and PER, by proposing profligate use of non-selective fire, chaining or herbicides in pinyon-juniper or western juniper communities will kill shrubs, too. Nowhere does BLM provide a protocol for determining the best or most appropriate treatment methods to be used, or for avoiding old growth or mature plant communities. This is precisely the type of information and analysis that the [P]EIS should have provided, but it has failed to do so.

Response: Additional guidance is provided in Chapter 2 of the Final PEIS/PER under Vegetation Treatment Methods, although it is presented at a broad, programmatic level. Implementation planning is tied to goals and objectives (i.e., desired outcomes) set at the regional/local land use planning level. During implementation planning, prioritization will be developed in order to effectively restore ecosystem processes specific to the plant communities where the actual implementation will take place.

EMC-0541-014
Associated Oregon Loggers

Comment: Herbicide use & application warrants different/special consideration within "wildland-urban interface zones" and "ownership perimeter zones", located near BLM forest boundaries [1-2 miles]. Such "ownership perimeter zones" would address the forest protection values of adjacent non-federal landowners [wildfire, pests, invasives, etc], and the impact of lacking BLM management on these

neighboring non-federal lands. There are significant private timberland holdings in Oregon's alternating BLM sections in the checker-board O&C [Oregon and California] ownership. Wildfire and pest hazards on BLM forests are a clear & present danger to neighboring non-federal lands. These BLM "perimeter areas" should be placed into a category that allows application of a full array of management tools including full use of the array herbicides and application methods.

Response: Chapter 1 of the PER proposes that the BLM use a wide array of treatments to reduce wildfire risk and to restore forest and rangeland health. Decisions concerning treatment objectives and which type of treatment would best accomplish the treatment objective will be made by the local BLM decision-maker based on information obtained through local analysis and public involvement. BLM managers are directed to work closely with local stakeholders, including adjacent land owners, in developing treatment alternatives.

EMC-0563-003
Hupp, Kevin L.
(Lincoln County Noxious Weed Control Board)

Comment: I would also add that you need a sufficient number of staff to carryout these activities. You currently have an understaffed program here in Washington State. One person in the field cannot keep up with the 75,000 acres in Lincoln County let alone the acreages in other Counties. You won't see anything getting accomplished by continuing that way of management.

Response: Staffing for vegetation management activities and multiple use activities is based on available appropriated funding. The BLM recognizes the need to provide additional staff resources, and to utilize partnerships and contracting to meet its vegetation management needs.

EMC-0575-004
Davlantes, Nancy

Comment: These public lands need long-term management strategies that will restore native ecosystems, not simply attempts to eliminate invasive plant species. The Programmatic Environmental Report (PER) that was issued along with the PEIS does nothing to remedy these shortcomings; it simply addresses treatments other than herbicide spraying that may be used to control invasive plants.

Response: Elimination of invasive species is unrealistic, and is not a stated goal of the PEIS. Long-term management strategies are outlined in local land use and activity plans. The PER is not intended to be a strategy or management plan. The PER discloses the effects of non-chemical methods on public land resources.

EMC-0584-046
Western Watersheds Project

Comment: BLM can not use "natural fire regimes", historical ranges of variability and other models as a basis for any fire planning. The potential for anything resembling a "natural "fire regime has been drastically altered by 150 years of livestock grazing and other disturbance so that natural fire regimes no longer exist in many areas. The imposition of the disturbance that would mimic a natural fire cycle is likely only to further degrade values of public lands – soil water, watershed, wildlife and important and T&E [threatened and endangered] species habitats. As part of its assessment, BLM must first determine the current condition of all the vegetation communities in the affected lands. This information must be newly collected as part of this process, since most BLM inventories, especially in these lands with ancient [Land Use Plans] LUPs, are nearly 25 or more years old. This necessary is critical to understanding the risks of any treatment disturbance to these lands.

Response: This is exactly the process BLM will be using. As discussed in Chapter 2 of the PEIS under Vegetation Treatment Planning and Management, key resource elements such as plant community types, aquatic habitats, sensitive species, and

invasives are inventoried and mapped regionally, district-wide, and locally. This inventory and mapping is done in an effort to identify areas of high ecological integrity, to ensure suitable habitat exists, to identify areas where land uses are incompatible with long-term ecosystem health, and to identify areas that could benefit from vegetation treatments. Different scales of inventory and mapping allow managers to better understand how proposed projects fit in with vegetative conditions at different scales.

EMC-0584-068
Western Watersheds Project

Comment: BLM's vegetation efforts can not be limited to disturbance-style treatments alone. Plant communities which are still healthy should be managed in a way to effectively: 1) prevent their conversion to weed-dominated communities; 2) prevent loss of biodiversity; 3) prevent changes in their fire frequencies and intensities; 4) prevent the conversion of shrub lands to woody thickets. BLM's DEIS [Draft PEIS]/PER ignores analysis of a range of prevention-based Alternatives.

Response: See responses to Comment RMC-0167-007 under PEIS Alternatives, Vegetation Treatment Planning and Management, Comment RMC-0218-005 under PEIS Proposed Action and Purpose and Need, Scope of Analysis, and Comment RMC-0218-030 under PEIS Alternatives, Description of the Alternatives.

EMC-0584-078
Western Watersheds Project

Comment: Any habitation interface projects must focus on projects at the actual interface with inhabited lands. This is an area of 1/8 mile or less. Any interface projects must be tied to private landowners taking strict efforts to control any fire danger on their own private lands. Intensive wildland-urban interface treatments include thinning, pruning, mowing, roof cleaning, replacement of flammable landscape and building materials). These actions should be limited to the interface, and the private property, and be use to create 1/8 mile of defensible space. In reality, the interface is to be the area where most federal fire funds are being spent. Instead, BLM across-the-board is roaming far from any real interfaces in projects being conducted.

Response: See response to Comment RMC-0221-046 under PEIS Alternatives, Vegetation Treatment Planning and Management. BLM funding guidance is very clear in directing which funds are to be expended in the wildland urban interface (WUI) and which funds are to be used to treat areas outside of WUI. Expenditures are monitored closely for compliance with established guidance.

EMC-0584-079
Western Watersheds Project

Comment: As part of this EIS, BLM should provide detailed maps of all interfaces, and a list and report of all criteria used to determine the existence of an interface.

Response: There are several ways to determine what is included in wildland urban interface (WUI) and what is not. The WUI has been defined in *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan* (USDI and USDA 2006a) and *Protecting People and Sustaining Resources in Fire Adapted Ecosystems: A Cohesive Strategy* (USDA and USDI 2006b) as "the line, area or zone, where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuel." The other way a WUI boundary can be determined is through the development of a Community Wildfire Protection Plan (CWPP). These plans are developed by local communities with participation by state and local wildland fire agencies. Critical infrastructure such as powerlines, roadways, and critical watersheds may be incorporated into a WUI defined as part of a CWPP. CWPPs allow for a localized definition of WUI to be developed. Guidance for defining WUI is also provided in the *Healthy Forests Restoration Act of 2003* to be used in the absence of a

CWPP. The variation in WUI definition across the country allows for local issues to drive WUI definition, but makes national mapping of WUI difficult, and is not required for a reasoned choice among alternatives regarding herbicide use at this national scale.

EMC-0585-175
Western Watersheds Project

Comment: [Page] B-30 [of Appendix B of the PEIS] provides no clear protocol and decision making process or framework for BLM to follow in either determining treatment method, chemicals to be used, or application methods to be used. A "pretreatment survey" does not provide adequate assurance that public safety and the health of the environment will be adequately protected. This is particularly the case as BLM may be increasingly relying on local weed districts or public lands permittees in weed applications.

Response: Additional guidance on prioritization is provided in Chapter 2 of the Final PEIS and PER under Site Selection and Treatment Priorities, although it is still at a broad, programmatic level. During implementation planning tied to goals and objectives (i.e., desired outcomes) set at the regional/local land use planning level, detailed prioritization will be developed in order to effectively restore ecosystem processes specific to the plant communities in which the actual implementation will take place.

Public scoping and analysis concerning public and environmental health will take place at the local project level. Risk assessments and pre-treatment surveys will provide necessary data for the analysis needed to develop projects that provide adequate assurances.

EMC-0590-010
Western Slope Environmental Resource Council

Comment: The PEIS as presented is only one component of what should be a much broader approach to the issue of unwanted vegetation on BLM lands. Vegetation management needs to take into account the conditions that have led to the vegetation problems, and present methods for *preventing* those problems, as well as methods for *restoring ecological integrity* to sites where vegetation problems exist. The PEIS as it is presently configured addresses only the some of the issues associated with short-term treatments. Prevention and restoration are not addressed.

Response: The PEIS presents a detailed analysis of the herbicide component of an integrated pest management strategy for controlling unwanted vegetation. The PER presents additional information on other methods of non-herbicide control. Prevention and revegetation are discussed under Vegetation Treatment Standard Operating Procedures and Guidelines in Chapter 2 of the PEIS and PER. Integrated pest management is a long-term strategy for vegetation control which adapts control techniques according to the success of the project and need for additional actions. For example, an herbicide may be used to gain initial control of a weed infestation and then other treatment methods, such as insects or pathogens, applied to control and reduce the infestation over the long term to meet resource objectives as articulated in land use plans.

EMC-0590-012
Western Slope Environmental Resource Council

Comment: Any consideration of options at a site-specific level should be based in science, and should also consider whether the approach is a short-term "fix" or part of a long-term management plan that is expected to improve habitat and resource conditions. It does no good to wipe out an entire area (including non-target species) to attempt eradication of an invasive species, and by so doing create conditions that allow recolonization by the same or another offensive invasive.

Response: See response to Comment RMC-0126-002 under Proposed Action and Purpose and Need, Scope of Analysis Also see response to Comment EMC-0590-010 under PEIS Alternatives, Vegetation Treatment Planning and Management. BLM vegetation treatment projects are developed within the context of the long-term goals and objectives of land use plans and any applicable activity level management plans for the area under consideration. In this context, all vegetation treatments are accomplished for long-term management objectives, not a short-term "fix." For example, hazardous fuels reduction activities are conducted for the long-term management of fuels and to reintroduce fire into ecosystems where it has been previously excluded. Invasive species and noxious weed prevention and control activities are conducted for the benefit of restoring long-term ecological function of an area. There are no proposals to wipe out entire areas of all vegetation, including non-target vegetation, in an attempt to eradicate invasive species. Total eradication of invasive species is an unrealistic goal and is not a stated goal of this PEIS. Vegetation treatment projects are designed with rehabilitation and restoration goals identified in land use plans and other activity-level management plans. Treating vegetation in such a manner as to create conditions for re-colonization of any invasive species would be self-defeating.

EMC-0590-013
Western Slope Environmental Resource Council

Comment: A no-herbicide alternative is included in the Vegetation Treatment proposals as "Alternative C". While we are very concerned about the impacts of herbicides on our ecosystems, and are supportive of the spirit of Alternative C, we recognize that there are specific and isolated instances where a controlled judicious application may be warranted. In such cases, follow-up on the efficacy of a treatment and the ecological effects of that treatment on all affected organisms should be performed. Based on the application options presented in the DEIS [Draft PEIS], we are requesting that that no applications using aerial deposition methods (from an airplane or helicopter) or large-area applications (greater than five contiguous acres) using boom/broadcast methods be allowed at any time. In those instances where Alternative C is not feasible and all other non-chemical options have been explored, we allow that spot applications delivered by boat, horse or human application vehicles may permitted. We request that the outcomes of such spot applications be monitored and analyzed for at least three years to assess the impacts on diversity of native species, attainment of ecologically effective densities by interactive species, and resilience of sensitive species and any impacted organisms.

Response: Please see response to Comment RMC-0049-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated. Monitoring requirements for any particular vegetation treatment project are determined through local project planning and NEPA analysis and will follow established monitoring procedures appropriate to the site-specific conditions and circumstances.

EMC-0590-014
Western Slope Environmental Resource Council

Comment: We are also concerned regarding the management context in which vegetation treatment decisions are made. As is emphasized in the Restore Native Ecosystems Alliance Alternative (Draft PEIS, Volume 2, Appendix H), we request that there be written into the DEIS [Draft PEIS] an explicit incorporation of an emphasis on diversity of native species, attainment of ecologically effective densities by interactive species, and resilience of sensitive species and any impacted organisms as an overall management goal in managing vegetation for fire suppression or invasive species control.

Response: Management goals and objectives are properly determined in land use plans and subsequent activity level management plans for a particular resource or program. Setting overall vegetation management goals is outside the scope of this analysis. See Scope of Analysis in Chapter 1 of the PEIS. The PEIS examines the use of herbicides, in particular four herbicides not previously approved for use, in the context of vegetation treatments proposed to meet the management goals stated in the guiding land use plans.

EMC-0623-008
Defenders of Wildlife

Comment: Best Practices for Pesticide Application and Other Control Methods. The BLM should establish a goal of using the minimum effective dosage, and develop protocols related to application methods and timing to reach this goal. The BLM should also utilize alternatives to pesticides wherever feasible.

Response: Under the Vegetation Treatment Planning and Management section of Chapter 2 of the PEIS, the vegetation treatment priorities are identified, with the overriding goal being to "treat vegetation on lands only where necessary, and to prioritize treatment methods based on their effectiveness and likelihood to have minimal impacts on the environment." Table 2-8 of the PEIS points out how the goals identified will be addressed, which include using the proper amount of chemical needed to complete the task. Also see response to Comment EMC-0641-018 under PEIS Alternatives, Site Selection Methods.

EMC-0623-010
Defenders of Wildlife

Comment: Wildlife Recovery. The BLM should use this planning process as an opportunity for the recovery of the full range of native species and ecosystems across these western states. Species such as the sage grouse, white-tailed prairie dog, black-footed ferret, Columbia spotted frog, Washington ground squirrel, and desert yellowhead are threatened, at least in part, because of damaging land management practices. To this end, this analysis should consider how the full range of land use impacts has led to the decline of such species and ecosystems. The analysis should consider, for example, the impacts of livestock grazing, motorized vehicle use, recreation, energy exploration and development, logging, fire suppression, and mining.

Response: An important objective of the BLM vegetation treatment program is to restore ecosystem health on degraded lands for the benefit of all species and ecosystems, as discussed in Chapter 1 of the PEIS under Purpose and Need for the Proposed Action. Also see Comment RMC-0126-002 under Proposed Action and Purpose and Need, Scope of Analysis

EMC-0646-187
Californians for Alternatives to Toxics

Comment: Integrated Weed Management (IWM) is a subset of integrated pest management (IPM), and frequently referred to by the BLM in regards to invasive weed management plans. The California Department of Pesticide Regulation calls IPM a widely accepted approach to pest management that results in effective suppression of pest populations while minimizing human health and environmental hazards. Yet the BLM is disregarding public health, instead proposing actions focused on killing as much unwanted vegetation as quickly as possible, while incorrectly claiming it uses IPM to deal with unwanted vegetation.

Response: The PEIS does not propose to kill as much unwanted vegetation as quickly as possible. Public health and human health risks are extensively evaluated in the PEIS, including Human Health Risk Assessments. BLM agrees with the CDPR views on IPM and IWM. Chapter 2 of the PER addresses how the various management options will be utilized under Vegetation Treatment Methods, pointing out that, "in an integrated weed management program, each management option is considered,

recognizing that no one management option is a stand alone option and that each has its own strengths and weaknesses." As defined in the Departmental Manual 517, "Integrated Pest Management is a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks." (7 U.S.C. 136r-1). Also see response to Comment EMC-0641-018 under PEIS Alternatives, Site Selection Methods.

EMC-0646-189
Californians for Alternatives to Toxics

Comment: CATs [Californians for Alternatives to Toxics] is concerned that the BLM has failed to discuss and disclose established weed treatment threshold levels for this project. The BLM needs to establish that current treatments are failing to control weed infestations at pre-established threshold levels before considering the use of toxic chemicals. CATs also expects the BLM to quantify any weed increases above threshold levels. How much are populations increasing? How big were infestations when treatments began and how big are they now? Where are the monitoring results to determine whether past treatments have been effective or if new treatments are needed?

Response: See responses to Comment EMC-0646-174 under PEIS Environmental Consequences, Cumulative Effects Analysis; Comment EMC-0646-182 under PEIS Environmental Consequences, Vegetation; and Comment RMC-0126-002 under Proposed Action and Purpose and Need, Scope of Analysis

EMC-0646-191
Californians for Alternatives to Toxics

Comment: The key to any IPM [integrated pest management] strategy is to know the ecology, biology, and life cycle of the invasive species. "Integrated pest management is a proven approach to managing pest problems, including invasive nonnative plants. Integrated pest management is based on a sound understanding of the ecology and biology of a pest and its environment" (Andrascik et al. 1996). This is something the BLM must do and include within NEPA documentation prior to evaluating control plans. The BLM has failed to even identify the primary species targeted for herbicide spraying. How the species reproduces, spreads, and colonizes are all essential information. Some species are know for being prolific seed producers and maintaining extensive seed banks, while other reproduce vegetatively and can clone themselves.

Response: The BLM has expanded upon the information on vegetation treatment guidelines, including the use of an IPM strategy, in Chapter 2 of the Final PEIS under Vegetation Treatment Planning and Management. Much of this information was provided in the PER, where all treatment methods are discussed that would be used as part of an IPM strategy. As part of the strategy, the BLM would evaluate the ecology of the invasive species before selecting a treatment method and application strategy. The BLM has revised Table 2-3 in the Final PEIS to show the primary species targeted for each herbicide.

EMC-0646-198
Californians for Alternatives to Toxics

Comment: Other management methods recommended by experts and ignored by the EA [PEIS] for evaluation and analysis are tilling, mowing, grazing, and prescribed burning. Mowing, a cost effective late season tool, is also a popular treatment method (DiTomaso 2001). Properly timed mowing (or weed whacking) can limit YST [yellow starthistle] ability to produce seeds, provide excellent control, and reduce seed banks and populations. The BLM should at the least be considering an integrated method alternative that combines mowing, grazing and hand pulling with revegetation efforts.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0646-225
Californians for
Alternatives to Toxics

Comment: Although the proposed actions are rehabilitative and preventative in nature, plans for consistent long-term maintenance need to be implemented for proactive management. The proposed actions intend to return the BLM lands to pre-historical natural conditions. But without changes in future management, the existing conditions will likely return with more severity. Specifically, the Forest should include consistent prescribed burning as an element of their typical management practices. We hope that the BLM evaluate and incorporate a maintenance strategy, founded on prescribed burning, into the proposed action plan. The restoration of a site to pre-historically natural conditions is unlikely to be achieved with the omission of a reoccurring fire regime. We fear that negligence of future maintenance could lead to circumstances where the BLM incorrectly feels that chemical treatment of vegetation would be the only viable solution. We are opposed to any land management actions that will likely lead to future vegetation management strategies dependent upon herbicides.

Response: The BLM agrees that maintenance of restored landscapes is an important component of ensuring the long-term success, viability, and resilience of plant communities. Maintenance of vegetation treatments is one of the assumptions used in the cumulative impacts analysis of the PEIS. Some areas may not be appropriate for maintenance through prescribed fire in every case. Local Fire Management Plans (FMPs) identify areas where prescribed fire and fire use for resource benefit are appropriate or not allowable. Also see response to Comment RMC-0049-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

The Vegetation section in Chapter 3 of the PEIS and PER provides a discussion on fire ecology by major plant community type. It includes discussions on altered fire regimes and causes of noxious weed and other invasive species expansion. As discussed under Prevention and Early Detection in Chapter 2 of the PER, the BLM acknowledges that weeds colonize highly disturbed ground as well as degraded plant communities or even intact communities. This section reiterates that the BLM is required to develop a noxious weed risk assessment when an action may introduce or spread noxious weeds, that modification of actions must take place to reduce likelihood of infestations when the risk is determined to be moderate or high, and that control measures must be implemented if weeds do infest the site. This direction, as well as direction for monitoring post-treatment, is part of BLM policy in BLM Manual 9011, which is focused on changing the current trends of increasing exotics.

EMC-0646-231
Californians for
Alternatives to Toxics

Comment: The goal of a control program could be to eradicate completely a plant everywhere, it could be to eradicate it only in a specific area, or it could be to reduce its population to a level that does not significantly displace native flora and fauna (Dahlsten et al. 1989). The Draft PEIS does not make this analysis. Furthermore, it does not provide an adequate system for making decisions for each site. How can BLM staff prepare NEPA documents in the future when they have no decision making guidance in the programmatic EIS?

Response: See responses to Comment RMC-0205-013 under PEIS Alternatives, Vegetation Treatment Planning and Management and Comment EMC-0446-071 under PER Vegetation Treatment Programs, Policies, and Methods, Monitoring.

EMC-0647-004
Alaska Community
Action on Toxics

Comment: The BLM must implement vegetation management strategies with the following guidelines:

- Least disruptive of natural controls.
- Least hazardous to human health.
- Minimize negative impacts to non-target organisms, including other plants, insects, aquatic invertebrates, fish, and wildlife.
- Least damaging to ecological systems, including water quality, nutrient cycling, soil microbes, mycorhyziae, plant-animal interdependencies.
- Most likely to produce long-term solutions in vegetation control requirements.
-

Response: See response to Comment EMC-0505-008 under PEIS Alternatives, Vegetation Treatment Planning and Management.

PHC-006-004
H. McNeel

Comment: One of the other things I would like to see is a greater emphasis on your integrated weed management, how the culmination of the integrated weed management practices would strengthen, and I think it would help a great deal when it goes to the final for the people to accept it.

Response: See responses to Comments EMC-0646-187 and EMC-0486-020 under PEIS Alternatives, Vegetation Treatment Planning and Management.

RMC-0006-031
Central Sierra Environmental Resource Center

Comment: The selected programmatic alternative should require that prior to herbicide treatments, a specific, feasible plan be in place to prevent re-introduction of the same species or introduction of other invasive exotic species into the project area. This could be as simple as excluding all anthropogenic vectors for invasive exotic species (people, vehicles, OHVs [off-highway vehicles], livestock, etc.) from treated sites until stable native plant and animal communities are re-established. It should also include containment of other known exotic invasive plant populations in the area.

Response: BLM Handbook H-9015.8, *Integrated Pest Management*, requires the BLM to develop a risk assessment when it is determined that an action may introduce or spread noxious weeds or when known weed habitat exists. It is also required to determine the potential for spread or introduction of noxious weed species and to prescribe follow-up monitoring and project actions necessary to reduce or prevent the spread of noxious weeds having moderate to high risk for establishment. The primary focus of a risk assessment is on each ground-disturbing or site-altering project authorized, funded, or conducted on BLM-administered lands. This requirement exists for all vegetation treatment methods, including herbicide use, and must occur prior to project approval. Exclusion of activities or resource uses from a particular area under treatment or rehabilitation is determined during risk assessment development and is in some cases mandatory by policy, such as in the case of post-fire rehabilitation where grazing by livestock and/or wild horses may be excluded for up to two growing seasons or longer to ensure establishment of desirable vegetation. Other types of closures and their duration are determined by the authorized officer and based on risk to resources.

RMC-0038-009
Albany County Weed and Pest Control District

Comment: The proposal is triple the number of acres that will be treated – but if there is no funding to do so, how will that be accomplished? Funding for noxious weed treatments in Albany County is from a 2004 budget that has hit a balance of $-120.91 for 2006. If other counties or areas are funded in the same manner, it is not possible to triple the amount of acres treated without increasing the funding on these projects. The appropriate funding should be present before proposing to increase treatments; otherwise this proposal has no legitimacy and is an unattainable goal.

Response: Funding for vegetative treatments and their monitoring, whether for hazardous fuels treatments, post fire-rehabilitation, or invasive species management, is derived through a number of BLM resource programs, including, but not limited to, Wildland and Prescribed Fire, Fuels Management and Reduction, and Emergency Stabilization and Rehabilitation, as well as other sources outside the federal government, including partnerships with counties and agencies, competitive and non-competitive grants, stewardship contracting, and other conservation programs focused on vegetation management. These outside funds are in addition to programmed or emergency funds authorized by Congress. Increased program work can also be accomplished in a variety of ways, such as community and volunteer programs, not necessarily dependant on direct funding increases from Congress.

RMC-0042-087
Asher, Jerry

Comment: "Currently, the funding and labor resources available to combat weeds dictate a containment strategy." (para 6 pg. 2-2 [of the Draft PEIS]). How will the reader know what containment means? I can't find that word defined in the [P]EIS. Explain what containment means. And, more importantly, please explain what elements of Integrated Weed Management don't get accomplished with the current funding/labor resources. Surely there is a way to word the sentences consistent with [P]EIS document guidelines, while still getting the message across about what won't be accomplished.

Response: As stated in the sentence following the above-mentioned sentence, BLM actions will be targeted at preventing the spread of weeds into the most vulnerable areas.

RMC-0057-013
California Wilderness Coalition

Comment: The D[raft] PEIS states "Vegetation treatment methods are selected based on several parameters, which may include…" (2-9). Instead of suggesting what might be used as a guide to select treatment methods, the D[raft] PEIS should lay out specific criteria to guide management decisions. These criteria should include consideration of an area's wilderness values and proximity to existing communities.

Response: See response to Comment RMC-0205-013 under PEIS Alternatives, Vegetation Treatment Planning and Management. Such planning considers special values in the project areas as well as community concerns.

RMC-0080-006
Idaho State Department of Agriculture

Comment: ISDA [Idaho State Department of Agriculture] is also aware of decreasing budgets that the BLM has had to deal with over the past several years, particularly for weed management. BLM field offices, at least in Idaho, have had to increasingly rely on cooperative ventures (i.e. CWMAs [Cooperative Weed Management Areas]) and grant money to supplement weed treatment budgets and meet target acres. This raises the questions, is the proposed amount of acres to be treated under Alternative B [in the PEIS] fiscally feasible? Will money have to be diverted from other important programs in order to effectively treat targeted acres? ISDA believes that these are valid questions that must be addressed in the PEIS.

Response: See responses to Comments RMC-0038-009 and RMC-0144-02 under PEIS Alternatives, Vegetation Treatment Planning and Management. The BLM assumes that future vegetation treatments will be based on agency priorities and available funding. The availability or amount of future funding cannot be predicted with certainty in the PEIS. Reprogramming of funds from one resource program to another can occur at the national level under extenuating circumstances with the approval of Congress. However, the BLM typically does not reprogram appropriated funds at the national level from other resource programs for on-the-ground activities

such as vegetation treatments at the field office level.

RMC-0091-008
Uintah County

Comment: Uintah County wants clear direction provided to field managers when the preferred alternative is implemented. Proper management should be the first option considered for habitat restoration, followed by biological, mechanical, then chemical, in that order. Chemical treatment should not be used as a quick fix for habitats.

Response: See response to Comment RMC-0049-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

RMC-0110-007
Cassia County Public Lands Committee

Comment: A couple of additions should be incorporated into the final EIS. The first is to increase the response to a determined need. In Appendix D [of the Draft PEIS], the process to secure a new herbicide is 2+ years. There needs to be in place an expedited procedure to approve an herbicide for use. The second addition would be to place a greater emphasis on the development of sustainable fuel breaks. This would help to return wildfires to historical size, protect property, critical habitat areas, and newly rehabilitated sites.

Response: See Response to Comment EMC-0566-008 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response. The process described in Appendix E of the of the Final PEIS is an expedited process. The BLM agrees that sustainable fuel breaks are a useful tool in managing wildfire. Fuel breaks for protection of property are proposed based on the need for wildfire defense, as identified by the local field office in collaboration with local communities. Reintroduction of fire into the ecosystem and effective progress towards moving Fire Regime Condition Class (FRCC) 3 landscapes to FRCC 2 and 1 landscapes.

RMC-0144-004
Wyoming Game and Fish Department

Comment: Many of the treatments are within Wildfire Urban Interface (WUI). We recommend more treatments following appropriate consultation on areas away from WUI areas, as they could be more beneficial to a wider array of fish and wildlife species.

Response: As discussed in the PER in Chapter 1 under Determination of Treatment Acreages, about 30% of acres treated by the Wildland Fire Management Program are for WUI-related treatments. During preparation of the PEIS, field offices were asked to identify lands proposed for treatment and treatment purpose (e.g., hazardous fuels reduction, WUI treatment, wildlife habitat improvement). Only 2% of treatments were identified to occur in the WUI, although it is highly likely that treatments identified for hazardous fuels reduction and other treatment purposes would also occur in the WUI.

RMC-0144-025
Wyoming Game and Fish Department

Comment: The BLM should include a more thorough analysis and discussion of passive management actions and post-treatment management practices to reduce the need for future re-entry treatments, reduce operational costs and effects. Given the estimates of invasive species and noxious weed spreading at a rate of 2,300 acres per day on BLM managed lands, which amounts to 839,000 acres per year, and that downy brome alone infests over 56 million acres, is the dominate vegetation on 11.4 million acres and is growing at 14% per year, that equates to approximately 784,000 acres per year. We recommend the BLM consider additional funding and personnel to address program goals and objectives especially in areas away from WUI sites and in state fish and wildlife priority areas.

Response: See response to Comment RMC-0144-009 under PEIS Alternatives, Vegetation Treatment Planning and Management. BLM budget expenditures are

guided by Administrative and Congressional direction and priorities. The BLM proactively pursues outside grant and funding sources, matching funds, and cooperative management agreements to increase its capability in terms of funding and personnel to address increased work loads to meet program goals and objectives on all public lands.

RMC-0160-003
Natural Habitat

Comment: The wide variety of herbicides, many of which will likely be highly toxic to amphibians, fish, insects, birds and on and on are not appropriate for a healthy respect for biodiversity and healthy landscapes. Biocontrols are also a concern without real testing and monitoring.

Response: As noted in Chapter 4 of the PEIS, herbicides do pose risks to plants and animals and can cause short-term loss of biodiversity. However, the spread of weeds and other invasive vegetation can also harm wildlife and their habitat and reduce biodiversity. In many situations, herbicides are the only or best treatment method available to the BLM. A discussion of the testing and monitoring protocols for biocontrols is found in Chapter 2 of the PER under Vegetation Treatment Methods, Biological Control.

RMC-0167-007
Soda Mountain
Wilderness Council

Comment: By opting to analyze only the types of herbicides that can be used on public lands, the BLM has illegally narrowed the purpose and need of the DEIS [Draft PEIS] in an attempt to limit the consideration of reasonable alternatives, such as management of the vectors and passive treatment of invasive weeds.

Response: The BLM properly scoped the project and considered all reasonable alternatives relative to the proposed action. Council on Environmental Quality (CEQ) Regulations at 40 CFR [Code of Federal Regulations] 1501.7 (3) require the agency to identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review, narrowing the discussion of these issues in the statement to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere. In this case, the issues associated with other management approaches have been previously identified and analyzed in the four EISs pre-dating this PEIS, each of which has affirmed an integrated pest management (IPM) approach. In addition, the PER accompanying this PEIS details and discusses other vegetation treatment options and their potential environmental effects. At the land use plan level, each of approximately 162 field office RMPs and their associated EISs have also outlined alternative management approaches for sustaining ecological health in a multiple use context.

See responses to Comments RMC-0167-002 and Comment RMC-0126-002 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding vectors and passive management. BLM management of vectors and passive treatment of invasive species are actions that are common to all alternatives and do not require a separate alternative. The BLM has ongoing programs under existing management that address prevention and vector management, including but not limited to such actions as pre-inventory, risk assessment, quarantine, use of weed-free forage, use of weed-free seed, stipulations to land use authorizations such as rights-of-way grants, recreational restrictions, and vehicle and equipment washing. Other programs, such as oil and gas, livestock grazing, mineral materials, and forestry, have applied stipulations, terms and conditions, and statutory requirements to prevent undue and unnecessary degradation of public lands. In addition, the BLM has ongoing early detection and control programs for invasive species where they are found. In order to ensure effective control, an IPM approach is used which includes the use of herbicides.

Proactive treatment of vegetation occurs on less than 3% of all public lands. Passive management, in some cases framed as a no project alternative, is considered as an option in all vegetation treatment proposals.

RMC-0167-013
Soda Mountain Wilderness Council

Comment: It is the hope of SMWC [Soda Mountain Wilderness Council] that the BLM take success stories, such as progress toward recovery on the former Box-O, into account when determining the extent to which passive treatments (such as resting from livestock grazing and decommissioning of roads) should be emphasized as an alternative treatment method.

Response: See response to Comment RMC-0167-008 under PEIS Alternatives, Decisions to be Made and Scope of Analysis. The BLM relies on many sources for information pertaining to potential vegetation treatments. Under an integrated pest management approach, success stories of previous and current projects are considered one of the best guides for implementing projects of a similar nature. Management actions such as resting from livestock or road decommissioning are accomplished within the constraints of the guiding land use plan and within the terms and conditions of authorizing permits. Rehabilitation actions often include a component to remove grazing and/or limit vehicular access for a limited period of time while vegetation reestablishes.

RMC-0173-002
Delles, Susan

Comment: The PEIS does not adequately address the causes of noxious Weed invasion and spread. The focus of the document is too narrow. The main causes of invasive species proliferation are: 1. Roadbuilding; 2. Logging; 3. Livestock Grazing; [and] 4. Off Road Vehicle use. These actions have been excluded for consideration in the PEIS but are major factors affecting the conservation and restoration of native vegetation, fish and wildlife habitat. Fuels/fire management, soil stabilization, and general watershed function were also left out of the picture.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes of noxious weed infestations. See the Scope of Analysis in Chapter 1 of the PEIS. Also see Relationship among Land Use, Land Use Planning, Land Health Standards, Ecosystem Functionality, and Vegetation Treatments in Chapter 1 of the PER for the relationship of this document to ecosystem functionality.

RMC-0173-003
Delles, Susan

Comment: The PEIS focuses on treating the symptoms of the problem of invasive species rather than the causes that I have mentioned above. The use of toxic chemicals to eliminate invasive/noxious species will compound the problem rather than alleviate it by contaminating soils, water and air.

Response: Herbicides have been demonstrated to be effective in the control of vegetation. See the risk modeling contained in Appendixes B and C of the PEIS for a discussion of the potential for contamination. Also see the discussion under Air Quality, Soil Resources, and Water Quality and Quantity in Chapter 4 of the PEIS for further discussion of the potential for contamination of these resources.

RMC-0173-010
Delles, Susan

Comment: Forest practices have evolved since those days. No longer are hardwoods (a major target for historical spray use) on public lands considered a weed. Many are retained on the landscape after logging operations. Although further ecological progress remains to be made in current forest management, the reduced herbicide use has eliminated a very important negative impact on our forests and streams.

Response: Herbicides remain an important tool in the management of woody species on lands that are managed for sustained yield of commercial timber and in situations where natural tree regeneration is exacerbated by the effects of uncharacteristically severe wildfire. Current information on forest development recognizes the important contributions of early seral stages to overall forest development, including nitrogen fixation, soil protection, and wildlife habitat. Under the proposed program of work outlined in the PEIS and PER, herbicides would be used primarily to control non-native species, such as downy brome and tamarask, and invasive native species that have invaded native shrublands and grasslands due to the exclusion of fire, such as juniper.

RMC-0191-005
Ertz, Brian

Comment: The RNEA [Restore Native Ecosystems Alternative] is a comprehensive programmatic approach that represents the best hope for curtailing the negative implications of invasive weeds while mitigating the destructive impacts that the Preferred Alternative inevitably entails. I hope for consideration that addresses the mitigation of causes for invasive weeds and that minimizes the anthropogenic harms associated with the herbicide and soil disturbing "treatments".

Response: See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystem alternative.

RMC-0191-017
Ertz, Brian

Comment: I ask that before administration of the Preferred Alternative takes place, real science is conducted/considered and that the questions raised here and submitted by other public interested parties be fully and genuinely considered. I hope the agency gives a better-faith consideration for these comments than they did the RNEA [Restore Native Ecosystems Alternative]. I would hope that the agency is able to consider the adverse effects that current management practices are having on invasive weeds proliferation and rather than just treat the symptoms of such mismanagement I hope that the ***causes*** are addressed and mitigated.

Response: See responses to Comment RMC-0191-015 under PEIS Alternatives, Decisions to be Made and Scope of Analysis; Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients; and Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis In the PEIS the BLM has used standard accepted scientific models and quantitative risk assessment techniques approved by USEPA. Science related to ecosystem function is less quantitative and subject to more uncertainty. See Chapter 6, References, for a listing of the scientific literature used in the development of the PEIS.

RMC-0199-003
McKay, Tim (The Northcoast Environmental Center)

Comment: I urge the BLM to consider using passive treatments as a means of preventing weed invasion and resting areas of public land where weed growth is fostered by overgrazing and rampant off-road vehicles. Furthermore, the BLM should analyze the Restore Native Ecosystems Alternative [RNEA] in the DEIS [Draft PEIS]/PER, a citizens' alternative submitted to the BLM that addresses both the causes and the effects of weed invasion and undesirable vegetation on public lands.

Response: See Response to Comments RMC-0144-009 under PEIS Alternatives, Vegetation Treatment Planning and Management and Comment RMC-0167-013 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding passive management, and response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-

inhibiting Active Ingredients regarding the RNEA.

RMC-0200-007
Lindsay, Dianne

Comment: The PEIS/PER fails to take a leadership role in managing unwanted vegetation in this 21st century of increasing global pollution and impending environmental crisis. Non chemical treatment should be obvious at this point, and agencies need to set examples for private landowners who look to you for the most informed methods.

Response: See responses to Comment EMC-0295-002 under PEIS Proposed Action and Purpose and Need, Interrelationships and Coordination with Agencies and Comment RMC-0049-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated. The BLM utilizes an integrated pest management approach to treating vegetation, which includes chemical and non-chemical treatment methods. See Chapter 1 of the PEIS, Interrelationships and Coordination with Agencies, for a description of the interrelationships among the BLM and agencies and the public, including private landowners.

RMC-0204-015
Wroncy, Jan (Gaia Vision/Canaries Who Sing)

Comment: To overgraze public lands in the name of private profit is an insult, but then to justify the use of toxic chemicals and fire to "correct" the poor condition of the land caused by overgrazing is outright assault on the owners of the land (the public) and on the environment itself as well. Therefore the omission of the alternative which would have examined the causes of the problem in the first place was a grave flaw of the Draft [P]EIS for sure.

Response: See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients.

RMC-0205-013
Oregon Department of Agriculture

Comment: Explicit decision making recommendations are needed to guide local decision making between herbicide use and non-chemical controls. On lands were herbicide use is authorized under the PEIS, the plan needs to clearly describe the decision making process and risk considerations.

Response: The Prevention of Weeds and Early Detection and Rapid Response section of Chapter 2 of the PEIS and PER reiterates that the BLM is required to develop a noxious weed risk assessment when an action may introduce or spread noxious weeds, that modification of actions must take place to reduce the likelihood of infestations when the risk is determined to be moderate or high, and that control measures to be implemented must be identified if weeds do infest the site. This direction is required under BLM Manual 9015 (*Integrated Weed Management*); direction on determining treatment method is also found in BLM policy in BLM Manual 9011 (*Chemical Pest Control*). These policies, as well as integrated weed management methods (which includes prevention techniques), are reiterated during the intensive certification training for BLM employees involved in weed management. Additional guidance is provided in Chapter 2 of the PEIS/PER, although it is presented at a broad, programmatic level. Implementation planning is tied to goals and objectives (i.e., desired outcomes) set at the regional/local land use planning level. During implementation planning, prioritization will be developed in order to effectively restore ecosystem processes specific to the plant communities where the actual implementation will take place.

RMC-0205-015
Oregon Department of Agriculture

Comment: Expanding risk management decision making process to carefully evaluate the least harmful control method for local conditions will help ensure that herbicides are used only in specific conditions where other methods are not feasible.

Response: See response to Comment RMC-0049-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

RMC-0208-003
California Oak Foundation

Comment: As discussed in more detail below, the Oak Foundation has several concerns about the sufficiency of the environmental documents prepared for this program. To summarize, the Draft PEIS fails to adequately describe the program in sufficient detail to allow meaningful public comment. For example, the extent to which the BLM may apply herbicides to BLM managed lands that contain oak woodlands or are adjacent to non-BLM managed lands that contain oak woodlands is unknowable from the data provided.

Response: The PEIS is a programmatic document broadly assessing the impacts of herbicide use on public lands resources. The unit of analysis is the ecoregion, as described in Chapter 3 of the PEIS and PER. Each ecoregion contains an assemblage of plant types, which are generally discussed under each heading. California, for the most part, falls within the Mediterranean ecoregion; the vegetation assemblages common to this ecoregion, including oak woodlands, are described under Vegetation in the PEIS. The broad scale of this analysis precludes a detailed discussion of any one particular vegetation type within an ecoregion, although examples are used where appropriate. The sizes of potential treatments were estimated from a variety of sources, as described under Determination of Treatment Acreages in Chapter 1 of the PER; this information has also been added to Chapter 2 of the Final PEIS. The PEIS does not analyze any specific vegetation treatment projects. Individual projects will have site-specific NEPA analysis conducted at such time as there is a proposal to analyze and a location has been determined. See NEPA Requirements of the Program and Figure 1-1 in Chapter 1 of the PEIS for a description of the step-down NEPA process for project analysis.

RMC-0208-019
California Oak Foundation

Comment: The Draft PEIS fails to describe the program in sufficient detail to allow meaningful public comment. For example, the extent to which the BLM may apply herbicides to BLM managed lands that contain oak woodlands or are adjacent to non-BLM managed lands that contain oak woodlands is unknowable from the data provided.

Response: See response to Comment RMC-0208-003 under PEIS Alternatives, Vegetation Treatment Planning and Management.

RMC-0214-019
Natural Resources Defense Council and National Wildlife Federation

Comment: BLM must go back and analyze all strategies, impacts, and activities that either contribute to or diminish the problem associated with the spread of noxious weeds on BLM lands. The very nature of a PEIS requires that the BLM take a 'hard look' at all of the activities that occur on BLM land. Grazing, mining, cross-country travel, vegetative treatments, and herbicide treatments all have been shown to be contributing factors to the spread of noxious weeds. It is not BLM's right to conveniently ignore these facts. Nor can it ignore legitimate alternatives other than chemical based herbicides to combat the spread of noxious and invasive species.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis The PEIS examines and analyzes the effects of using herbicides on all vegetation and resources on public lands in the west and

Alaska, and its context is broader than just addressing weed spread. The PER also examines the effects of using other non-herbicide techniques on vegetation and resources. The BLM has previously examined the causes and contributing factors of weed spread and documented them in its invasive species strategy and *Partners Against Weeds - An Action Plan for the BLM* (USDI BLM 1996). Alternatives Considered but Not Further Analyzed are discussed in Chapter 2 of the PEIS. The programmatic decisions made in the PEIS are relative to adopting—or not adopting—certain herbicides for use on public lands, as well as developing a protocol to determine how future herbicides may be assessed using current scientific standards, with public involvement, ensuring technical and scientific accuracy in the data leading to a decision by the agency.

RMC-0214-037
Natural Resources Defense Council and National Wildlife Federation

Comment: BLM Disregards its Statutory Mandate to Use Integrated Pest Management. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requires that: "Federal agencies shall use Integrated Pest Management techniques in carrying out pest management activities and shall promote Integrated Pest Management through procurement and regulatory policies, and other activities." 7 U.S.C. [United States Code] § 136r-1. The term "pest" is defined in FIFRA to include weeds and invasive species. 7 USC §§ 136(t) ("The term 'pest' means any . . . weed") & 136(cc) ("The term 'weed' means any plant which grows where not wanted."). BLM therefore must promote IPM in its regulatory policies generally, and is obligated to use Integrated Pest Management (IPM) in carrying out all weed eradication in particular. The proposed D[raft] PEIS disregards this statutory obligation by failing to include IPM as a basic limit on chemical herbicide use in *all* of the alternatives.

Response: As discussed in Chapter 2 of the PER, under Vegetation Treatment Methods, the BLM uses an integrated program to treat vegetation. The PER states that the program is for the management of weeds, but should read that it is for the management of vegetation; this has been corrected in the Final PER. Because much of the information on vegetation management and integrated vegetation management in the PER is very relevant to the PEIS, this information has also been included in the Final PEIS.

RMC-0217-020
Sierra Club Utah Chapter

Comment: Essentially the BLM needs to make a scientific analysis of the situation and base treatments on that analysis. By so narrowly defining the purpose and need at this draft stage the BLM is precluding a realistic and scientifically valid evaluation of various treatment protocols available. It may be that it is not the intention of the BLM to make such an analysis. If this is the case the BLM should clearly state that it does not plan to take a hard look at the problem of weeds, invasive and exotic plants, the relationship of permitted activities to the problem and the most effective means of remedying the problem.

Response: See Chapter 2 of the PER and PEIS for a description of BLM vegetation treatment project design processes and considerations. Prior to any treatment, the BLM considers the best available science in the design of the project and bases its treatment proposals on land use plan goals and objectives, standards and guides for rangeland health, and integrated pest management methodologies. Vegetation treatment projects are evaluated under NEPA at the time they are proposed, and suitable alternative treatment protocols are assessed, as appropriate for the situation. The Purpose and Need are stated in Chapter 1 of the PEIS. It is neither the purpose nor the intent of this PEIS to conduct a programmatic analysis of the "problem of weeds and their relationship of permitted activities." This PEIS is being developed to address additions of chemical herbicides to the tools available to the BLM to reduce

hazardous fuels to prevent future catastrophic fires and to improve wildlife habitat and forest and ecological condition through the control of unwanted vegetation including, but not limited to, noxious weeds and invasive plant species.

RMC-0217-031
Sierra Club Utah Chapter

Comment: In particular any treatment needs to identify the means by which it will deal with the retained seed bank of exotic and weedy species.

Response: It is true that some exotic seed can remain viable for multiple years. Seed viability has been a part of ongoing research that has helped to provide direction on which treatments are most appropriate for certain species. Successful control requires various amounts of continued treatments in various combinations, depending on the species, which is the basis of integrated weed management. For one species, a pre-emergent herbicide may be needed, and for another species one treatment of emergent herbicide, followed by mechanical or manual treatments, would be more successful. Whatever appropriate treatment is used, the amount of viable seed will be reduced. BLM Manual 9015 provides guidance on integrated weed management.

RMC-0218-043
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: The BLM still barges forward with a proposed action that not only plans to greatly increase the use of herbicides, including herbicides known to be highly toxic and new ones with inadequate testing and/or very high potency, but also to use them for rather frivolous unnecessary purposes: "–some treatments could be designed to reduce the size or density of stands of trees or shrubs....Herbicides could also be used to suppress or thin shrubs in favor of herbaceous vegetation." (PEIS p. 4-61)

Response: The registration of herbicides is the responsibility of the USEPA, which requires the registrant to provide the data necessary for the preparation of human health and ecological risk assessments, including information on the "inert" or "other" ingredients. Breakdown pathways and the composition of the formulation carrier are presented as part of the overall registration package the registrant must provide to the USEPA. In addition, the BLM conducted its own risk assessments, or used risk assessments prepared by the Forest Service, to evaluate risks associated with the use of herbicides under BLM application rates and field conditions. Overall, herbicides proposed for use by the BLM would have no or low toxicity under most application and receptor scenarios. Herbicides are never used frivolously by the agency. Herbicides are utilized in various ways, according to their label and intended purpose, including selectively targeting certain vegetation types to promote growth of desirable species to meet management objectives.

RMC-0221-032
Center for Biological Diversity

Comment: The D[raft] PEIS only addresses mechanical and chemical methods for reducing the risk of catastrophic wildfire, but does not offer guidance in the proactive prevention of fires and the long-term recovery of burned lands. Allowing livestock grazing to continue in recently burned areas compromises the ability of post-fire areas to recover; post-fire livestock grazing can delay recovery of burned areas, and should not be permitted in burned areas until vegetation recovery has occurred (Beschta et al. 2004). Monitoring in post-fire areas should determine whether livestock will adversely impact recovery of vegetation and soil resources, since some vegetation communities may not reach their compositional peak until the second or third year (Guo 2001).

Response: The analysis of vegetation treatment projects in the PEIS is primarily concerned with treatments designed to modify existing plant communities. The wildland fire management program does promote vegetation treatment projects that would reduce the risk of catastrophic wildfire. As discussed in Chapter 2 of the PER under Planning and Management at the National Level, "although all treatment

methods would be used, prescribed fire and mechanical treatments would account for most fuels reduction in the continental U.S., and wildland fires for resource use would account for most fuels reduction in Alaska." The PEIS team agrees with commentor's statements about the potential impacts of grazing too soon after a burn. The BLM has used two growing seasons of rest as the basic standard, which has been adequate in many cases. However, depending on the specific situation (plant community present before the burn, precipitation available following the burn, etc.), a shorter or longer period of rest may be appropriate, as determined by monitoring. Revegetation is discussed under Revegetation in Chapter 2 of the PEIS and PER.

RMC-0221-046
Center for Biological Diversity

Comment: The D[raft] PER uses the term wildlife urban interface ("WUI") to refer specifically to the areas where open lands meet urban development, especially houses. This generally considered an area within 20 to 60 meters of houses where a defensible zone can be created. Fences, powerlines, trails, roads, and properties without buildings do not constitute WUI areas (Nowicki, 2001). The BLM has never prepared a comprehensive study of how many acres of WUI there are on BLM lands, how many of these acres are forested, and how many of these acres need to be treated for invasive species.

Response: There are several ways to determine what is included in WUI and what is not. WUI has been defined in *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-year Comprehensive Strategy Implementation Plan* (USDI and USDA 2002) and *Protecting People and Natural Resources, A Cohesive Fuels Treatment Strategy* (USDI and USDA 2006) as "the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuel." The other way a WUI boundary can be determined is through the development of a Community Wildfire Protection Plan (CWPP). These plans are developed by local communities, with participation by state and local wildland fire agencies. Critical infrastructure such as powerlines, roadways, or critical watersheds may be incorporated into a WUI defined as part of a CWPP. CWPPs allow for a localized definition of WUI to be developed. Guidance for defining WUI is also provided in the *Healthy Forests Restoration Act of 2003* to be used in the absence of a CWPP. The variation in WUI definition across the country allows for local issues to drive WUI definition, but makes national mapping of WUI difficult.

An updated section on Wildland Fire Management is included in Chapter 2 of the Final PEIS and PER will discuss CWPPs and WUI in more detail.

RMC-0222-019
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Altered landscapes: The PEIS and PER need to acknowledge that there are significant areas on public land that are so highly altered that they are not economically or practically recoverable. For example, in areas of significant downy brome (*Bromus tectorum)* infestation, inappropriate (prescribed fire) or insufficient (plowing or tilling without appropriate native plant restoration techniques) actions in these areas may cause increases in downy brome infestation and fire frequency. Guidance needs to be provided for areas where specific treatments are not appropriate in specific ecosystems, for example, restricting the use of prescribed fire in sagebrush plant communities below elevation gradients where downy brome is most likely to invade.

Response: See response to Comment RMC-0049-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated. Parameters for the use of specific techniques for vegetation control are developed at the local

planning level based on site-specific conditions and the identification of highly altered landscapes where certain treatment techniques may not be advisable.

Alternatives, Site Selection Priorities

EMC-0175-003
Simonson, Annette

Comment: This brings me to my second point, which is, why in heavens would we risk contamination of our water sources, fish-bearing streams, sensitive species habitat or even human health to embark on a program that will only require repeated toxic applications?

Response: As discussed in Chapter 2 of the PEIS and PER, BLM vegetation treatments are designed to provide conditions that discourage future weed infestations, primarily through revegetation and preventing the causes that have led to weed infestations in the past. It is the intent of the BLM to restore conditions on a site such that treatments on the site would no longer be needed.

EMC-0505-015
U.S. Environmental Protection Agency

Comment: Chapter 2, page 2-8, fourth paragraph: The PDEIS [Draft PER] states that "The following vegetation treatment priorities identified in the EIS Vegetation Treatment on BLM Lands in the Thirteen Western States (USDI BLM 1991a) still *apply today* (italics added) is not consistent with the Vegetation treatment methods section on the right side of the page. The USDI BLM 1991(a) reference identifies a specific preference for non-chemical controls without regard to environmental impact or suitability besides effectiveness. The Vegetation treatment methods section states "all control methods should be available for use, allowing the BLM to select the one method, or the combination of methods, that optimizes vegetation control with respect to environmental concerns. With this in mind, we recommend removing the three words "still apply today" and add that the current focus of IVM [integrated vegetation management] is to use the option(s) that represent the "method, or combination of methods, that optimize vegetation control with respect to environmental concerns, effectiveness, and cost of control," similar to the language in 2-8, Vegetation Treatment Methods. One example is shown in a study supporting the IPM approach, looking at species diversity under various Rights of Way Management methods, commonly referred to as the Bramble and Burns studies (Bramble, WC., WR. Byrnes, RJ. Hutnik, and S.A. Liscinsky. 199 1. Prediction of cover type on rights-of-way after maintenance treatments. J. Arboric. 17:38-43.)

Response: As noted in the section on Site Selection and Treatment Priorities in the Final PEIS, treatment methods were prioritized "based on their effectiveness and likelihood to have minimal impacts on the environment." Thus, the statement referring to the use of herbicides has been modified to state that risks to the environment are considered in addition to their effectiveness.

EMC-0585-100
Western Watersheds Project

Comment: Maps presented at public sessions on the DEIS [Draft PEIS] show just how far from population centers nearly all of Nevada and much of Wyoming, Idaho and Oregon BLM land really is. Yet, the same materials claim that many of the treatments will occur in urban interfaces. We believe that BLM may be mis-representing areas in UIs and/or in need of treatment to protect human habitation, in order to be able to maximize funding to conduct the large-scale wild land alteration this EIS would enable. The data and scientific basis for such maps and claims must be provided to the public.

Response: Much of the public lands that the BLM manages are indeed far from the wildland urban interface (WUI). Any vegetation management projects undertaken

outside of the WUI would not consider WUI protection as a purpose and need for the project. Other resource management objectives would predominate. Only those BLM managed public lands identified in Community Wildfire Protection Plans or defined using the *Healthy Forests Restoration Act* as being WUI would consider WUI protection as a need for a specific project. Also see response to Comment RMC-0221-046 under PEIS Alternatives, Vegetation Treatment Planning and Management.

Alternatives, Non-herbicide Treatment Methods

EMC-0233-005
Dyber, Kenneth James

Comment: What about alternatives to these harmful chemicals, such as importation of other forms of life, be it plant, or insect, to maintain a natural balance in the ecosystem?

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0375-004
Johnson, Lisa

Comment: Please consider using other methods of weed eradication, such as mechanical removal, biological controls and even, as a last resort, targeted use of herbicides, rather than inundating the west with herbicides.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0446-050
The Nature Conservancy

Comment: This PER section ([Draft] PER [page] 2-8) describes general parameters that may be considered in selecting a treatment method but does not include any requirements or guidelines to be used by field offices. Vegetation methods should be based upon ecologically-based goals for restoration that include desired outcomes for the specific plant communities scheduled for treatment not on general concepts of fire risk and reduction of fuel loads that have been drawn from other habitat types. Vegetation treatments should use the best available science in prioritization and planning (PER Chapter 2). LANDFIRE will provide quantitative reference conditions that synthesize the best available science on fire and vegetation dynamics for all potential vegetation types across the U.S. and can be used to help set goals and assess alternative strategies for achieving goals.

Response: Ecologically-based goals for restoration are established at the local land use planning level and are framed as desired outcomes for specific plant communities or fire regime condition classes. Goals are based on restoration assessment processes such as the Fire Regime Condition Class or land use health assessment processes (see Chapter 3 of the PER under Vegetation Condition and Fire Regimes and Chapter 1 of the PER under Relationships among Land Use, Land Use Planning, Land Health Standards, Ecosystem Functionality, and Vegetation Treatments). Implementation plans tiered to the land use plans establish strategies and treatment methods to effectively restore ecosystems specific to the plant communities in which the actual implementation will take place. Use of best available science is required under federal fire policy. LANDFIRE is being developed and will be used by BLM for the purposes presented in this comment.

The BLM is currently developing guidance for integrating vegetation management programs that will be implemented through the BLM's directives systems, including manuals and handbooks. This direction will ensure additional consistency in assessment processes, best management practices, and treatment effectiveness monitoring. Additional discussion on prioritization of treatments is included under

Vegetation Treatment Planning and Management in Chapter 2 of the PEIS.

EMC-0496-002
DeLong, Colleen

Comment: Please do not use herbicides as your primary solution to the problem of [invasive] species. Herbicides can be part of a responsible plan, but should not be the whole plan. Over reliance on herbicides indiscriminately poses threats to wildlife, ecosystems and water systems rural residents depend on. Please use a broader and safer array of tools to deal with invasive weeds.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0505-014
U.S. Environmental Protection Agency

Comment: Section 2-8 [of the PER], Vegetation Treatment Methods, refers to "integrated weed management", and states that "...no one management option is a stand alone option and that each has its own strengths and weaknesses." EPA suggests changing the statement to address "integrated vegetation management" rather than "integrated weed management" because the practices are not limited to weed control, but extend into wildfire fuels management, endangered species management, etc.

Response: The wording of this section has been changed to reflect integrated vegetation management rather than weed management.

EMC-0623-002
Defenders of Wildlife

Comment: While weeds are a famously intractable problem, strategies do exist for controlling existing infestations and for preventing weeds from spreading to new areas. Land managers can use mechanical removal, controlled burning, biological control, and herbicides to control invasives, and can prevent new infestations with monitoring and early detection, and by curtailing land use practices that spread weeds. Innovative approaches combine multiple methodologies for prevention, control and restoration are needed to remove weeds, improve wildlife habitats, and prevent infestation of lands that are currently weed-free. However, the approach outlined in the PEIS depends almost entirely on herbicide use, to the exclusion of other prevention, control, and restoration efforts. Defenders [of Wildlife] predicts that this focus on herbicide use to the exclusion of other methods will fail to curtail weed invasions in the West, while potentially exposing people and wildlife to unnecessary levels of herbicides.

Response: See response to Comment EMC-0076-002 under PEIS Alternatives, Herbicide Modes of Action and Treatment Methods.

EMC-0641-018
Idaho Conservation League

Comment: Because of the serious ecological damage caused by noxious weeds, we support the judicious use of herbicides when careful analysis demonstrates its appropriateness on a site-specific basis. However, the environmental costs of herbicide use must always be carefully weighed against the benefits in light of alternative methods of noxious weed control and prevention. The burden rests on the BLM to demonstrate, via analyses of the characteristics of specific herbicides as well as site conditions and weather patterns, that proposed herbicide application treatments will not adversely impact non-target species or overall ecosystem integrity. Non-herbicide treatments and prevention techniques should be utilized in situations where herbicide application may result in unintended harm.

Response: As discussed in Chapter 2 of the PEIS and PER under Vegetation Treatment Methods, application of herbicides is but one method proposed by the BLM for treatment of vegetation. Other methods include manual, mechanical, and biological control methods, and use of prescribed fire. Only about 16% of acres would be treated

using herbicides; the remaining acres would be treated using other methods. Non-herbicide treatment methods are considered first when planning a vegetation treatment program, and herbicide use is only considered if it is effective and safe, as discussed in Chapter 2 of the PEIS under Site Selection Priorities. The effectiveness and safety of herbicides are discussed in Chapter 4 and in Appendixes B and C of the PEIS.

RMC-0049-005
Wilson, Robert E.
(University of Nevada Cooperative Extension)

Comment: The last point that needs to be better emphasized is to use all the tools available. While herbicides are a focus of one of these draft publications, the draft publication on Vegetation Treatments should have emphasized much more thoroughly how the various tools work together to achieve the goal of making native plant communities much more resilient and better able to resist domination by invasive plant species. Where we do not have complete knowledge, the document should reflect that and allow for incorporation of new knowledge as it becomes available.

Response: See response to Comment RMC-0049-008 under PEIS Alternatives, Site Selection Methods. The Final PER identifies and provides additional information on the other various vegetation methods available to the BLM. Also see the text in Chapter 2 of the PER under Standard Operating Procedures and Guidelines, which describes how integrated pest management is used to ensure that all the tools work together to achieve resource management goals.

RMC-0049-008
Wilson, Robert E.
(University of Nevada Cooperative Extension)

Comment: It is important that the agency be allowed as much flexibility as possible when newer tools become available. Where they are most appropriate, new tools – including new herbicides – should be used where science indicates that it is appropriate in the battle to combat invasive weed species domination.

Response: The BLM agrees the agency needs flexibility to use new tools, including new herbicides, and to use them appropriately as best science would indicate. However, the BLM also has a responsibility to ensure public involvement in its decision-making, as well as a responsibility to ensure that the tools used on public lands do not result in unforeseen or unintended consequences.

RMC-0069-015
Desert Survivors

Comment: In all cases, there are other means that can be used to manage public lands in a responsible manner. Spraying herbicides is a kind of "final solution" management tool that seems to solve one problem but ends up creating more. "Fly a plane over and the work is done!" But at what cost? These chemicals must not be used on public lands.

Response: Although addressed separately in the PEIS, chemical treatments are just one method employed by the BLM to control vegetation. Other methods, which are discussed in the PER, include fire, mechanical treatments, manual treatments, and biological control. As stated in Chapter 2 of the PER under Vegetation Treatment Methods, no single management option is regarded as a stand-alone option for successful vegetation treatments. When developing treatment programs, the BLM considers all available management options, and then selects the method or combination of methods that optimizes vegetation control with respect to environmental concerns, effectiveness, and cost of the treatment.

EMC-0075-002
Pearce, Mary

Comment: It would be better to use animals that graze on weeds and other mechanical ways of using weeds to make fertilizers and soil conditioners.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0080-002
Winfree, Robin

Comment: This is not an effective way to deal with invasive plant problems. Use a little more people-power to control and prevent the spread of invasive plants, and you will win the gratitude of citizens everywhere.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0181-007
Artley, Richard

Comment: For noxious weeds use hand digging. A small gas powered auger will help to dig down deep enough to get all the roots. The superior characteristic to hand digging is that all non-target vegetation survives.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0239-003
Kimmel, Reida

Comment: Herbicides should not be the preferred control method for an agency charged with the protection of the public lands and their species. Manual control is effective on many invasives like Scotch broom. The use of burning as in fuel reduction projects, and other heat related techniques for killing plants are effective. Controlled intensive grazing by sheep or goats has proved to be very effective in combating certain weeds, and gives a boost to local economies. If the BLM practices a policy of integrated pest management, using herbicides only as a last resort, the lands it manages will be far healthier for the discretionary use of poisons.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0239-005
Kimmel, Reida

Comment: We hear often that chemicals are the only choice because they are the most cost-effective. With the increase in the price of fuel and petrochemical products this may not be the case very much longer. Even more importantly, as I see it, the herbicides are not that effective. Timber companies in my neighborhood spray repeatedly, three or four times in establishing a new crop of trees. Their lands here Western Oregon, in spite of the sprays, are a sea of broom, thistle, and blackberry. If herbicides don't even work very well, in spite of repeated applications, against these common invasives, how can they hope to deal with leafy spurge? The BLM needs to establish a firm policy of control which decreases, not increases, the use of herbicides, while relying more and more on conventional and innovative approaches to clearing our public lands of unwanted and harmful species.

Response: Within Chapter 2 of the PER, under the heading "Site Selection and Treatment Priorities," the priorities for vegetation treatments are identified. As stated in the BLM's action plan, *Partners Against Weeds - An Action Plan for the BLM* (USDI BLM 1996), "... an IWM (Integrated Weed Management) approach, where all weed management practices are considered for use, is the best approach where noxious weeds have infested an area." In Manual Section 9015, the BLM's policy regarding Integrated Weed Management is spelled out; pointing out that the BLM is "vitally interested in an integrated pest management approach." Only through the integration of all available management options can the BLM hope to address the issue of invasive weed species. The use of livestock as a weed management tool for leafy spurge has proven extremely effective, along with the introduction of USDA-APHIS-PPQ [U.S. Department of Agriculture-Animal and Plant Health Inspection Service-Plant Protection and Quarantine]-approved biological control agents. Research supported by the BLM has demonstrated the effective use of competitive grasses in the management of creeping perennials, which along with the other management options

for leafy spurge have proven to be cost-effective when used in an integrated approach. Also see responses to Comment EMC-0174-003 under PEIS Proposed Action and Purpose and Need, Scope of Analysis and Comments EMC-0203-007 and EMC-0646-182 under PEIS Environmental Consequences, Vegetation.

EMC-0242-002
Boettcher, Robert

Comment: I have been a member of a county weed board for over 20 years and we have had great success in controlling weeds with an integrated management approach. There are several ways to do this such as insects, hand pulling, hoeing, burning anything to keep the plants from going to seed. The problem with tripling your use of herbicides is where does this run off to as there is far to much pollution to mainly our water supply already.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0252-003
Levanti, Deanna

Comment: Herbicide use should always be a last resort. Through controlling wildfires is no simple task, the government must make use of various resources and methods. Primarily, the wildfire ecosystem must be understood. Any solution must fit into the natural cycles of that ecosystem. Rather than try to downright destroy the wildfire ecosystem, we should try to induce naturally occurring controls. Knowledge about those methods comes from studying and observing the ecosystem, as generations of Native Americans have done. We must tap in to any existing knowledge about control methods, asking for Native American participation and that of any who possess such knowledge. Some methods include cyclical burning of underbrush by man and re-establishing a natural balance in the ecosystem to assure nature's own control methods are in place--for example, the presence of small animals that eat underbrush, or the growth of trees that block light and hence control underbrush growth.

Response: See responses to Comment EMC-0585-157 under PEIS Alternatives, Mitigation and Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0253-004
Keeran, Georgia

Comment: There are better ways to control non-desirable plants: Use of beneficial insects; control spraying of herbicides that eradicate specific plant types and do not eradicate beneficial plants. Please consider seriously the indiscriminate spraying. In attempting to resolve one problem you may well be creating additional problems. The balances that existed before the "weeds" were introduced must be reestablished/preserved.

Response: See responses to Comments RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation and RMC-0214-029 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response.

EMC-0257-007
Lockridge, Ross

Comment: I would like to see a real commitment within the BLM that does not pit the chemical industries against healthier nontoxic agricultural solutions. Often there are other alternatives that can be committed to that are clearly safer than the use of herbicides, like mechanical removal of vegetation, the use of goats as follow-up, or the No-Action alternatives.

Response: See response to Comment RMC-0049-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0275-003
Vardaman, Emilie

Comment: Fourth, there are better, cheaper, easier ways to dispose of weeds: goats. They have been used for several years under contract from the state and federal governments to eat weeds. This is an affordable, non toxic option that should be used.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0350-003
Morris, Nancy

Comment: I find it very frustrating that the BLM continues to cater more to the pesticide industry as a way to resolve invasive problems than looking at real solutions that would not cause harm to people, air, water, and wildlife. Non-toxic solutions do exist if we put energy into this type of preventive research.

Response: See response to Comment RMC-0049-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0505-006
U.S. Environmental Protection Agency

Comment: However, herbicides are only one strategy that may find value as the most environmentally sound approach to addressing these crises. Consequently, to assess and choose the best scenario requires that herbicides be compared to other management options such as fire, beneficial insects resulting in biological control, manual and mechanical methods such as weed pulling, mowing, etc. For this reason, we encourage the BLM to develop alternatives that include all management options so that the comparison is clear, and so that the decision-making process is spelled out in some detail.

Response: See Chapter 4 of the PEIS, Environmental Consequences. Alternative C, No Use of Herbicides, provides the baseline comparison of non-chemical methods relative to herbicide use.

EMC-0533-015
Colorado Farm Bureau

Comment: In fact, we suggest that livestock grazing should be more prominently considered in the final [P]EIS as an integral tool for reducing fuel loads and managing harmful invasive and noxious weeds on BLM lands. Cattle, sheep and goats provide an ecologically safe and effective way to manage vegetation.

Response: The PEIS does consider the use of domestic grazing animals as a viable option for limiting the growth and reproduction of undesirable vegetation. In many situations grazing can be effectively used along with other methods to help control the targeted vegetation. Use of grazing animals requires that the grazing season be prescribed specifically to control undesirable vegetation without impacting other resources present. Although this method can be effective, it would not work in every situation and must be considered along with other options for each site-specific situation.

EMC-0533-016
Colorado Farm Bureau

Comment: Using livestock grazing as a way to reduce fuel loads and harmful noxious weeds might also provide an economical and efficient solution to the issue of what to do with livestock when allotments are being restored or treated. Using livestock in this beneficial way could provide a "win-win" situation for both ranchers and for the environment. This option should be better developed in the final PEIS.

Response: See response to Comment EMC-0533-015 under PEIS Alternatives, Site Selection Methods.

EMC-0552-003
McDougall, Claire, and Paul Jones

Comment: I think it would be more progressive for the Bureau of Land Management to look at some alternative methods. Any invasive weed can be pulled or chopped down before the seeds drop. On our subdivision we have proven this to be effective. Bringing in predatory insects has also been effective. Why this love-affair with the chemical? Why this obsession with eradicating weeds over and above concern for our children's health and the health of the smaller animals in our eco-system?

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0562-012
The Lands Council

Comment: The Lands Council would like to see integrated manual and cultural treatments considered as a preferred alternative. Hand pulling, hoeing, and other manual removal methods are most effective for smaller infestations. They are an "important tool in steep or uneven terrain" and "typically cause minimal environmental impact". DiTomaso (2001). The following excerpt was taken from the *Integrated Vegetation Management's Technical Bulletin, Bio-Integral Resource Center, Berkeley,* Drlik et al (1998).

"The Bradley method is an approach that was developed by the Bradley sisters in Sydney, Australia. It combines the strategies of containment and reduction and can be used most successfully in natural areas where weed stands are close to or intermingled with native vegetation. This approach uses carefully planned hand weeding to tip the ecological balance in favor of the native vegetation, which is then allowed to regenerate and fill the area where the weeds have been removed. The weeding is always done outward from the edge of the best stands of natives. The Bradley's recommend choosing an area you can visit easily and often, where the native vegetation meets a mixture of natives and weeds not worse than 1 weed to 2 natives. Using this method, the two Bradley sisters (both over fifty) cleared a 40-acre woodland reserve so successfully that the area needed only slight attention once or twice a year (mainly in vulnerable spots such as roadsides and creek banks) to be maintained weed-free. To do this they expended only a minimum amount of time: an average of 45 minutes per day between the two of them. This low-cost, low-impact approach enables restoration to occur with minimal labor or equipment."

Response: See response to Comment EMC-0486-020 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding the integrated pest management (IPM) approach used in designing BLM vegetation treatment projects. Manual and cultural methods are included within the range of options for vegetation treatments. The IPM approach represents existing policy and is subsumed under Continue Present Herbicide Use (No Action Alternative) and the Expand Herbicide Use and Allow for Use of New Herbicides in 17 Western States (Preferred Alternative).

EMC-0562-013
The Lands Council

Comment: Other management methods recommended by experts and ignored as a preferred alternative are tilling, mowing, and grazing. For instance mowing, a cost effective late season tool, is a popular treatment method. *See* DiTomaso (2001). Properly timed mowing (or weed whacking) can provide excellent control, and reduce seed banks and populations. The BLM should be favoring an integrated method alternative that combines mowing, grazing, and hand pulling with revegetation efforts.

Response: See response to Comment EMC-0486-020 under PEIS Alternatives, Vegetation Treatment Planning and Management. The BLM utilizes an integrated weed management (IWM) approach, which includes the methods described. Analysis

and discussion of these methods is provided in the PEIS and PER. Each method is identified in the discussion under Vegetation Treatment Methods in Chapter 2 of the PER, including mechanical methods, manual methods (hand pulling), and biological control methods (grazing), and use of prescribed fire and herbicides.

EMC-0646-195
Californians for Alternatives to Toxics

Comment: There is an abundance of literature regarding the control and management of yellow starthistle (YST). The BLM has failed to disclose this information and has thus skewed the evaluation of feasible alternatives. California governmental sources often rely on the expertise of Dr. Joseph DiTomaso of the University of California, Davis, in regards to YST management and control. DiTomaso states in UC Davis's Weed Research and Information web site that viable treatment options include grazing, mowing, manual removal, perennial grass reseeding, burning, and biological control. Yet the BLM has failed to evaluate most of these methods. With a myriad of low-impact effective and commonly used treatment options available, why is the BLM so focused on spraying? Hand pulling, hoeing, and other manual removal methods are most effective for smaller infestations. They are an "important tool in steep or uneven terrain" and "typically cause minimal environmental impact" (DiTomaso 2001).

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0646-199
Californians for Alternatives to Toxics

Comment: Grazing has been shown to be effective controlling young yellow starthistle plants (DiTomaso 2001). If integrated with mowing, burning, bio-controls, or even as a treatment for re-growth after hand pulling, grazing could be efficiently and effectively utilized for controlling yellow starthistle. Yet the BLM has failed to mention or even consider grazing within the pages of the EA [PEIS].

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0646-201
Californians for Alternatives to Toxics

Comment: Burning is recommended for use in the first, second, and third years of long-term management strategies ([Ditomaso] 2001). Is the BLM planning to wage war on weeds for the long term? Why were these feasible options [burning and grazing] not included as potential alternatives or part of an integrated management strategy? The current EA [PEIS] is unacceptable and in violation of NEPA due to its failure to include analysis of long term, viable IPM [integrated pest management] options such as these.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0646-202
Californians for Alternatives to Toxics

Comment: The EA [PEIS] fails to consider the option of using bio-control agents on yellow starthistle even though the literature shows that it has proven effective. Six different insects have become established in California for controlling Yellow starthistle. Two in particular, the false peacock fly (*Chaetorellia succinea*) and the hairy weevil (*Eustenopus villosus*), have been shown to have significant impact on seed production (DiTomaso 2001). DiTomaso (2001) also states that several plant pathogens have shown promise as bio-control tools, and in particular the naturally-occurring and host-specific *Ascophyta spp.* DiTomaso states that bio-control is recommended to be part of any integrated management strategy and that they provide the possibility of long-term and sustainable management (2001). Isn't that the ideal goal of noxious weed management? Bio-controls should at least be mentioned and evaluated?

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0646-218
Californians for Alternatives to Toxics

Comment: Conversely, grazing could be considered as a tool for weed suppression and vegetation management. Such a technique is usually most successful when used in combination with other weed control techniques and employed over several seasons with cautious and restrictive rotational grazing practices (CDFA Encycloweedia website, Pitcher 1986, WA Noxious Weed Control Board). However, as previously mentioned, the use of grazers in weed management is a delicate tool that must be applied with great responsibility and commitment, not without careful planning, full analysis and monitored implementation. There is no hint of this level of awareness in the FEIS [Draft PEIS].

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

FXC-0074-006
Copper Country Alliance

Comment: Because of their documented harmful effects (many of which your PEIS summarizes) on fish, wildlife and other organisms, herbicide use should never, anywhere, be the first option considered. BLM should always look at all other options first. BLM should evaluate which method has the least potential for harm to:

- Human health
- Farm animals and crops
- Subsistence resources
- Commercial fisheries
- Non-target species
- The natural ecosystem

Response: See response to Comment EMC-0238-007 under PEIS Environmental Consequences, Wildlife Resources.

RMC-0210-041
MCS Task Force of New Mexico

Comment: The management of existing weeds should rely primarily on non-chemical methods, using herbicides only as a last resort, if at all.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0646-203
Californians for Alternatives to Toxics

Comment: DiTomaso mentions problems with using herbicides as part of an integrated, long-term management strategy for YST [yellow starthistle]. DiTomaso reports that herbicides are not effective in the early years of a long-term strategy and do not provide control of seeds germinating after treatment. Yet this is exactly what the BLM is proposing. Is the BLM looking for a long-term solution to invasive plants or a short-term fix? Why has the BLM failed to disclose this information within the EA [PEIS]? While glyphosate is reported by DiTomaso to be effective on YST seedlings, so are hand pulling and other methods, which have lower adverse impact potential. The BLM has failed to objectively discuss the potential problems and disadvantages of their herbicide solution, again failing to comply with NEPA requirements and thus the EA is unacceptable.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

RMC-0040(1)-003
Resource Concepts, Inc.

Comment: Pg. 2-10 [of the Draft PER], the mechanical treatment section failed to mention the use of the Hydro-ax or other chopper/shredders that are part of the mowing tool suite.

Response: The PER discusses mechanical treatment tools by type, rather than by specific tool or brand of tool. The Hydroax would fall under the general discussion of mowing tools (Chapter 2, Mechanical Treatment subheading). This paragraph in the PER also mentions equipment that is used to cut and chip vegetation.

RMC-0217-022
Sierra Club Utah Chapter

Comment: It is not clear from the discussion whether mechanical treatments are effective. After decades of using mechanical treatments the BLM should have some record of treated areas, the results of treatment and the effectiveness of treatment in reducing noxious weeds and undesirable invasive plants and restoring the potential natural community of plants to an area.

Response: Effectiveness of mechanical treatments is generally discussed in the Vegetation section of Chapter 4 of the PER under Adverse Effects of Treatments, Effects of Mechanical Treatments. Site-specific data on treatment effectiveness for mechanical treatments reside at individual field offices and are taken into account when planning vegetation treatment projects. In general, all treatment methods discussed in the PEIS and PER, including mechanical treatments, are considered by the BLM to be effective, within their physical limitations, under appropriate circumstances and conditions.

FXC-0071-003
Campbell, Bruce

Comment: I was appalled to see "manual (hand tools, hand-pulling, hand spraying)" on page 2 of 8 in an answer to a question in the Frequently Asked Questions paper at www.blm.gov/nhp/spotlight/VegEIS/faqs.htm about different types of vegetation management proposed under BLM's plan.

Response: In the context of the PEIS and PER, manual treatments include only those non-herbicide treatments done by hand and without mechanical equipment. Some herbicide treatments could be done manually using hand sprayers, backpack applicator, wick, etc., but in the PEIS and PER are still considered herbicide treatments.

FXC-0071-005
Campbell, Bruce

Comment: In how many alternatives can "manual" vegetation treatment include the use of herbicides sprayed by hand – and would that increase the likely quantity of "treated" acres beyond 932,000 a year? (I note that page 4-133 says that "5% of public lands" would be treated manually.) Not only should the documents differentiate between BLM lands and Forest Service lands when I believe they mean 5% of BLM lands, but also does this 5% figure include "hand spraying" which is considered one of the manual approaches according to the answers in the Frequently Asked Questions section?

Response: Manual treatments, as discussed in the PER in Chapter 2 under Manual Treatment, do not involve the use of herbicides. Herbicides could be applied manually, such as with wick applicators or by spot spraying, but any acres treated using herbicides, regardless of the application method, are included in the acreage for herbicides. The term "public lands," as defined in the first paragraph of Chapter 1 of the PEIS and PER, refers only to the nearly 261 million acres of BLM-administered lands in the 17 states evaluated in the PEIS and PER.

EMC-0174-002
Concerned Friends of Ferry County

Comment: We have seen a great decline of various weeds prevalent in Ferry due to the use of biological control agents, namely insects that attack these non-native weeds. The use of weevils has drastically reduced the acres infested with knap weed and various thistles. A beetle has proven effective against St. Johns Wort. The BLM needs to investigate the use of these biological agents where and when ever possible to avoid the use of poisonous chemicals.

Response: The BLM reviewed (Chapter 2) and evaluated (Chapter 4) non-herbicide treatment methods in the PER, including the use of biological control agents. Based on treatment estimates from BLM field offices, approximately 8% of all acres treated would be treated using biological control agents.

FXC-0059-013
Evans, Gail

Comment: I also must demand that biocontrols – which I understand to be exotic organisms – not be unleashed in the wild. Not enough controlled testing has been done to ensure that these organisms will not have negative impacts on native plants.

Response: See response to Comment EMC-0446-062 under PER Vegetation Treatment Programs, Policies, and Methods, Biological Control.

Alternatives, Determination of Treatment Acreages

EMC-0405-010
Hoover, Victoria N.

Comment: Regarding Nevada, for example, there is no information on relevant acreage in Nevada being considered for treatments, information either for BLM land managers themselves or for the public. Nevada is a significant part of the Intermountain West, with more BLM public lands than any other state. Its vast sagebrush habitats would especially be subject to massive experiments of treatments that have never been tried and shown to work properly anywhere. Chainings have already done significant damage to natural ecosystems in Nevada (as well as Utah) and it is time to slow down on such treatments, not seek to justify their great expansion.

Response: See response to Comment EMC-0585-051 under PEIS Alternatives, Determination of Treatment Acreages. The BLM analyzed treatment effects by state for some resources, or by ecoregion or hydrologic region, depending upon the resource analyzed. Chapter 4 of the PEIS and PER note how many acres would be treated by regional area. An estimated number of acres treated in each state by each treatment method was required to conduct the air quality analyses; these figures can be found in the air quality reports on the CD that accompanies the Final PEIS.

EMC-0411-006
Schroyer, Don L.

Comment: How many acres infestated with invasive / noxious weeds on BLM lands have been treated with EPA approved herbicides, and how many acres have been treated by mechanical means?

Response: Please refer to Table 3-5 in Chapter 3 of the PEIS for an estimate of infested acres. Table 3-23 in Chapter 3 of the PEIS provides data pertaining to herbicide applications in 2005. Each year, the BLM publishes its Public Lands Statistics, which discloses acres of treatments on public lands (Available at: http://www.blm.gov/publications/). These data have not been summarized for each treatment method in this PEIS due to variability in standards for reporting public land statistics over the last 20 years.

EMC-0446-007
The Nature Conservancy

Comment: Analysis scale: The Draft PEIS and PER propose an increase in vegetation management treatments on public land to 6 million acres per year, yet there is no map or description of where these treatment acres might occur other than a large scale map of assumed Fire Risk Regime Condition Classes (FRCC) across the entire West and a statement that over half of these treatments would occur in the Temperate Desert Ecoregion. The two documents defer to local land use plans for specific management areas, treatments and mitigation, yet many of BLM's land use plans are more than 15-20 years old and do not include updated information on fire regime condition class, ecological condition of vegetation to be treated, location of sensitive plant and animal species, or current goals for restoration of native plant communities.

Response: Site-specific information on treatment locations is unavailable and not included in the PEIS. See Determination of Treatment Acres in Chapter 2 of the Final PEIS for a discussion of how treatment acres were derived for analysis in the PEIS. Despite the age of many land use plans, periodic plan maintenance and amendment allow plans to remain current until such time as the plans require revision. All BLM land use plans have been reviewed for appropriate decisions, goals, and objectives relative to fire management and fire regime condition class. In those cases where decisions, goals, and objectives required modification to meet current fire management policies, all BLM land use plans were directed by the Department of Interior to be amended for Fire Management by 2004.

EMC-0446-036
The Nature Conservancy

Comment: The current document does not clearly indicate where the majority of the acreage treatments are intended over the next decade. It would assist reviewers in analyzing potential effects to identify the acreage projected by individual field office and state level programs and the location of the additional 1.4 million acres of proposed treatment areas added by the national fire team based on fire regime condition class.

Response: See response to Comment EMC-0446-057 under PEIS Alternatives, Determination of Treatment Acreages.

EMC-0446-057
The Nature Conservancy

Comment: Fuels treatments: BLM field offices developed acreage estimates of 4.6 million acres of treatments per year based on existing land use and fire plans. An additional 1.4 million acres of treatment needs were based on existing FRCC [Fire regime condition class] assessments and the stated goal of shifting FRCC 3 conditions to FRCC 1. Without maps of all proposed treatment areas it is not possible to determine whether there is overlap in these estimates or whether these acres address large-scale needs and priorities for maintenance of areas in existing FRCC 1. There is insufficient information on how the additional 1.4 million acres of treatment were determined by national staff. Additional information should be provided on the location and extent of all proposed treatment areas, their management objectives, and proposed methods of treatment in order to be able to assess potential cumulative effects from multiple treatments in adjacent areas or similar ecosystems.

Response: The PER in Chapter 1 under Determination of Treatment Acreages states that the 1.4 million acres were determined through the review of the fire regime condition classes on BLM-administered lands, and that these acres were beyond the 4.6 million acres of proposed treatments by field offices. Acres of treatments were broadly estimated from a variety of sources, including land use and fire plans. The paragraph further explains that treatments on the 1.4 million acres would be on vegetation exhibiting FRCC3 characteristics. Maintenance of FRCC 1 category lands is an important component of ensuring long-term viability of healthy forests and

shrublands. Maintenance projects were included in the acreage estimates provided by the BLM field offices (i.e. within the 4.6 million acreage calculation). A further breakdown is provided, showing an estimated 3.5 million acres would be treated for hazardous fuels reduction and to control wildfires in the wildland urban interface, an estimated 1 million acres would be treated to restore ecosystem health (which includes invasive plant control), and an estimated 1.5 million acres would receive burned area stabilization and rehabilitation. Finally, this section states clearly that the 6 million annual acres is an estimate. This estimate and the estimated breakdown of treatments will fluctuate annually as prior year treatments are assessed for maintenance treatment needs and new fuels estimates evolve due to such perturbations as extensive beetle kill, drought or blow down.

Because the PEIS and PER do not propose any vegetation treatments, maps of the locations of potential treatments are not included, either in the source documents or in the estimates provided by the field offices. The specific location, extent, management objectives, and proposed methods of treatments would be described in the site-specific NEPA or planning document at the time the project was proposed. It is beyond the capability of the PEIS and PER to provide this information, since specific locations may not be known at this time.

EMC-0525-113
Western Watersheds Project

Comment: As the acreage estimates for treatments proposed under the EIS are based on BLM District/Field Office estimates – with no apparent scientific methodology applied for developing these estimates, BLM's great over-exaggerations about treatment needs in the past must be used as the lens through which the public views claims of treatment need in the [P]EIS/PER.

Response: See response to Comment EMC-0585-051 under PEIS Alternatives, Determination of Treatment Acreages.

EMC-0553-006
Callihan, Robert H.

Comment: This draft suggests a possible disparity between the extent of the problem and the extent of the proposed treatments. It states that 35 million acres are dominated by invasive species (p. ES-1 [of the Draft PEIS]), and 6 million acres are proposed for annual treatment (p. ES-2, 1-6 [of the Draft PEIS]), but not whether or how the proposal is to treat in some way the entirety of the infested acreage. The draft describes the problem and focuses on analyzing and comparing the treatments, and discusses "programs, policies and methods" but stops short of explaining how the BLM will actually handle the 35-million-acre problem. The final draft or decision should address this deficiency.

Response: See responses to Comment RMC-0221-008 under PEIS Alternatives, Determination of Treatment Acreages, and Comment RMC-0126-002 under Proposed Action and Purpose and Need, Scope of Analysis. The PEIS does not propose to treat the entirety of the estimated 35 million acres of public lands infested with invasive species. The PEIS outlines the tools and techniques required to conduct vegetation treatments.

EMC-0584-013
Western Watersheds Project

Comment: BLM, simultaneously with the Weed [P]EIS/PER is developing other EISs – such as the Upper Snake River District Fire, Fuels and Related Vegetation Management Plan Amendment. We attended that [P]EIS Scoping meeting held in Boise, and just like the Weed [P]EIS, BLM had no sound basis for estimates of acres proposed to be treated in the information that was provided to the public. We were told that BLM asked land managers in each field office to come up with estimates. However, there was no protocol followed as a basis for these estimates, and it appears

no scientific methodology was followed. Our review of the USRD [USDI] Draft [P]EIS confirms that a systematic method to assess treatment "need" has not been used. Thus, not only does the Programmatic Weed [P]EIS/PER not rely on, or provide, current ecological information necessary to make science-based decisions on public lands, neither do the lower level EISs that will tier to it.

Response: See response to Comment EMC-0585-053 under PEIS Alternatives, Determination of Treatment Acreages. The BLM is not developing a "Weed" PEIS. This PEIS addresses the approval of specific herbicides for use in vegetation treatments primarily directed at reducing hazardous fuels, restoring fire-damaged lands, and improving ecosystem health (see Chapter 1 of the PEIS under Purpose and Need). Treatment of invasive and noxious weed species is one subset of the efforts that are required to meet this purpose. The PEIS and PER were not designed to question how field offices determined the need for vegetation treatments in local planning efforts. Determination of acreages for treatment in local land use planning efforts is accomplished at the field office level and supported by existing and current monitoring data, hazardous fuels assessments, and other criteria, as determined by the field office, and is outside of the scope of this PEIS.

EMC-0585-004
Western Watersheds Project

Comment: How can a reader differentiate between treatments, and acres to be treated, for wildlife habitat vs. hazardous fuels vs. livestock forage treatments? It is impossible. Typical BLM EAs [Environmental Assessments])/activity plans and more site specific documents covering treatments and other activity plans often claim that a treatment project or herbicide use is conducted to both benefit or increase forage production and wildlife habitat improvement. Often, agency EAs, will claim both these and many other things would be benefits. Nowhere is any protocol or decisionmaking framework applied to determine precisely what actions will or will not be covered by the [P]EIS. One Field Office of BLM could arbitrarily claim a particular action claimed to benefit wildlife and livestock forage was covered by the [P]EIS, while a neighboring office with a similar project could claim it was not.

Response: See response to Comment EMC-0585-051 under PEIS Alternatives, Determination of Treatment Acreages. The adverse and positive effects of herbicide treatments at the programmatic level are discussed in the PEIS, while the adverse and beneficial effects of all treatment methods are discussed in the PER. If an action involves the use of herbicides, it is covered under the PEIS. It is quite possible that different field offices could come to different conclusions for a treatment, as site conditions, vegetation treated, and resources affected could differ between sites. For example, an herbicide could have different risks based on soil type and rainfall, as discussed in the ecological risk assessments. Benefits could vary in relation to application method, time of application, or other factors. Thus, the costs and benefits of project-specific treatments are best determined at the field office level.

EMC-0585-017
Western Watersheds Project

Comment: (How has BLM defined "dominant"?). where are these lands? Are they the same lands targeted by the Field offices, or are they somewhere else? How has BLM management of human disturbances (grazing, roading, mining, Oil/Gas) caused this condition?

Response: As defined in Webster's Dictionary, dominant means commanding, controlling, or prevailing over all others, or the influence or control over ecological communities. Both definitions would apply to dominant vegetation. Although these lands could be anywhere, and for the PEIS include lands identified by field offices, Map 3-10 in the PEIS, which shows fire condition classes on public lands, is helpful in

identifying degraded lands. Those lands identified as Condition Class 3 have the greatest likelihood of having invasive vegetation or an abundance of hazardous fuels. Also see response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis

EMC-0585-038
Western Watersheds Project

Comment: BLM provides no evidence of a systematic analysis or study methodology employed to develop the basis for it massive "treatment", including herbicide treatment, and state-by-state breakdown of proposed treatments in the DEIS [Draft PEIS] or PER. How, exactly, did BLM decide it needed to treat huge acreages in Nevada? How could it have decided this with incomplete, or no data at all on acreages on infestation (see PER Table 3.5, for example)?

Response: See response to Comment EMC-0585-051 under PEIS Alternatives, Determination of Treatment Acreages. The acreage estimates in Table 3-5 were incomplete; they have been corrected in the Final PEIS and PER.

EMC-0585-051
Western Watersheds Project

Comment: Why are the specific details of this process [determination of acres to be treated] and specific responses not provided as an appendix in the [P]EIS? This is what is driving the massive increase in treatments and increased herbicide use.

Response: As noted on page 1-6 of the PER, field offices were queried as to the location of treatments, types of treatments, and vegetation proposed to be treated during the next 10 years. This information was used to assess impacts to vegetation on public lands. However, this information was based on "best estimates" at the time of the assessment, and may change over time in response to changing land conditions, funding, Congressional directives, and other factors. Thus, specific responses were not included in the PEIS and PER because they are subject to revision and some field offices did not provide detailed locations of projects (e.g., some projects were identified to Township). The exact locations of projects would be identified during NEPA analysis conducted at the local level. Analysis of proposed treatments at the broader level (e.g., ecoregion, state) was appropriate to identify factors driving the increase in treatments and herbicide use for the PEIS and PER and to predict responses of vegetation types likely to be treated.

EMC-0585-052
Western Watersheds Project

Comment: BLM has provided no evidence that consistency, or consistent methodology, was applied in determination of any parameter or treatment type, acreage, etc. that were used by the Field Offices. The [Draft] [P]EIS, PER, etc. fail to provide any information on the baseline data, studies and analysis that was used by each BLM office in coming up with treatment acreages. Such information is essential to understanding the foundation of the [P]EIS, PER and associated documents, and must be fully revealed to the public in a Supplemental EIS.

Response: See Determination of Treatment Acres in the Scope of Report section of Chapter 1 of the PER for a discussion on how treatment acres were determined for use in the PEIS and PER. Data supporting the need for any specific vegetation treatment is available from the local field office proposing the treatment. See response to Comment RMC-0095-010 under PEIS Proposed Action and Purpose and Need, NEPA Requirements of the Program regarding the need to issue a Supplemental EIS.

EMC-0585-053
Western Watersheds Project

Comment: If any assessment of the need and land conditions related to treatments that are underlying/driving this [P]EIS process have been derived from a scientific methodology, this must be provided to the public. Were specific land areas identified by BLM Field Offices? If so, where is the map of these areas? It is essential to

understand just where the FOs identified treatment acres to determine the validity of the claims of the [P]EIS that many of the treatments would be conducted in the Wildland Urban Interface, and to determine the degree of impact to ACECs [Areas of Critical Environmental Concern], WSAs [Wilderness Study Areas], T&E [threatened and endangered species] habitats, etc.

Response: See Determination of Treatment Acres in the Scope of Report section of Chapter 1 of the PER for a discussion on how treatment acres were determined for use in the PEIS and PER. The field offices were requested to document which vegetation types potential treatment(s) would be applied to. General locations, in terms of plant communities, were identified rather than site-specific locations, as many site-specific locations are not known at this time. These data, which represent projections made by the BLM, are summarized by plant community and ecoregion in the PEIS and PER. Impacts to Areas of Critical Environmental Concern, Wilderness Study Areas, and threatened and endangered species habitat are assessed on a site-specific basis through NEPA analysis of a specific proposal to treat vegetation.

EMC-0585-232
Western Watersheds Project

Comment: The BA [Biological Assessment] evaluated the likely impacts to TES [threatened, endangered, and sensitive] species, yet nowhere does it evaluate the impacts of acres projected to be treated to the species inhabiting the land areas that will suffer the brunt of the treatments. As the [P]EIS is based on specific information from FOs [field offices] concerning treatment acreages in particular geographic areas, such information should be readily available, and the impacts of these treatments adequately assessed.

Response: See response to Comment EMC-0585-051 under PEIS Alternatives, Determination of Treatment Acreages.

EMC-0585-235
Western Watersheds Project

Comment: Such analysis must be conducted in relation to the lands where treatment is proposed under the [P]EIS. PER at 1-6 states that the field offices provided information on lands to be treated as part of this [P]EIS and methods to be used. Thus, BLM has a very good idea of which lands are to be treated, and where they are located. Instead of spending many pages rambling about Alaska, or a rare butterfly inhabiting a very small area, small where NO treatments were really envisioned to occur, BLM should have assessed the impacts of Veg Treatments on the lands – and the particular TES [threatened, endangered, and sensitive] species inhabiting the lands where treatments are likely to occur.

Response: See response to Comment EMC-0585-051 under PEIS Alternatives, Determination of Treatment Acreages. The focus of Chapter 4 of the PEIS is on those lands where treatments would occur and impacts are likely to be greatest. The BLM did provide discussions of likely affects to special status species under the Fish, Wildlife Resources, and Vegetation subsections of Chapter 4. In addition, information on the effects of all treatment methods on special status species is given in Chapter 4 of the PER, and in more detail in the Biological Assessment.

EMC-0606-007
Johnson, Kathy

Comment: 6 million acres? 5.1 million acres? 932,000 acres? How many acres are you ultimately going to be dumping on? And what happens if your spray gets on my private property?

Response: As discussed in Chapter 2 of the PEIS, herbicide treatments would occur on 0 to 932,000 acres, depending upon which alternative is selected in the Record of Decision. Herbicide treatments would occur on an estimated 932,000 acres under the

Preferred Alternative. In addition to these treatments, the BLM would use fire, and mechanical, manual, and biological control methods on an additional 5,068,000 acres. Thus, the total number of acres treated using all methods would be 6 million acres, and 16% of these acres would be treated using herbicides. Also see response to Comment RMC-0042-067 under PEIS Proposed Action and Purpose and Need, Purpose and Need for the Proposed Action.

RMC-0008-003
Globus, Maria W.

Comment: Is my area being considered for aerial spraying of herbicide?

Response: Please contact your local BLM field office to determine if the BLM is planning to aerial spray in your area.

RMC-0106-006
Public Employees for Environmental Responsibility

Comment: The D[raft] PEIS is an open-ended proposal to treat approximately 932,000 acres of public lands annually in 17 western states with 18 herbicides of unspecified formulation. The D[raft] PEIS does not state whether the same 932,000 acres will be treated each year or for how many years. It further does not indicate whether the same areas will be treated with the same or different herbicides in different or in the same years. It does not reveal the frequency of treatment within a single year. This leaves the public with no idea of how much land will actually be treated, or what kind of herbicide loads will be applied.

Response: The method for determining the number of acres treated annually, and how acres would be counted if they were treated more than once, is discussed in Chapter 1 of the PER under Determination of Treatment Acreages, and in Chapter 2 of the PEIS under Alternative A – Continue Present Herbicide Use (No Action Alternative). Also see response to Comment RMC-0208-003 under PEIS Alternatives, Vegetation Treatment Planning and Management.

RMC-0106-010
Public Employees for Environmental Responsibility

Comment: The Abstract of the DPEIS [Draft PEIS] states that together herbicidal and nonherbicidal treatments will be used on approximately 6 million acres in 17 western states. Thus, nonherbicidal methods are to be used on at least ~5 million acres. But, no indication is given on whether the two approaches may be used on the same lands, in the same or different years, for how many years, what combinations of herbicidal and nonherbicidal treatments are to be used, or the frequency of applications. A vague reference is made to impacts of non-herbicidal techniques over a period of 10 years (p. 4-45 [of Draft PEIS]), but no firm commitment is made to a complete review at that time. Moreover, the 1991 EIS for 13 western states seemed to indicate a 10 year period of treatments, but the same program has continued to present. The prospect that combined methods of treatment will be needed, and changes in herbicides used to avoid development of resistance are only briefly mentioned on p. 4-45 [of Draft PEIS], although development of herbicide resistance is of great importance.

Response: The methods applied to any particular area or project proposed for treatment, and how often treatments may occur for that project, are evaluated on a case-by-case basis at the project-specific level. The integration of herbicidal and non-herbicidal treatment methods under an integrated weed management framework is discussed under Vegetation Treatment Methods in Chapter 2 of the PER. This discussion outlines that some areas may receive one or more treatments in combination, such as prescribed burning followed by an herbicide application, and some areas may be treated using one or more treatment methods over several years. The PER discloses the general effects of treatments on resources and vegetation in the absence of a specific time frame. The discussion of likely impacts to natural resources from proposed treatments over the next 10 years is in error, and has been corrected in

the PEIS under Impacts Common to All Treatments in the Vegetation section of Chapter 4 of the PEIS.

The 1991 EIS Record of Decision states that the effective time frame for the 1991 FEIS is considered 10 to 15 years, which means that the decision time frame is applicable through 2001 to 2006. Recognizing this constraint, the BLM initiated this PEIS in 2001 to provide continuity in the programmatic NEPA analysis beyond 2006, unless new program requirements, new research data, or management policy changes dictate the need for a new PEIS or a supplement.

The paragraph discussing herbicide resistance summarizes the factors that may affect treatment success. Resistance to herbicides may be addressed through other non-herbicidal treatment methods to attain long-term control; the PEIS does not imply that more or different herbicides will need to be used to address species resistance to herbicides.

RMC-0208-021
California Oak Foundation

Comment: The Draft PEIS fails to identify, however, which of its lands will be subject to herbicide treatments.

Response: See response to Comment EMC-0585-051 under PEIS Alternatives, Determination of Treatment Acreages.

RMC-0208-025
California Oak Foundation

Comment: By failing to plainly identify and describe the lands on which the BLM proposes to apply herbicide active ingredients, the Draft PEIS fails to quantify the scope of the BLM's vegetation management program. The result is a Legally inadequate environmental document. (See 40 CFR [Code of Federal Regulations] § 1505.15 ("The environmental impact statement shall succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration"]; *Animal Def. Council v. Hodel* (9th Cir. 1988) 840 F.2d 1432, 1439 ["Where the information in the initial EIS was so incomplete or misleading that the decisionmaker and the public could not make an informed comparison of the alternatives, revision of an EIS may be necessary to provide 'a reasonable, good and objective presentation of the subjects required by NEPA.' "'].)

Response: The lands to which herbicides may be applied are identified on Map 1-1 of the PEIS and PER. These lands are further described in Chapter 3 of the Draft PEIS and PER. The scope of the BLM's vegetation treatment program is described in Chapter 2 of the PEIS and PER. Also see response to Comment RMC-0208-003 under PEIS Alternatives, Vegetation Treatment Planning and Management.

RMC-0214-020
Natural Resources Defense Council and National Wildlife Federation

Comment: The D[raft] PEIS Obfuscates the Number of Acres to be Treated. The D[raft] PEIS states that traditional vegetative treatments along with an expansion of herbicidal treatments will be used upon approximately 6 million acres. But the D[raft] PEIS does not indicate whether these approaches are to be used on the same lands, during the same periods of time, for how many years, the rate of recurrence of treatments on the lands, and what combinations of treatments will be applied. The D[raft] PEIS' lack of specificity is in direct contrast to the requirements of NEPA. BLM needs to provide accurate and unambiguous numbers on the acres to be treated and provide the context of when, how long, and in what combinations these treatments will take place. Without this information, BLM's "analysis" of environmental impacts is little more than wishful thinking.

Response: A discussion of how acres were counted for use in the analyses is discussed in Chapter 2 of the PEIS under Determination of Treatment Acreages. Also see response to Comment EMC-0585-051 under PEIS Alternatives, Determination of Treatment Acreages.

RMC-0218-031
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: Potential for Site-Specific Analysis at the Programmatic Stage – According to the DEIS [Draft PEIS], "–the BLM also reviewed information that was provided by local field offices in 2002 for development of this PEIS. This information included the location, treatment method, application method, vegetation class, and size for the treatment in acres for treatments proposed during the next 10 to 15 years."(DEIS [Draft PEIS] (AKA PEIS), p.4-42) Obviously then, enough site-specific information was provided to give a much clearer picture of ecological and human health impacts that could result if the proposed herbicide applications took place – if only this information had been disclosed to the public and decision makers as region-specific sections or appendixes to the PEIS. Even if only representative sample applications had been described for different states, portraying the range of typical situations, ecotypes, species, proximity to human habitation or use, etc. that would be affected and a scenario for each herbicide proposed for use in that state, that would have been much more informative and helpful to decision-making than the complete lack of such site-specific available detail in the PEIS & appendixes.

Response: The statement is found under Impacts Assessment Methodology in the Vegetation section of the PEIS and is a summary of the impact assessment methodology used for the ecological risk assessments. The complete description of how treatment acres were determined is found under Determination of Treatment Acreages in Chapter 1 of the Final PER and Chapter 2 of the Final PEIS and is the source for the summary statement referenced. The results from the 2002 data gathering are not sufficient to provide site-specific data for several reasons. Potential projects were estimated in non-specific locations of general vegetation types, framed as the ecoregions assessed in this PEIS. In many cases, multiple treatments were identified for a particular type of project. Treatments could occur on the same acres several times during 1 year, or over several years. The BLM also reviewed the Fire Regime Condition Class (FRCC) maps that were available and estimated the acreage potentially needed to move FRCC 3 class areas toward FRCC 2 and 1 classes. Estimates were also included on average numbers of acres covered by Emergency Stabilization and Rehabilitation projects following catastrophic fire. The non-specific nature of the data provided are useful in determining overall acreage estimates for the purposes of a programmatic analysis. The PEIS relies on representative sample applications in its analysis of impacts to vegetation and wildlife by ecoregions. Air quality analysis and modeling were accomplished using soil types for six representative locations across the West. Typical vegetation treatment methods are discussed in Chapter 2 of the PER under Vegetation Treatment Methods.

RMC-0221-008
Center for Biological Diversity

Comment: Unfortunately, before initiating the proposed project the BLM failed to undertake any systematic needs analysis to determine actual demand for the proposed action. Rather the BLM simply relied on information provided from each state about how many acres of public lands are "infested" and need to be treated. The information had no uniform context, nor was there adequate consideration of alternative solutions besides herbicide spraying.

Response: The proposed action was based on the need to reduce the risk of catastrophic wildfires by reducing hazardous fuels, restoring fire-damaged lands, and improving ecosystem health. See Chapter 1 of the PEIS, Purpose and Need. The

policy direction and context for this need is described in Chapter 1 under Introduction and Documents that Influence the Scope of the PEIS. The BLM relied on a variety of information sources in determining the potential acres to be treated, including Fire Regime Condition Class estimates, resource enhancement projects proposed by field offices to meet land use plan objectives, ongoing and potential Emergency Stabilization and Rehabilitation projects based on past fire history, as well as projects oriented toward addressing noxious weed and invasive species control. The number of acres that potentially could be treated does not necessarily correlate with the number of acres "infested." Treatment of all acres containing noxious weeds or invasive species would greatly exceed the estimates outlined in this PEIS. Vegetation treatments would utilize all accepted non-herbicide and herbicide methods of treatments in an integrated pest management context. The PEIS does not propose that all vegetation treatments be accomplished with herbicides alone.

RMC-0221-022
Center for Biological Diversity

Comment: The D[raft] PEIS fails to adequately describe the lands on where the BLM proposes to undertake aerial spraying of herbicides. Under NEPA, the BLM is required to describe the program and its projected impacts on the environment. 42 U.S.C. § 4332(2)(C). The project description must be readily understood by the interested public. 40 C.F.R. § 1502.8; *Oregon Environmental Council v. Kunzman*, 817 F.2d 484, 493 (9th Cir. 1987). By failing to clearly identify and describe the lands on which it proposes to apply herbicides, the D[raft] PEIS fails to provide the public and decision makers with a clear understanding of the scope of the proposed project.

Response: See response to Comment EMC-0585-051 under PEIS Alternatives, Determination of Treatment Acreages. The BLM has provided an estimate of the number of acres to be treated aerially, and discussed the types of impacts that could result from aerial treatments, in the PEIS. The proposed program is to treat about 932,000 acres of public lands using herbicides. Information on specific projects would be made available to the public during NEPA analysis at the local field level.

RMC-0221-051
Center for Biological Diversity

Comment: Because this D[raft] PEIS is wholly inadequate, the BLM may not lawfully rely on it in approving site-specific actions. For the BLM to proceed with site-specific projects based solely on this D[raft] PEIS or D[raft] PER that fail to identify and analyze even the most basic environmental impacts of the project would undermine both the letter and spirit of NEPA and undermine public participation and oversight in the management of our public lands.

Response: The BLM does not agree that the Draft PEIS is inadequate. The BLM did not intend to rely on the Draft PEIS for approval of site-specific actions, as no site-specific projects are proposed in this analysis. The PEIS will be used to support future BLM state and field office decisions through tiering to this analysis, which will support site-specific vegetation treatment decisions based upon individual NEPA analysis.

RMC-0228-003
Metropolitan Water District of Southern California

Comment: The Draft PEIS and attached maps do not provide specific locations for the application of herbicides. Without this information, Metropolitan [Water District of Southern California] cannot determine potential impacts to its or CDWR's [California Department of Water Resources'] facilities. Therefore, our comments at this time will be of a general nature and will focus on the areas in the lower Colorado River Hydrologic region, which would affect the Colorado River.

Response: The PEIS is a programmatic document assessing the effects of herbicide use on public lands resources, and does not contain site-specific locations for any

potential herbicide treatments. Specific projects involving herbicide use would be proposed at the local field office level and would undergo separate and site-specific NEPA analysis once the locations were determined.

RMC-0228-006
Metropolitan Water District of Southern California

Comment: The Preferred Alternative (B) and the other alternatives (excluding C), include herbicide application to aquatic and terrestrial areas for vegetation management. The aquatic herbicide application includes wetlands and riparian areas. The Draft PEIS does not specify the location, inclusion, or proximity of these areas to the Colorado River. Metropolitan is concerned about herbicide application directly to aquatic areas that are hydrologically connected to the Colorado River.

Response: See response to Comment RMC-0228-003 under PEIS Alternatives, Determination of Treatment Acreages. General impacts of herbicides to water quality are discussed under Water Resources and Quality in Chapter 4 of the PEIS.

Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives

EMC-0032-002
Montana Weed Control Association

Comment: As an invasive plant management professional, I would have to say that while the need to perpetually review, scrutinize, and monitor the herbicides which are approved for use on the BLM administered lands is very important; I believe that the technical reviews done to satisfy the environmental safety standards for product use labeling by the EPA, should be used to lessen some unnecessary review responsibilities on BLM resource managers. It seems possible that by building stronger cooperative efforts between the BLM, EPA, and the product manufacturers, many of the environmental concerns could be addressed during the product labeling approval process. The manufacturers of these products dedicate vast amounts of energy and money to ensure that the products they are providing will meet the societal scrutiny, and limit any potential environmental liability that exists related to product usage. Improved collaboration between these entities would seem to be a logical consideration. Detailed analysis of both the inert and active ingredients contained in the proposed products early on in the review process, by external specialists may also provide a platform for improved modeling techniques. The development of standardized risk assessment tools for the purpose of meeting the NEPA requirements should be created in such a fashion that it could be adopted by all governmental agencies. This should reduce the existing duplication by the various federal agencies with environmental responsibilities.

The economic dynamics associated with developing these environmental policies alone, should dictate that by leveraging corporate funding to assist in the review process, would allow for reduction or redirection of taxpayer-based funding to support program implementation of the much-needed land improvements. The increasing demands being placed upon public land resources to provide diversified opportunities to the general public, necessitate elevating the levels of stewardship being applied to mitigate the negative impacts of these activities. The costs associated with meeting these responsibilities are also increasing, and therefore; the pursuit of ecologically sound, cost effective management programs is a must.

Response: The registration of herbicides is the responsibility of the U.S. Environmental Protection Agency (USEPA), which requires the registrant to provide the data necessary for the preparation of human health and ecological risk assessments associated with the herbicide. Under NEPA, federal agencies are required to prepare an EIS when the proposed action is likely to have a significant impact on the quality of the human environment. Appendix E of the PEIS identifies the process the BLM will

follow when evaluating the need to add herbicides to its list of already approved chemicals, including the process for assessing hazards and risks according to the NEPA guidance. This process includes the analysis of risks to humans and the environment from the use of herbicides on BLM-administered lands. As part of this analysis, the BLM considers application rates, potential human and ecological receptors (e.g., general public, workers, wildlife), and exposure scenarios (e.g., ingestion, exposure to skin) that would be expected for herbicide applications on BLM-administered lands. The BLM can better predict risks to humans and the environment by using this analysis than by using only USEPA registration data. Although there are additional costs associated with the BLM analysis, protection to human and environmental health is likely to be greater as well.

EMC-0040-003
Malheur County Soil and Water Conservation District

Comment: The private ground treatment [of Class A weeds in Malheur County] has been showing good results, but the lack of treatment on BLM ground that neighbors the treated areas result in continued spread of the weeds. A MOU [Memorandum of Understanding] between Vale BLM and MC SWCD [the Malheur County Soil and Water Conservation District] has been in place since April of 2002 for treating BLM land, but the injunction that was imposed on BLM that limits what class of chemicals that can be used has taken away the ability of our cooperative efforts from being successful on both private and public ground. MC SWCD would like to encourage the removal of the injunction that is handicapping the control of these invasive species. New chemicals like Plateau, Tordon and Telar are the best treatment of these weeds and are unavailable to use as a tool on BLM land due to the injunction.

Response: The BLM is still bound by a court-ordered injunction preventing it from using all but a number of herbicides. The BLM intends that the analysis contained within this PEIS will resolve many of the issues that led to the Oregon court injunction preventing the BLM from using modern, safe, and more effective herbicides on public lands in Oregon.

EMC-0129-001
Miller, Tracy

Comment: I am requesting that the agency review its use of pesticides to use the least toxic, vinegar based products such as BurnOutII that have been proven (and I have tested) to eliminate weeds without toxic consequences to flora and fauna.

Response: BurnOut II®, a non-selective herbicide, it is not an USEPA registered product, and therefore has not gone through the same, necessary screening and testing as those that are USEPA registered. Though considered a "Minimal Risk Pesticide" that is exempt from USEPA registration, the label indicates that this herbicide is "Corrosive, causes irreversible eye damage . . ." According to USEPA's Office of Pesticide Programs' Label Review Manual, the statement "Corrosive. Causes irreversible eye damage. . ." should be indicated by the toxic signal word "Danger." However, the label for BurnOut II® only contains signal word "Caution," which might result in inappropriate handling the herbicide. The application of BurnOut II® would result in a non-selective treatment, potentially harming both undesirable and desirable vegetation, and minimizing the chance for desirable vegetation to gain a competitive advantage. In contrast, use of a selective herbicide to eliminate the undesirable vegetation would not exhibit a significant negative impact on desirable plants. Appendix E of the PEIS identifies the process the BLM would follow when evaluating new herbicides proposed for use, including an assessment of human health and ecological risks and compliance with NEPA.

EMC-0161-005
EMC-0271-004
Richards, Vivien
Takemori, Claire

Comment: Several of the herbicides proposed do even not have products currently registered for use by the California by the Department of Pesticide Regulation. As a California resident and user of public lands I worry about the irreparable damage these chemicals will do to the natural surroundings and public lands I enjoy, as well as the health hazards these chemicals pose to my family.

Response: See response to Comment EMC-0018-003 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

EMC-0218-004
Dewey, Steven A.
(Utah State University)

Comment: It seems utterly foolish to me that the BLM or any other federal land management agency would take upon themselves the role of overseeing or second-guessing the EPA. And yet, that is exactly what BLM is doing by creating its own list of herbicides that excludes site-approved products already deemed safe and effective by EPA. It is my opinion that all herbicides meeting EPA registration requirements for range and/or wildland sites should be automatically approved for use on BLM lands. Alternative B [in the PEIS] allows use of four additional active ingredients (imazapic, diquat, diflufenzopyr, and fluridone) beyond the currently approved fourteen. But why stop there? Why deny your agency's land managers the use of newer products (such as aminopyralid) that may be even more effective and safe? If the BLM's goals for vegetation management are to decrease invasive and noxious weeds, to decrease the risk of wildfire, and to improve habitat for endangered species, then I'm convinced that arbitrarily limiting or completely eliminating any safe and effective herbicide option (product or application method) for vegetation management is a recipe for eventual failure.

Response: See response to Comment EMC-0032-002 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

EMC-0238-005
California Partners in Flight

Comment: CalPIF [California Partners in Flight] is concerned that several of the active ingredients under Alternative B carry potentially moderate or high exposure risk to biota. Those active ingredients for which we are concerned include Bromacil, Diquat, Diuron, Fluridone, and Tebuthiuron. We recommend that in the final planning document it be stated that the risk of exposure to fish and wildlife will be considered when deciding what active ingredient(s) to use, and that all efforts will be made to select active ingredient(s) that pose the lowest risk of impacting fish and/or wildlife. Only when it can be shown that chemicals with lower risk are unlikely to be effective should chemicals with a higher risk of injury to fish and wildlife be chosen.

Response: See responses to Comment EMC-0585-157 under PEIS Alternatives, Mitigation and Comment RMC-0115-002 under PEIS Alternatives, Monitoring.

EMC-0246-002
Abe, Jane

Comment: I would also be interested to know what influence the chemical companies have in these proposed actions.

Response: See Chapter 2 of the PEIS under Herbicide Active Ingredients Evaluated under the Proposed Alternatives. Chemical manufacturing companies were invited to participate in the public process and asked to submit nominations for active ingredients for the BLM to consider in the PEIS. Once the nominations were submitted, from both the BLM field offices and industry, the BLM vetted the information and proposals based on need at the field office level. The BLM is responsible for the proposed action analyzed in the PEIS.

EMC-0317-002
Malmberg, Tony

Comment: With herbicides, usually broad leafed plants are killed and it moves the plant community backwards to a less diverse and less complex community. It will even create more bare ground in a lot of cases. Our idea is to stress the weeds we don't want and favor the plants we do want. We can usually do this with planning the time of grazing to stress those plants without sacrificing the health of the plant community or using poison.

Response: In addressing the management of broadleaf species and the need to maintain a diverse plant community, Pokorny et. al. 2005 (Pokorny, M.L., R.L. Sheley, C.A. Zabinski, R.E. Engel, T.J. Svejcar, and J.J. Borkowski. 2005. Plant Functional Group Diversity as a Mechanism for Invasive Resistance. Restoration Ecology 13:448-459) summarized their research by making the following statement: "Grasslands high in functional group diversity, particularly the forb functional groups, are important for resisting invasion by nonindigenous forbs." The authors continue by stating, "Diversity can be maintained or restored during management practices. For example, intermediate levels of disturbance, proposed to maintain high levels of diversity, can be obtained by regulating grazing and burning time and intensity. Diversity can also be maintained through careful planning of herbicide applications."

Several of the herbicides proposed for use by the BLM are selective (2,4-D, chlorsulfuron, clopyralid, dicamba, imazapyr, metsulfuron-methyl, picloram, tebuthiuron, diflufenzopyr + dicamba, and imazapic; see Table 2-3 of the PEIS). Selectivity (the toxicity of a chemical to some species more than others) can be based on several factors, including, but not limited to, timing and rate of application. Some selective herbicides are toxic to broadleaf species but practically non-toxic to grass species. This type of selectivity allows for the desirable grass species to tolerate the application of the herbicide at a rate that is effective for the management of the targeted broadleaf species. Not all broadleaf species are affected at the same rate of application; thus, selectivity can be achieved by selecting the proper use rate of the herbicide. The use of an herbicide does not create a bare ground situation unless the herbicide is registered for bare ground applications and is used in a site that requires total vegetation management.

Chapter 1 of the Programmatic EIS outlines the tiering process, from the broad, comprehensive national-level programmatic study, which this document is, to site-specific analysis which will be done at the local level. The site-specific analysis will address the issues of eliminating competitive vegetation through the use of a herbicide for the management of a specific weed species. The commentor's issues will be addressed when a site-specific Environmental Assessment (EA) is prepared and a Pesticide Use Proposal is developed. These documents will take into account the biology and ecology of the targeted species and how they relate to the most efficacious use of the proposed herbicide and the least amount of impact on the site of application.

EMC-0338-008
Dow AgroSciences

Comment: Comments on general information on clopyralid, picloram, and tebuthiuron: We understand that for efficiency and expediency it was useful to use information from previous assessments for herbicides already approved. However, it appears that the risk assessments were completed by different methods, different entities (SERA [Syracuse Environmental Research Associates, Inc.] for the USDA Forest Service assessments and ENSR for the BLM), at different times, and using different maximum use rates. It is not reasonable to compare results using these two approaches unless the data and methodologies are comparable for BLM use sites. For example if a maximum use rate of 10 lb a.i./A triclopyr were used this would far exceed the maximum use rate of 2 lb a.i./A on grazed lands (except for IPT [individual

plant treatments] treatments - see discussion below under the triclopyr section). Rates of triclopyr and picloram are higher for brush control than for herbaceous weed control most often used on rangeland.

Response: A discussion of herbicides evaluated using BLM and Forest Service methodologies is given in Chapter 2 of the PEIS under Herbicide Active Ingredients Evaluated under the Proposed Alternatives. A comparison of the two methodologies is given under Impacts Assessment Methodology in the Vegetation section of Chapter 4 of the PEIS. In general, the exposure assessment and risk characterization process were similar for the BLM and Forest Service methodologies. The BLM used risk assessment spreadsheets developed by the Forest Service to conduct its analysis of Forest Service-evaluated herbicides. As part of the analysis, the BLM entered application rates into the spreadsheets that would apply to treatments on BLM-administered lands to ensure that the assessment of risks would reflect these application rates. The rate used for triclopyr is the maximum rate for non-cropland applications, and is greater than the rate for rangeland/pasture applications. We used the higher application rate to provide a more conservative assessment of risks.

EMC-0357-002
Maizes, Beth
(Hawthorne Health and Nutrition Institute)

Comment: I would like to see the Manufacturers MSDA Sheet [MSDS] on the herbicides you are considering.

Response: The manufacturer's Material Safety Data Sheets can be found at http://www.cdms.net/. Also see response to Comment EMC-0505-017 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

EMC-0374-001
Hardy, John O.

Comment: Why wasn't Sulfosulfuron considered in the treatments? Sulfosulfuron has a road side label and is effective in controlling cheat grass without causing damage to desirable bunch grass vegetation. Since most wild fires are started along roadsides by vehicles that pull over on top of flammable material, it seems that Sulfosulfuron would be a good option to look into.

Response: The process for selecting herbicide active ingredients evaluated in the PEIS is provided in Chapter 2 of the PEIS under Herbicide Active Ingredients Evaluated under the Proposed Alternatives. Sulfosulfuron did not meet one or more of the criteria for selection of new active ingredients given in that section.

EMC-0446-029
The Nature Conservancy

Comment: Diflufenzopyr is not a new herbicide. It has been used in the past mainly for weed control in soy and corn crops. A new label now allows its use in non-crop areas. Under the Preferred Alternative, BLM projects its use on only two percent of all acres treated. There is no justification given in the PEIS for the use of this herbicide other than a mention of Overdrive being effective on oak and several other species, with no reference cited ([Draft] PEIS [page] 4-63). We question the need to include this herbicide, since equivalent control can be achieved with other herbicides on the Preferred Alternative list. There is one published paper (Lym and Deibert 2005) that discusses the effectiveness of diflufenzopyr+dicamba in non-crop areas on *Cirsium arvense* (Canada thistle) and *Euphorbia esula* (leafy spurge), but this treatment was not more effective than other available herbicides after one year of treatment. Since no other documented studies on the use of this herbicide in non-crop areas are cited, we recommend removing this formulation from the BLM-approved use list.

Response: On March 3, 1999, the EPA announced approval of applications to conditionally register the following products:
EPA Registration Number – 7969-157: Diflufenzopyr – Technical Herbicide – Acid

formulation.
EPA Registration Number – 7969-151: Diflufenzopyr – Sodium Salt (93%)
EPA Registration Number – 7969-150: Distinct® = Diflufenzopyr – Sodium Salt (21.4%) and Dicamba – Sodium Salt (55%)

Of the three products, only the diflufenzopyr + dicamba has received full registration and was originally registered for use in field corn and non-crop areas, being sold under the trade name Distinct®. As the registration process proceeded, diflufenzopyr + dicamba expanded its label to include application onto pasture, hay, and rangeland situations. These, along with the noncropland sites were placed under the trade name Overdrive® (which has the same EPA Registration Number as Distinct®) in 2004, with the cropland applications remaining under the trade name Distinct®, along with what are identified as fallow and fence line areas, therefore, the common name of the herbicide Overdrive® is diflufenzopyr + dicamba. When diflufenzopyr is applied with dicamba, it focuses dicamba's translocation to the meristematic sinks, where it delivers effective weed control at reduced rates of dicamba, and across a wider range of weed species, which is the strength of this herbicide.

Diflufenzopyr was identified for use by field offices, as discussed in Chapter 2 of the PEIS under Herbicide Active Ingredients Evaluated under the Proposed Alternatives. Although it is not widely used, it is effective against certain target plants that must be controlled by BLM personnel. Because its use is not extensive, the BLM believes that the benefits from use of diflufenzopyr outweigh its potential risks with its safe application.

EMC-0446-030
The Nature Conservancy

Comment: [Diuron] has been marketed in the U.S. for decades and has been used mostly in agricultural situations in the past. It is still used on some croplands, but is typically not used in non-crop (natural/wildland) areas. Diuron is moderately to highly persistent in soils, its mobility depends on soil type, and it has been found in groundwater sources in California. Given that the Preferred Alternative projects use of this herbicide at less than one percent of all treatments, we question the need to include it. There are other herbicides that can provide the same or better level of weed control than diuron with fewer environmental effects.

Response: As stated in Chapter 2 of the PEIS under Herbicide Modes of Action and Treatment Methods, diuron is a non-selective herbicide which is registered for use where there needs to be bare ground, in sites associated with oil and gas, rights-of-way, and recreational and cultural resources. Impacts to resources from the use of diuron are addressed in Chapter 4 of the PEIS. Although not widely used, it is an important herbicide for maintaining bare ground at oil and gas, paleontological, cultural, and other sites where the presence of invasive vegetation would create a risk to that site. Because its use is not extensive, the BLM believes that the benefits outweigh its potential risks with its safe application.

EMC-0505-010
U.S. Environmental Protection Agency

Comment: The PEIS discusses the changes that may occur in the future and how these would be handled. EPA supports the use of adaptive management and offers the following suggestion for your consideration. At the close of this process there will be an approved list of herbicide active ingredients. Concurrently, there is a an ongoing effort to develop less toxic, more selective and less persistent herbicides that offer significant reductions in risks found with older active ingredients and formulations. However, these newer, less toxic herbicides will not be on that list and will be unavailable to BLM until reviewed and approved. Accordingly, we suggest that the BLM might consider developing a protocol that would permit the use of newer, less

toxic herbicides as they are developed and approved by EPA.

Response: The BLM has a process to adopt newer, less toxic herbicides, as outlined in the Final PEIS in Appendix E (Protocol for Identifying, Evaluating, and Using New Herbicides), and in Chapter 2 under Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

EMC-0505-017
U.S. Environmental Protection Agency

Comment: EPA suggests that BLM consider adding a representative label for each of the approved herbicide active ingredients and a reference to EPA's website for pesticide registration and ready access to complete fact sheets on all registered products. http://cfpub.epa.gov/oppref/rereg/status.cfm?show=rereg.

Response: The BLM has included a link to a website that provides representative labels for each approved herbicide active ingredient, and has listed the link to the EPA's website for pesticide registration and ready access to complete fact sheets on all registered products. This information is found in Chapter 2 of the PEIS under Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

EMC-0541-018
Associated Oregon Loggers

Comment: Disparage the prescriptive obstacles of previous herbicide decisions, which hobbled action. Previous herbicide policies that dictated overly-specific silvicultural applications must be avoided. Limiting management options by edicts, such as herbicide bans, is nonsensical. This BLM revision needs to clearly explain that herbicide use for regeneration, and prompt young forest establishment must be an integral practice supported by the plan revision.

Response: Herbicides remain an important tool in the management of woody species on lands that are managed for sustained yield of commercial timber and in situations where natural tree regeneration is exacerbated by the effects of uncharacteristically severe wildfire. In 1984, the Forest Service and BLM were enjoined from the use of herbicides in Oregon by the U.S. District Court for the District of Oregon (Civil No. 82-6273-B). The BLM returned to court in 1987 and received a partial dissolve of the injunction that allowed the use of herbicides containing dicamba, glyphosate, picloram, and 2,4-D to control and eradicate noxious weeds on BLM lands in Oregon (Civil No. 83-6272-BU). However, this injunction is outside the scope of this document and will need to be addressed at the next scale of analysis for regional or statewide programs in Oregon. Five program alternatives were developed and evaluated in this PEIS. Alternative actions were developed to address the concerns raised during scoping. It is the public's desire to see alternatives that have less emphasis on the use of herbicides (see Chapter 1, Development of the Alternatives). Alternatives were also developed to ensure that BLM complied with federal, tribal, state, and local regulations.

EMC-0562-010
The Lands Council

Comment: The Lands Council is adamantly opposed to the use of Roundup. While the manufacturer Monsanto (the BLM's source for Roundup toxicological and safety information) touts Roundup as relatively safe and nontoxic, glyphosate (the active ingredient in Roundup) and its formulations can cause serious health repercussions, most commonly respiratory or contact symptoms. A Swedish study has linked glyphosate exposure to the lymphatic cancer non-Hodgkins lymphoma. *See* Hardell & Eriksson (1999). Glyphosate is nitrosated "very readily" to the contaminant N-nitrosoglyphosate, a member of a chemical family of which approximately 75% are know carcinogens. *See* Sittig (1980); Young and Khan (1978); Lijinsky (1974). While the EPA thus far considers this contaminant to be "not toxicologically significant", consideration of its carcinogenic potential has thus far relied exclusively on the results

of unpublished studies conducted by Monsanto, hardly an unbiased source. *See* Rubin (1996); EPA (1993).

Response: In the 1999 Hardell paper the authors do not show that glyphosate causes Non-Hodgkins lymphoma (NHL), nor was the sample size sufficient to report a significant association. Recent work by DeRoos et al. (A.J. DeRoos, A. Blair, J.A. Rusiecki, J. A. Hopping, M. Svec, M. Dosemeci, D.P. Sandler, and M.C. Alavanja. 2005. Cancer Incidence among Glyphosate-exposed Pesticide Applicators in the Agricultural Health Study. Environmental Health Perspectives 113: 49-54), with larger sample size and better epidemiologic techniques failed to show any link with NHL, all cancers, or cancers by target organ, except for a "suggested" association with multiple myeloma (although the sample size was small). Neither the USEPA nor the consensus of the scientific community conclude that glyphosate is carcinogenic. There is literature that suggests N-nitrosglyphosate maybe a transformation product but there is no evidence that this compound causes cancer.

EMC-0562-011
The Lands Council

Comment: The BLM has neglected to consider the use of non-toxic organic herbicides and other weed control methods utilized by organic farming practices. For example, St. Gabriel Laboratories produces an organic herbicide called Burn Out®. It is advertised to work faster than Roundup® and by meeting NOP [National Organic Program] Organic Farming Requirements is less likely to have adverse impacts to the environment or human health.

Response: The process for selecting herbicide active ingredients evaluated in the PEIS is provided in Chapter 2 of the PEIS under Herbicide Active Ingredients Evaluated under the Proposed Alternatives. Also see response to Comment EMC-0129-001 regarding the use of BurnOut II®.

EMC-0563-002
Hupp, Kevin L.
(Lincoln County Noxious Weed Control Board)

Comment: You should look into a new product that has just recently been approved. "Milestone" by Dow agro sciences has just been approved for use under a "Caution" label. It has a lot of versatility and would aid you in controlling some infestations that are in sensitive areas.

Response: See response to Comment EMC-0566-008 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response. Should the Protocol for Identifying, Evaluating, and Using New Herbicides (Appendix E of the PEIS) be approved through a Record of Decision, the BLM will review any requests from the field offices for new herbicide products to assess. The BLM will determine, based on the protocol, the most appropriate products to evaluate and enter them into the queue for funding.

EMC-0566-008
Western Society of Weed Science

Comment: The WSWS [Western Society of Weed Science] also supports the developed Appendix D [in the PEIS], "Protocol for Identifying, Evaluating and Using New Herbicides" to facilitate evaluation and addition of new chemicals as they become available in the future. However, the process outlined for approval of a new herbicide or for a new use of an existing herbicide is lengthy. A more rapid response to use of new herbicides may actually assist with eradication efforts if an invasive plant is found in a non-infested area. Waiting two to three years for use of a herbicide that has been registered by the U.S. EPA would appear to be inconsistent with the mandate set forth in the 1999 Executive Order 13112, which is to prevent the introduction of invasive species, provide for their control, and minimize their economic, ecological, and human health impacts. As you are aware, the executive order required the formation of an Invasive Species Council comprised of a number of federal agencies,

including BLM, which was tasked to complete a *National Invasive Species Management Plan.* On page 6 of the Plan the Council is tasked to lead, "... development, testing, transfer, and training concerning use of environmentally compatible pesticides and herbicides in controlling invasive species." On page 36 "The Council will review and propose revisions of policies and procedures (i.e., advance approval for quarantine actions, pesticide applications, and other specific control techniques, and interagency agreements that address jurisdictional and budget issues)." New herbicides provide opportunities for a rapid response to new infestations of invasive plants when they are relatively small in size. Failure to use US EPA approved herbicides early in the invasion cycle will likely lead to use of larger amounts of herbicides to control the invasive plants once their population has expanded. Rapid response is effective in eradicating invasive plants before they spread. We encourage the BLM to consider a way to respond more rapidly to the use of new EPA registered herbicides.

Response: The BLM disagrees that implementing a protocol for evaluating new herbicides would be inconsistent with Executive Order (E.O.) 13112. The BLM does not rely on the results of studies on new herbicide formulations to move forward and implement the EO with existing tools. The proposed protocol allows the BLM to provide a public process for evaluation of herbicides that are being considered for use on public lands. The BLM has attempted to integrate the herbicide evaluation process into is budget cycle to ensure that appropriated funds are available to conduct studies for new herbicides, as well as updated studies on existing herbicides, by placing them on a regular schedule for reevaluation. Without consideration of identified dedicated funding, approval of new herbicides and reevaluation of currently approved herbicides may be delayed beyond the predicted time frame because of studies that are incomplete due to lack of identified funds. The time frame proposed reasonably accommodates the time needed to obtain funding, conduct the literature searches and toxicological assessments, and comply with NEPA in order to approve the product for use. The protocol also provides a standard methodology for analysis where none currently exists within the agency. The last approval of herbicides occurred in 1992, in association with studies dating to 1988. This length of time is unacceptable to the agency and our partners. The proposed process will provide the public and partner agencies a higher level of certainty about how the BLM manages herbicide use. In addition, the process allows better coordination among manufacturers, agencies, and product users to assess the best products on the market to accomplish specific objectives. The BLM agrees that early detection and rapid response (EDRR) is important to effectively manage invasive species, and the BLM proactively uses USEPA-approved herbicides, approved for use on public lands, early in the invasion cycle.

EMC-0584-058
Western Watersheds Project

Comment: For several years prior to the Oust drift onto ag. crops disaster, the corporation that manufactured Oust aggressively marketed its use at weed seminars attended by federal agencies. We are quite suspicious of the role of chemical corporations in pushing the use of herbicides, and are alarmed that this harmful chemical is now being proposed by BLM for use.

Response: Chemical companies do promote the use of herbicides they manufacture. Oust®(sulfometuron methyl) is effective at preventing emergence of cheatgrass, which covers millions of acres in the western U.S and displaces native vegetation. The prudent use of Oust may be an acceptable risk when comparing the benefits to the rangeland ecosystem to the risks to human and ecological health. Based on the human health and ecological risk assessment conducted by the BLM, risks to human and

ecological health is none to low for use of Oust® (see discussion on sulfometuron methyl under each resource section in Chapter 4 of the PEIS).

EMC-0585-057
Western Watersheds Project

Comment: Determine which active herbicide ingredients are available for use on public lands. This is reckless. BLM cannot limit itself to just the "active" ingredients, as carriers, breakdown products, etc. may have serious environmental effects.

Response: The BLM focused its analysis of human health and ecological risk on herbicide active ingredients, as most of the published, agency, and registration information on risks associated with the use of an herbicide focuses on the active ingredient. However, the BLM did look at other herbicide formulation components in Appendix C of the PEIS under Degradates, Inert Ingredients, Adjuvants, and Tank Mixtures in the Uncertainty Analysis section. In addition, the BLM conducted additional analysis of degradates and the potential for herbicides to act as endocrine disruptors for the Final PEIS; see Appendix D.

EMC-0585-146
Western Watersheds Project

Comment: [The] [P]EIS ignores a broad range of current science in claiming that it did not need to conduct new assessments for the PEIS on already used chemicals other than Oust, and "it was determined that the remaining 19 herbicides did not require further analysis for human health risks". BLM then states that it needed new analyses for non-target species assessments. BLM did not conduct "new" analyses (ERAs [ecological risk assessments]) for 9 chemicals, but used old and incomplete Forest Service info ("interactive" spread sheets that were supposed to determine exposure concentrations under various scenarios).

Response: The BLM conducted human health risk assessments for 6 herbicides, including Oust® (sulfometuron methyl). A literature search was done by the BLM in the late 1990s to determine if new information on human health risks from the remaining 19 herbicides justified a new analysis for these herbicides as part of the PEIS. Based on this review, the earlier BLM human health risk assessments were appropriate for use, except in a few circumstances. These circumstances, and their associated risk to humans, were discussed in Appendix B of the PEIS, under Evaluation of Currently-available Herbicide Active Ingredients. The BLM used nine risk assessments prepared by the Forest Service to determine risks to plants and animals. The methodology used by the Forest Service to assess risks was similar to that used by the BLM. These assessments are generally only a few years old and are complete.

EMC-0585-189
Western Watersheds Project

Comment: BLM fails to present information on use of combinations of chemicals, or multiple chemicals used in the same area to control multiple species of weeds or to kill the same weeds.

Response: During 2005, the BLM applied herbicides on approximately 156,770 acres of BLM-administered lands. A combination of herbicides in a tank mix was applied to 38,102 acres, or 24% of all acres treated. Tank mixes were used to kill one or more species of weeds.

EMC-0585-194
Western Watersheds Project

Comment: We are alarmed at the BLMs proposal to allow use of Diquat, given that the BLM's own Risk Characterization results show that Diquat exceeds EPA's level of concern for occupational receptors under the majority of terrestrial scenarios ([page] B-69 [of Appendix B of the Draft PEIS]). BLM does not claim to now use Diquat on lands, but land contamination is very likely, and this opens the door for future use on land. Contamination of riparian vegetation and soils, and impacts to aquatic biota, are

likely from its use in aquatic systems.

Response: Risks to humans from the use of diquat at typical application rates are none for 10 of 17 worker scenarios, low for 5 of 17 scenarios, and moderate for 2 of 17 scenarios (see Table B-10 in Appendix B of the PEIS). Mitigating measures will reduce risks to acceptable levels, as discussed in Chapter 2 of the PEIS under Mitigation.

EMC-0585-195
Western Watersheds Project

Comment: We also are alarmed that BLM proposes to use fluridone, despite accidental risks exceeding EPA's level of concern for occupational receptors.

Response: No risk was projected in any of the many fluridone exposure worker or general public scenarios, except for the accidental spill, in which the risk could be low if the typical application rate was used. No risk was projected in any of the many fluridone exposure worker or general public scenarios that considered routine use and the typical application rate. The assumptions made in the accidental scenarios are very conservative.

EMC-0590-022
Western Slope Environmental Resource Council

Comment: The growing of grapes, including organic grapes for wine, is a growing agricultural pursuit in our area. Damage to grape vineyards and other crops by 2,4-D has been reported since the herbicide was first introduced in 1947 (23). We are especially concerned about the proposed use of sulfometuron methyl, one of a group of sulfonylurea (SU) compounds that are excessively persistent in the environment and cannot be detected at low levels in environmental samples (28), presenting potential long-term dangers to any human, animal or plant receptors. Sulfometuron methyl sprayed by the BLM in Idaho in 2001 to control non-native grasses and noxious weeds on public rangeland is alleged in a lawsuit to have damaged over 100,000 acres in 11 counties and resulted in hundreds of millions of dollars lost in farm revenue (29). Local tests and expert discussion leads us to question the proposed use of imazapic (trade name Plateau), since it can kill species that should be encouraged; as well as of tebuthiuron (Spike), since it has led to substantial cheatgrass expansion in certain trials (30).

Response: The labeled use of sulfometuron methyl (Oust®) is for the control of many annual and perennial grasses and broadleaf weeds in forestry and non-croplands. A 24(c) label or Special Local Needs Label was approved for the states of Utah, Idaho and Nevada to use the herbicide to control downy brome (*Bromus tectorum*), cheat (*Bromus secalinus*), and medusa head (*Taeniatherum caput-medusae*) on fire-damaged land, firebreaks, and other non-crop areas owned and administered by agencies of the State of Idaho or the federal government such as the U.S. Department of Agriculture and the U.S. Department of Interior including the BLM, the Forest Service, and the U.S. Fish and Wildlife Service. However, since the 2001 incident in Idaho, the 24-C label approving its use for fire-damaged lands has been pulled, and the current labeled use of sulfometuron methyl is limited to bare ground applications. The PEIS and PER identify the parameters for use and standard operating procedures that are designed to reduce the risk of all of the herbicides currently used by the BLM, including, but not limited to tebuthiuron, as well as those proposed for use, including imazapic.

EMC-0590-023
Western Slope Environmental Resource Council

Comment: Also indicated in Table 1 are the herbicides that are reported in the most recent "US Forest Service Regional Report of Pesticide Use on National Forest System Lands" as having been used on our local Grand Mesa-Uncompahgre-Gunnison National Forest (GMUG under Notes). An indication that five of the pesticides in

Table 1 are on the Pesticide Action Network's list of "Bad Actor" pesticides is also included in the Table (PAN-BA under Notes). The "Bad Actor" list was created to identify "most toxic" pesticides. A chemical found on the list is at least one of the following: a carcinogen, a reproductive or developmental toxicant, a cholinesterase inhibitor, a groundwater contaminant, or a pesticide with high acute toxicity.

Response: None of the herbicides proposed for use by the BLM is a carcinogen, has high acute toxicity, or is a cholinesterase inhibitor. Information on reproductive effects was presented in the BLM (included on the CD that accompanies the PEIS or in earlier BLM EISs listed in the PEIS) and Forest Service (http://www.fs.fed.us/foresthealth/pesticide/risk.shtml) human health risk assessments.

EMC-0606-002
Johnson, Kathy

Comment: Why do you "need to determine which herbicide active ingredients…Hasn't that already been done by the chemical company's MSDS [Material Safety Data Sheets] sheets that must accompany any and all chemicals?

Response: The MSDSs provide useful information on the risks to humans and terrestrial and aquatic organisms and were used in preparing the human health and ecological risk assessments for the PEIS. However, the BLM conducted additional analysis to quantify the risks to humans, fish and wildlife, plants, cultural and scenic resources, and other resources on public lands, under realistic conditions and based on realistic application scenarios. This additional analysis helped the BLM better assess risks and to develop appropriate standard operating procedures and mitigation to reduce them.

EMC-0606-004
Johnson, Kathy

Comment: You are currently using 14 herbicides and what to use 4 new ones! Why do you need so many?? That is ridiculous!! 18 different chemicals, (POISON cocktails) to control the forest fires and keep the forests healthy?????? Show me the tests that were done on the many different combinations of these 18 chemicals. What were the results of even mixing two of them together? What is 'out there' that can't be fought with the current already approved chemicals? Alien growth? Please!!!!???? Get Real!

Response: When determining which active ingredients required a risk assessment prior to being added on the current approved list, several factors were considered. One of these factors was management of undesirable vegetation for which there were a limited number or no effective herbicides available under our current program. For example, there are very few herbicides available to control invasive aquatic vegetation under the current program, and aquatic species are not being effectively controlled. The addition of two of the proposed active ingredients will allow for the BLM to be more aggressive in stopping the negative impacts associated with this group of species. A similar case can be made for the management of invasive winter annual grasses and the critical impacts associated with these species on lands administered by the BLM. Under the current list of active ingredients, the option available for management of these species eliminates all annual vegetation, including desirable species. One of the proposed active ingredients, when approved, will selectively eliminate the undesirable species.

EMC-0623-016
Defenders of Wildlife

Comment: BLM should minimize use of any herbicide that is a known groundwater contaminant, developmental or reproductive toxin, acutely toxic, carcinogen or endocrine disruptor. Defenders is pleased that the BLM is planning to discontinue use of three such chemicals (2,4-DP, atrazine and simazine), and that none of the new herbicides currently proposed is such a chemical, but we are disappointed that BLM

has signaled its intent to continue to six chemicals that are such known toxins.

Response: The BLM would consider the potential for an herbicide to contaminate groundwater when evaluating treatment options and application methods. In addition, the BLM would use Standard Operating Procedures and mitigation measures identified in Chapter 2 of the PEIS to reduce risks to groundwater. As noted in Chapter 2 of the PEIS under Site Selection Priorities in the Vegetation Treatment Planning and Management section, the BLM would consider nonchemical methods of vegetation treatment before using herbicides.

EMC-0630-013
Porter, Mark C.
(Wallowa Resources)

Comment: I commend the [P]EIS team for providing means to adopt new chemicals over time. This is critical as herbicides are consistently becoming narrower in spectrum and more non-toxic to the environment and to humans. I hope that the [P]EIS team is already working to incorporate Milestone Herbicide into this [P]EIS.

Response: Additional herbicides will be considered for use on public lands following approval of a final protocol for herbicide evaluations. Also see response to Comment EMC-0566-008 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response.

EMC-0643-005
California Indian
Basketweavers
Association

Comment: The BLM intends to approve, via this [P]EIS, a tripling of the use of herbicides on approximately 932,000 acres annually, on 6 million acres in 17 states. Approximately 70% of applications will be 2,4-D, glyphosate, picloram and tebuthiuron (p. 4-149 [of the Draft PEIS]). The [P]EIS seeks to show an environmental clean bill of health for the use of a total of 14 herbicides.

Response: The PEIS presents BLM risk assessments for the four new herbicides and new ecological risk assessments for five old herbicides, and incorporates recent Forest Service risk assessments with updated spreadsheets for the remaining herbicides being considered for use by the BLM under the Preferred Alternative and Alternatives D and E. As discussed in the PEIS, there are risks associated with the use of herbicides, although risks are none to low for most application and exposure scenarios. The PEIS does not show an environmental clean bill of health, but discloses the risks to the environment and humans from the use of herbicides.

EMC-0643-078
California Indian
Basketweavers
Association

Comment: Clopyralid (Transline) is emerging as a serious groundwater contaminant in California and it is highly persistent in the environment. Oddly, these attributes of clopyralid were not addressed substantively in the D[raft [P]EIS. Clopyralid is restricted for use in the state of California (2003) and throughout the nation for most lawn uses because it has been found to contaminate compost made from lawn clippings. Even after the high temperatures generated in the manufacture of compost, after 18 months the herbicidal action of the chemical was still active and resulted in mortality to vegetable plants in nurseries using the compost that contained clopyralid-contaminated grass clippings (Bezdicek 2001, Vanderoort et al. 1997). If this chemical can remain active this long after composting, there is little chance that it will break down any more rapidly in nature. This suggests that the chemical may become an environmental and health threat due to its unusual pattern of long persistence rates. The BLM should prohibit the use of this dangerous chemical on public lands.

Response: Research has demonstrated that clopyralid, unlike other herbicides that generally breakdown in composting, breaks down very slowly during composting. As a result of this situation, labels have been changed on those formulations that are registered for lawn and turf related applications The BLM would not apply any

herbicide active ingredient or formulation unless it meets the state's registration requirements.

EMC-0646-018
Californians for Alternatives to Toxics

Comment: BLM's position is that new chemicals and formulations can be used if approved internally, without NEPA review (see [PEIS] Appendix D-2). Specifically, adoption of new formulations and new active ingredients would depend on pesticide registration of the product to stand in for the required analysis. This process cannot stand. It is in direct conflict with established law, as was recently cited in Californians for Alternatives to Toxics et al v. California Department of Food and Agriculture, __ Cal.Rptr.3d __; 2005 WL 3549483; 2006 Daily Journal D.A.R. 1204 in which CATs [Californians for Alternatives to Toxics] argument that reliance on the registration process and labels of pesticides was not sufficient to satisfy the requirements of the California Environmental Quality Act.

Response: The PEIS does not propose to use pesticide registration as a replacement for NEPA analysis. The discussion in Appendix E of the Final PEIS under Determining the Need for New Herbicides describes the process by which herbicide formulations would be vetted and considered for adoption by the agency. The NEPA requirements for approval by the agency are described in Appendix E in Figure E-1 and under NEPA Documentation. Also see response to Comment EMC-0566-008 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response.

EMC-0646-184
Californians for Alternatives to Toxics

Comment: The BLM has neglected to consider the use of non-toxic organic herbicides and other weed control methods utilized by organic farming practices. For example St. Gabriel Laboratories produces an organic herbicide called Burn Out. It is advertised to work faster than Roundup (the glyphosate the BLM is proposing to liberally apply) and by meeting NOP [National Organic Program] Organic Farming Requirements is less likely to have adverse impacts to the environment or human health. If the BLM insists on using herbicides, why not use ones that are least likely to have adverse environmental impacts? What about hot foam or other non-herbicide methods the BLM has used in other projects before? What about mulching/covers and solarization? What about organizing volunteer weed pulling days? What about flaming or torching? Goats? Bio-control agents?

Response: See response to Comment EMC-0562-011 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives regarding the use of BurnOut II®. Non-herbicide treatment methods that would be used by the BLM, including the use of biological controls, are discussed in the PER. In addition, the BLM would use Standard Operating Procedures and mitigation measures identified in Chapter 2 of the PEIS to reduce risks to the environment and human health. As noted in Chapter 2 of the PEIS under Site Selection and Treatment Priorities in the Vegetation Treatment Planning and Management section, the BLM would consider nonchemical methods of vegetation treatment before using herbicides.

EMC-0647-006
Alaska Community Action on Toxics

Comment: BLM does not provide justification for its "approved" list of herbicides. It is wrong to state that "Except for diquat, new herbicides proposed for use pose few or no risks to workers or the public." Herbicides are inherently harmful and should be replaced with safe non-chemical alternatives. We are particularly concerned that BLM is proposing to add diquat to its list of "approved" herbicides. The following acute (short-term) health effects may occur immediately or shortly after exposure to diquat:

- irritation of the eyes, nose, and throat and may cause nosebleeds
- nausea, vomiting, diarrhea, tremors, convulsions, and even death

- reproductive toxicity that may decrease fertility in males.
- repeated exposure may cause clouding of the eye lenses (cataracts) and damage skin
- damage to the liver, kidneys and lungs.

Since diquat is a nonselective herbicide, it may present a danger to non-target plant species. Cows are particularly sensitive to the toxic effects of this material.
http://extoxnet.orst.edu/pips/diquatdi.htm

Response: These symptoms are associated with acute exposure to the active ingredient, which would not occur except in the accidental spill scenario. The diquat risk assessment, for 17 occupational scenarios involving typical application rates, predicted no risk for 10 scenarios, low risk for 5 scenarios, and moderate risk for 2 scenarios (mixer-loaders for plane and helicopter). Risk can be managed with the proper use of personal protective equipment and by following label instructions. The risk assessments included a large mammalian herbivore, which could be used as a surrogate to estimate risk to cows from use of diquat.

FL-0006-007

Comment: The proposed actions appear to meet financial needs of chemical companies and other large corporate interests, rather than support ecological integrity and public interests.

Response: The BLM disagrees. The Proposed Action is required to support restoration of ecological integrity and maintenance of healthy ecosystems in the public interest. See Social and Economic Values in Chapter 4 of the PEIS for a discussion of the economic benefits of herbicides and their applications.

FXC-0071-009
Campbell, Bruce

Comment: Which active ingredients/formulations of herbicides considered by BLM did you not do a recent risk assessment on due to reliance on earlier risk assessments? Which herbicides/formulations relied on BLM's risk assessments from 1988 and/or 1991? Which herbicides/formulations relied on old U.S. Forest Service risk assessments? (I object that it was handily presumed that, "Based on the general similarity of the risk assessments conducted by the BLM in 1988 and 1991 and the current risk assessment, it is likely that the risk estimates calculated previously would not differ significantly from risk estimates calculated for the present herbicide active ingredients using the updated risk assessment methods and the updated toxicity values. Therefore new risk assessments were not conducted for the herbicides currently in use other than sulfometuron methyl and dicamba." How do these updated risk assessment methods and updated toxicity values impact contamination pathways, cumulative impacts on human receptors and of sensitive species(?) – and if you are not sure, present the info, conduct the risk assessments, and find out!).

Response: The BLM prepared human health risk assessments (HHRAs) for the PEIS for diflufenzopyr, diquat, fluridone, imazapic, and sulfometuron methyl and ecological risk assessments (ERAs) for bromacil, chlorsulfuron, diflufenzopyr, diquat, diuron, fluridone, imazapic, sulfometuron methyl, and tebuthiuron. The Forest Service prepared HHRAs and ERAs for 2,4-D, clopyralid, dicamba, glyphosate, hexazinone, imazapyr, metsulfuron methyl, picloram, and triclopyr in the late 1990s and early 2000s. The BLM did not conduct HHRAs or ERAs for six currently-available herbicides—2,4-DP, asulam, atrazine, fosamine, mefluidide, and simazine—because they have not been used, or have been little used, by the BLM during the past decade, and under the Preferred Alternative and alternatives D and E would not be used by the BLM in the future until a new risk assessment was conducted and the chemicals found to be safe. Information on the risks from the use of herbicides can be found in Chapter

4 and appendixes B and C of the PEIS, in the HHRAs and ERAs prepared in support of the PEIS (and included on the CD that accompanies the Final PEIS), and from the Forest Service at http://www.fs.fed.us/foresthealth/pesticide/risk.shtml. Scenarios, receptors, and dose-response values for risks to humans from herbicides evaluated in 1988 and 1991 were discussed and evaluated in Appendix B of the PEIS under Evaluation of Currently-available Herbicide Active Ingredients. Risk assessment conclusions would not change significantly for these herbicides with updated risk assessment methods and dose-response values. The dose-response values and exposure pathways used in the earlier risk assessments and currently used by the USEPA were compared. If the earlier risk assessment found a particular herbicide to pose toxic effects, then it is likely that this outcome would not change with an updated risk assessment.

FXC-0071-010
Campbell, Bruce

Comment: In regards to the 9 herbicides for which BLM relied on outdated federal land management agency risk assessments, is it true that only dicamba underwent a new risk assessment? In regards to the other 8 herbicides (2,4-D, clopyralid, glyphosate, hexazinone, imazapyr, metsulfuron, methyl, picloram, and triclopyr), were there complete toxicological profiles for any of these in the old Forest Service or BLM risk assessments? Do you know if there have been well-conducted studies since those documents of about 14 to 18 years ago which would lead to a more complete toxicological profile? And besides calling for complete toxicological profiles for all herbicides and formulations which BLM is considering using in vegetation treatments, did BLM seek any studies since the 1988 and 1991 era in regards to inert ingredients, adjuvants, and degradants relating to these 9 herbicides? If so, which studies were they? If not, why not?

Response: See response to Comment FXC-0071-009 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives for a discussion of data sources and dates of analysis for herbicides evaluated by the BLM. See response to Comment FXC-0071-008 under PEIS Environmental Consequences, Herbicide Effects Analysis for analysis of inert ingredients, adjuvants, and degradants.

RMC-0067-003
Wyoming Outdoor Council

Comment: The most significant cause of catastrophic wildfires on BLM lands relates to the invasion of cheatgrass into sagebrush habitats. Yet the herbicides that will be used most heavily to control weeds are effective against broadleaved plants (dicots), not grasses (monocots). Thus, it is not clear to us that any real reduction in the incidence of catastrophic wildfire can be realized unless the herbicide that is used is effective against grasses. But if the herbicide used were to also kill native grasses (such as glyphosate does), it is not apparent to us that any real benefit will be achieved: BLM would likely just be creating ecological niches for further weed invasion.

Response: Table 2-3 of the PEIS lists the herbicides that are currently approved and proposed for use on BLM-administered lands. This table includes imazapic and describes the areas where its registered use would be appropriate. Imazapic is a herbicide identified as having activity on grasses and broadleaves, and has significant activity on downy brome (*Bromus tectorum*) while having safety on several grass species, as identified on the Plateau® label.

RMC-0067-004
Wyoming Outdoor Council
RMC-0221-070

Comment: We believe there is a real issue of the "cure being worse than the disease" with what is being proposed. We would all like to reduce the incidence of catastrophic wildfires and the spread of noxious weeds, but if the herbicides that are used kill all manner of native vegetation in addition to undesirable vegetation, it is not apparent to

Center for Biological Diversity

us any real benefit is being achieved. 2-4-2, Tebuthiuron, Picloram, and glyphosate will kill many highly desirable native species in addition to any undesirable invasives. The programmatic EIS does not appear to analyze or provide for mitigation that ensures this is not the case.

Response: See response to Comment EMC-0317-002 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding herbicide selectivity. The potential for herbicide treatments to impact non-target vegetation is discussed in detail under several resource sections in Chapter 4 of the PEIS, including Vegetation and Wildlife Resources. In most cases, loss of some non-target vegetation would be acceptable if the long-term health of the ecosystem is improved.

Table 2-3 in Chapter 2 of the PEIS lists the herbicides that are currently approved and proposed for use on BLM lands. This table includes imazapic and describes the areas where its registered use is appropriate. Imazapic is a herbicide identified as having activity on grasses and broadleaves, and has significant activity on downy brome (*Bromus tectorum*) while being safe for several grass species, as identified on the Plateau® label. Also see response to Comment EMC-0486-020 under PEIS Alternatives, Vegetation Treatment Planning and Management.

RMC-0068-005
Damus, Marilyn D.

Comment: Most of the chemicals you are planning to use do not have very thorough safety testing. I don't know of any that have long records of completely safe use, and some are already known to cause reproductive and developmental harm. In fact, I think I even read that you are reserving the right to add more herbicides later, without going through the EIS process again.

Response: See response to Comment EMC-0032-002 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives. As a result of the process for registration of a herbicide through the USEPA and the risk assessments completed by the BLM and Forest Service, the BLM will have a sound understanding of the herbicide chemistry and its behavior in the environment prior to allowing its application on public lands. As discussed in Appendix E of the PEIS, the BLM would have to prepare a NEPA EIS to use new herbicides in the future.

RMC-0069-008
Desert Survivors

Comment: Studies presented in the PEIS do not even begin to shed any light on this matter. Studies done by herbicide manufacturers are worthless; they are obviously self-serving. The long-term effects of all of these chemicals are lethal. That has been brought forward in many studies on fish and amphibians, as well as humans. Studies of residues in soils are inadequate. The use of these chemicals should not even be considered by the BLM.

Response: The BLM, like all government agencies, relies on pesticide toxicological studies required and reviewed by the USEPA. The USEPA has very stringent and comprehensive standards for these studies. See: http://www.epa.gov/pesticides/regulating/data.htm#dissipation. USEPA scientists review and approve (or reject) the study results. The BLM also conducted a comprehensive literature review for the nine herbicides proposed for use by the BLM (see individual ecological risk assessments), and for six herbicides the BLM currently can use, but does not propose to use under the Preferred Alternative and Alternatives D and E (see Appendix B of the PEIS under Evaluation of Currently-available Herbicide Active Ingredients). Use of herbicides in the proper manner and with mitigating measures described in the PEIS will certainly not be lethal to humans, and likely not lethal to wildlife, partly because the (human) risks are low and partly

because the (human and wildlife) risks are based on the no-adverse-effect level with safety factors, not on lethality. The risk assessments are used to identify doses and use parameters that will not cause adverse effects in people.

RMC-0069-018
Desert Survivors

Comment: Also instructive would be a listing of campaign contributions and/or bribes made to the Bush campaign and those of other Republican office holders by chemical companies and/or herbicide manufacturers. There has been a rash of proposals for use of herbicides and pesticides on our public lands since the advent of the current administration, and it is likely that influence from chemical companies and/or herbicide and pesticide manufacturers is responsible for this. Such research, which is publicly available, would help the public immensely in its effort to evaluate the need for these types of programs. Most observers accept the corruption of the Bush Administration and its kowtowing to corporate interests as a given, but we need to know the details. This information was left out of your PEIS. It is the most important information that we need to judge the significance of this herbicide-spraying program. Send me this information as soon as you can.

Response: Thank you for your interest in this project. The information you request is outside of the scope of the analysis in the PEIS.

RMC-0076-005
San Miguel County Board of Commissioners

Comment: We support Alternative B, although we feel great caution should be exercised in expanding herbicide use and increasing acres of control. We are particularly concerned about the use of new herbicides. We feel that new technology needs a thorough vetting before its use on public lands. We have seen a number of herbicides withdrawn from use after we've become more familiar with their at-first-unrecognized toxicity.

Response: See response to Comment EMC-0032-002 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

RMC-0101-005
Custer County Board of Commissioners

Comment: While it appears that with approval of the Preferred Alternative, the BLM will be able to use Plateau® and other new chemicals that have been developed since this issue was last addressed in 1991, we would encourage the addition of one more chemical to the list. The chemical is Milestone® (aminopyralid) manufactured by Dow AgroSciences LLC. It's effectiveness in controlling spotted knapweed (Centaurea maculosa); our other noxious weed of major concern, exceeds that of other recommended chemicals and is environmental safe. If it cannot be added to the current PEIS we would encourage you to start the "Protocol for Identifying, Evaluating and Using New Herbicides" [Appendix D of the Draft PEIS] immediately.

Response: See response to Comment EMC-0566-008 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response. The BLM has been made aware of aminopyralid and will consider its evaluation for use in the future.

RMC-0101-006
Custer County Board of Commissioners

Comment: Along with support of the above protocol, it follows that the EPA approval of herbicides under the Federal Insecticide, Fungicide and Rodenticide Act registration process is also a must. The EPA has looked at all the environmental concerns including Human Health Risk Assessments (HHRA) and Environmental Risk Assessments (ERA) and there should he no need for BLM to go through the same process and expense again. Ideally it would seem that once a new chemical has gone through the rigorous FIFRA registration process, its approval by the BLM, or any government agency for that matter, would be automatic.

Response: NEPA requires the BLM to evaluate the use of herbicides for its intended application scenarios.

RMC-0101-007
Custer County Board of Commissioners

Comment: Also as a point of clarification, once a new active ingredient has gone through the BLM Herbicide Evaluation Protocol and a Supplemental EIS and Record of Decision is issued additional NEPA processes should not be required at the local level in order to use the herbicide on public lands. For example, when the Preferred Alternative for this EIS is chosen and the use of Imazapic is permitted, all the Field Offices in the Western United States should not be required to write additional NEPA documents to use it.

Response: The PEIS represents the highest tier of analysis under NEPA, and does not represent site-specific analysis for the use of herbicides. The PEIS will allow field offices and districts the tool, under the CEQ regulations, of effective tiering (40 CFR [Code of Federal Regulations] 1502.20) for site-specific projects. The BLM has an affirmative obligation to comply with NEPA at every level of decision-making. At this programmatic level, the decision is to ascertain which herbicide active ingredients may be used on public lands. This analysis, inclusive of the risk assessments, will not need to be repeated at the local or regional level. The PEIS does not determine which herbicides will ultimately be used for any specific project, where or how they may be applied, or what specific mitigation measures may need to be implemented to protect sensitive resources at the local level. The BLM will continue to conduct NEPA at the project-specific level, or regional level as appropriate, for all vegetation treatment projects regardless of the method used.

RMC-0106-012
Public Employees for Environmental Responsibility

Comment: It is stated [on page 2-4 of the PEIS] that the decision to use the particular active ingredients proposed is "...based on a detailed analysis of the risks to human health and non-target species..." Properly described this is a detailed analysis of extremely limited information about the impacts of these herbicides. The "detailed analysis" then is performed on surrogate species, and supplies virtually no information on soil and aquatic microorganisms.

Response: See response to Comment EMC-0585-199 under PEIS Environmental Consequences, Herbicide Effects Analysis regarding the use of surrogate species. Soil and water microorganisms were not evaluated because studies show that microorganisms actually degrade herbicides. Terrestrial invertebrates were assessed using the susceptible honeybee. Aquatic invertebrates were assessed, as they are part of the food chain for fish and consumers of fish (herons, mink, etc.).

RMC-0106-013
Public Employees for Environmental Responsibility

Comment: It is stated [on page 2-4 of PEIS] that local BLM offices were "...consulted to determine if they had information from field applications that would suggest that any of these chemicals should be reanalyzed." There is no evidence of specific application of any information from field offices. If such exists, it must be cited in full. If there is no such information, that should be stated.

Response: The BLM did not receive information from the field offices that any of the herbicides in use should be reanalyzed, except for sulfometuron methyl (Oust®). Thus, Oust® was reanalyzed. Several offices did make recommendations for new herbicides they would like reviewed in the PEIS for use in the future.

RMC-0106-014
Public Employees for Environmental

Comment: This account [pages 2-4 to 2-6 of PEIS] is confused-since the problem encountered did not involve human health, the statement that "It was determined that the remaining 19 herbicides did not require further analysis for human health risks"

Responsibility	does not follow. **Response:** Sulfometuron methyl, an herbicide currently used by the BLM, could have impacts to non-target vegetation, which could have implications for human health (consumption of crops) and ecological health. The remaining 19 herbicides used by the BLM did not require analysis for human health risks. However, several of the herbicides used by the BLM did require analysis of ecological risks. Thus, the statements are consistent.
RMC-0109-003 Sanders, Kenneth D. (University of Idaho)	**Comment:** I do wish that atrazine had remained on the list of approved herbicides, as research many years ago had shown it to be promising tool for controlling annual grasses. **Response:** As shown in Table 2-4 of the PEIS, the BLM has not used atrazine during the past 7 years, and there are several environmental concerns associated with its use. If Alternative A is selected by the BLM, the BLM would be able to continue to use atrazine. If another alternative is chosen, the BLM would have to meet the requirements of the protocol to use new herbicides as discussed in Appendix E of the PEIS, before the BLM could use atrazine in the future.
RMC-0157-005 Pitkin County Commissioners	**Comment:** Although the County supports Alternative B, the Board feels great caution should be exercised in expanding herbicide use and increasing acres of control. The Board is particularly concerned about the use of new herbicides. Any new technology needs a thorough vetting before its use on public lands, as a number of herbicides have been withdrawn from use after greater familiarity with their initially unrecognized toxicity. **Response:** See responses to Comment EMC-0646-018 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives, and Comment EMC-0566-008 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response. The BLM has undertaken extensive toxicological studies on human health and ecological risks to minimize the risk that an herbicide will be adopted for use and then subsequently withdrawn due to unforeseen toxicity considerations.
RMC-0159-007 Proctor, Gradey	**Comment:** We are extremely concerned about the toxicity, drift potential, and persistence of this chemical [dicamba] and expect the BLM to fully analyze the potential adverse effects that may result from using products containing dicamba. We are also concerned that dicamba may increase the risk of other plant diseases on the BLM. **Response:** See response to Comment RMC-0159-005 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives. The BLM did evaluate toxicity and risk associated with dicamba application scenarios, which considered herbicide drift, and predicted a range of risks to vegetation from use of dicamba, from none to high. Risks to humans and fish and wildlife were generally none to low under various treatment scenarios. Risks from drift would be minimized by following the buffer recommendations presented in Table 4-12 of the PEIS. The BLM is not aware of dicamba increasing the risk for plant diseases.
RMC-0159-010 Proctor, Gradey	**Comment:** While just triclopyr is known as 3,5,6-tricholor-2-pyridinyloxy acetic acid, herbicides contain either triethylamine salt of triclopyr, or the butoxyethyl ester of triclopyr. Which form and what products is the BLM proposing to use?

Response: As of December 2005, the BLM presently applies both the triethylamine and the butoxyethyl ester formulations of triclopyr. The following labeled products are available for use on BLM-administered lands: Garlon 3A®, Garlon 4®, Remedy®, Pathfinder II®, Tahoe 3A®, and Tahoe 4E®.

RMC-0159-011
Proctor, Gradey

Comment: Triclopyr has many different documented toxicities. Triclopyr causes an increase in breast cancer, an increase in genetic damage such as dominant lethal mutations, an increased incidence of reproductive problems, and damage to the kidneys. The ester form of triclopyr is highly toxic to fish, inhibits behaviors in frogs that help them avoid predators, and decreases the survival rate of baby birds. Triclopyr also inhibits the growth of mycrorhizal fungi , and with fixation of atmospheric nitrogen. Triclopyr is mobile in soil and readily contaminates wells, streams, and rivers. The major breakdown product of triclopyr (3,5,6-trichloro-2-pyridinol) disrupts normal growth and development of nervous systems and accumulates in fetal brains. We are very concerned that these same effects will occur in wildlife and people if the BLM uses this chemical on our National Forest.

Response: The BLM is not responsible for administering herbicide use on National Forests; that is the responsibility of the U.S. Department of Agriculture Forest Service. However, the BLM did find that triclopyr posed potentially unacceptable risks to humans on BLM-administered lands during assessments of human health in 1991 for an earlier EIS, and based on subsequent review in the late 1990s, as discussed in Appendix B of the PEIS under Evaluation of Currently-available Herbicide Active Ingredients. The Forest Service conducted an assessment of ecological risks, and found that triclopyr resulted in low to medium risks for several ecological receptors.

RMC-0159-014
Proctor, Gradey

Comment: Both 2, 4-d and dicamba were dropped from the Forest Service Region 6 herbicide report due to higher toxicity levels. And based on the Forest Service risk assessment, triclopyr, and picloram are not far behind. It would strongly suggest you research their data so that their full story can unfold on these chemicals, before the effects do.

Response: The risks of using 2,4-D and dicamba were important considerations when the Forest Service decided against using these herbicides in the Pacific Northwest. In addition, these herbicides were rarely used by the Forest Service. The risks of using these herbicides are mainly associated with their potential to act as endocrine disruptors, and to produce degradate products that may also be harmful. See response to Comment EMC-0646-016 under PEIS Environmental Consequences, Herbicide Effects Analysis regarding the analysis of degradates and endocrine disruptors that was conducted by the BLM. Compared to the Forest Service, the BLM uses these herbicides more extensively on the lands it administers, and based on its assessment of the risks associated with these herbicides, feels that they are acceptable if mitigation measures identified in the PEIS are used to minimize risks.

RMC-0173-005
Delles, Susan

Comment: 2,4-D has been shown to be toxic to

a. Birds such as Sagegrouse due to habitat fragmentation and Brewers Sparrows reducing availability of insects which are a part of their diet.
b. Fish The toxicity of this chemical to fish is demonstrated by the warning on the EPA label. The toxic effects occur even in low concentrations.
c. Frogs A recent study from Willamette University shows that 2,4-D interferes with frog sex hormones.
d. Pets 2,4-D is linked with Bladder Cancer and testicular problems in dogs.
e. Persistence and Contamination

(1) USGS surveys show persistence in agricultural and urban areas, in streams and rivers, and to a lesser extent in wells.
(2) People Centers for Disease Control found that about 25% of Americans carry this chemical in their bodies. Levels are higher in children
(3) Air USGS found that 60% of air samples collected had this chemical on a national level.
(4) Drift problems show this chemical to be one of the top five pesticides involved in drift incidents over 26 states.
(5) Dioxin_This is a deadly persistent contaminant in 2,4-D.

Response: The risks to humans, plants, animals, and other resources from the use of 2,4-D are discussed in the relevant resource sections of Chapter 4 of the PEIS.

RMC-0173-006
Delles, Susan

Comment: Glyphosate (Roundup/Rodeo). This is currently the most popular chemical being used in agriculture and on urban and suburban landscapes. Studies have shown this chemical to be:

a. Carcinogenic to humans in the form of Non-Hodgkins Lymphoma (see references)
b. Miscarriages in human females
c. Reduction of male reproductive capacity
d. Birds This chemical effects the plants birds use for food and shelter
e. Fish Disruption of Fish immune systems has been shown
f. Frogs/Amphibians Genetic damage and inhibited development has been shown
g. Persistence
   (1) A regional study in the Midwest showed that Glyphosate applied in spring persisted into the fall harvest system
   (2) Contamination has been found in six streams in King County WA – an urban area.

Response: The risks to humans, plants, animals, and other resources from the use of glyphosate are discussed in the relevant resource sections of Chapter 4 of the PEIS.

RMC-0173-007
Delles, Susan

Comment: Picloram. This chemical is very dangerous and was evaluated by the EPA in 1995. Both the Ecological Effects Branch and the Environmental Fate and Ground Water Branch of the EPA recommended that the use of this chemical not be continued. However, the EPA did not accept these recommendations. The Journal of Pesticide Reform of Spring 1998 Vol. 18 #1 with peer reviewed literature referred for citation had this to say about the chemical: "In laboratory tests, Picloram causes damage to the liver, kidney and spleen. Other adverse effects observed in laboratory tests include embryo loss in pregnant rabbits, and testicular atrophy in male rats. The combination of Picloram and 2,4-D causes birth defects and decreases birth weights in mice. Picloram is contaminated with the carcinogen hexachlorobenzene, Hexacholorobenzend, in addition to causing cancer of the liver, thyroid, and kidney, also damages bones, blood, and the immune system and the endocrine system. Nursing infants and unborn children are particularly at risk from hexachlorobenzene. Picloram is toxic to juvenile fish at concentrations less than 1 part per million (ppm.) Concentrations as low as 0.04 ppm have killed trout fry. In Montana, roadside Spraying of Tordon killed 15,000 pounds of fish in a hatchery ¼ mile downstream from the Tordon treatment. Picloram is persistent and highly mobile in soil. It is widely found as a contaminant of groundwater and also has been found in streams and lakes. It is also extremely phytotoxic, and drift and runoff from Picloram treatments have caused startling damage to crops particularly tobacco and potatoes."

Response: Picloram is rated by the USEPA as being only slightly toxic to humans via ingestion. It is contaminated with less than 100 parts per million of hexachlorobenzene (HCB). The USEPA's 1995 RED Fact Sheet for picloram rated the carcinogenic risk to the general public from the trace contaminant HCB in picloram as negligible, and the risk to workers mixing picloram as "not-unacceptable." As discussed in Chapter 4 of the PEIS, picloram is persistent in the soil and has been detected in groundwater, but risks to humans and wildlife are generally none to low. The BLM would limit the size of the application area, where feasible, to reduce the potential for picloram to impact soil and water quality.

RMC-0173-009
Delles, Susan

Comment: As a resident of Southern Oregon for thirty years, the historical record of aerial spraying of these chemicals is clearly a negative one. In the 70s, extensive spraying of 2, 4-D and T, 4, 5-T have documented many health effects of coastal Oregon residents that resulted in a number of lawsuits. The controversy that resulted, led to the suspension of use of these chemicals by public land agencies except in small-localized applications. There is no justification for the program the PEIS proposes except to support the chemical industry.

Response: See response to Comment RMC-0049-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated. The herbicide 2, 4, 5-T was rarely used by the BLM in the 1970s. In the few instances when 2, 4, 5-T was sprayed, it was used in a 1:2 or 1:3 mixture with 2, 4-D. The BLM also used an herbicide called Silvex. The active ingredient in Silvex is 2,4,5-trichlorophenoxy proprionic acid (2,4,5-TP), a different chemical from 2,4,5-T. The BLM is an end-user of herbicides (i.e., consumer) in the same manner as any other person, company, or agency that purchases and applies herbicides.

RMC-0191-007
Ertz, Brian

Comment: In the Draft PEIS appendixes, within the ERA [ecological risk assessment] for each proposed herbicides it is mentioned that "The potential toxicity of degradates should be considered when selecting an herbicide." (D[raft] PEIS C-83) The very next sentence claims that "...it is beyond the scope of this risk assessment to evaluate all of the possible degradates of the various herbicide formulations of the ten herbicides." (D[raft] PEIS C-83). Perhaps, but not one of the ERA evaluations of the proposed 10 new herbicide active ingredients consider a single degradate of proposed herbicide in risk analysis. Bromacil, diflufenzopyr, Diuron, Imazapic, Sulfometuron Methyl, Chlorsulfuron, Diquat, Fluridone, Overdrive, Tebuthiuron, let alone the herbicides approved under previous EIS programs for current levels of administration, all make reference to the same thing in section 7.3.1 of their individual Risk Assessments.

Response: The BLM conducted an analysis of degradates for the Final PEIS and provided the information in Appendix D. Also see response to Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment.

RMC-0208-035
California Oak Foundation

Comment: Although it purports to assess 25 herbicide active ingredients, the Draft PEIS did not specifically analyze 19 active ingredients, including 2,4-D, hexazinone, triclopyr, and glyphosate, which had been analyzed in prior EIS's and previously approved for use on federal lands in the late 1980's and early 1990's. (Draft PEIS, at pp. 2-4 to 2-6.) Instead, for these herbicides, the BLM relied on the previous assessments and a "comprehensive literature review" (Draft PEIS, at p. 2-4: see also p. 4-2 [BLM "consulted risk assessments prepared by the Forest Service for nine other herbicides used by the BLM," including 2,4-D, glyphosate, hexazinone, and triclopyr].) However, as the studies cited above show, these active ingredients pose a substantial threat to wildlife in and around BLM lands that is not adequately addressed

in the Draft PEIS. Moreover, the historic use of these and other active ingredients since the 1980's has resulted in an environment that is vastly different than the one assessed by the earlier EIS's, on which the BLM now relies. According to the Draft PEIS, 2,4-D, glyphosate, hexazinone, and triclopyr were assessed in EIS's in 1988, 1991, and 1992. (Draft PEIS, at p. 2-5.) Now, more than a decade later, the BLM proposes a massive vegetation management project, heavily reliant on the use of herbicides in general and two of these active ingredients in particular (see p. 4-46), but fails to conduct any further analysis of the effects of these known toxic ingredients. Reliance on outdated analysis and selective literature does not satisfy the "hard look" at the scientific data that is required by NEPA. (See 40 C.F.R. §§ 1500.1 (b); 1502.24; *Native Ecosystems Council v. United States Forest Serv.* (9th Cir. 2005) 418 F.3d 953, 964.).

Response: See response to Comment FXC-0071-009 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives. The BLM contracted expert literature reviews on all herbicides to assess what information is available and whether this information is substantially different than information used to prepare earlier BLM risk assessments. The USEPA was consulted for up-to-date toxicity information on each BLM herbicide, and a comprehensive literature review was performed for each of the 10 ecological risk assessments (ERAs) prepared by the BLM for this PEIS (see Appendix A to each ERA; see the ERAs on the CD included with the PEIS).

RMC-0208-063
California Oak Foundation

Comment: In reviewing these comments, please keep in mind that both federal courts in the Ninth Circuit and the California state court have held that an agency may not curtail its assessment of the environmental effects of applying herbicides by relying on the registration of these chemicals by the Environmental Protection Agency (*see, Save Our Ecosyststems v. Clark* (9th Cir. 1984) 747 F.2d 1210, 1247 ("[tlhe EPA registration process for herbicides under FIFRA is inadequate to address environmental concerns under NEPA [National Environmental Policy Act] ... .") or in California, by the Department of Pesticide Regulation (*Californians for Alternatives to Toxics v. Department of Food & Agriculture* (2005) 2005 Cal. App. LEXIS 2060,26-27).

Response: The BLM did not rely on the USEPA or Federal Insecticide, Fungicide and Rodenticide Act to determine whether individual herbicides should be used on public lands. The BLM used a variety of information sources to assess the risks associated with using herbicides on public lands. The reader is encouraged to review the individual risk assessments prepared by the BLM and Forest Service, and information sources contained therein, to learn more about how the analysis of risks was conducted. Information from the risk assessments was then used to conduct a NEPA analysis of the effects of use of herbicides on public lands.

RMC-0213-007
California Native Plant Society

Comment: In Idaho, Oust was sprayed aerially in 1999 and 2000, resulting in drift that allegedly damaged 100,000 acres of farmland. Use of the chemical was subsequently suspended by the Idaho BLM, and the incident is the subject of an ongoing lawsuit involving over 100 farmers, BLM, and DuPont (manufacturer of the chemical). While DuPont claims that BLM used the chemical improperly, BLM claims that it followed label instructions. This incident suggests that such damage cannot be predicted or avoided even if the chemical is used according to instructions approved by the U.S. Environmental Protection Agency's pesticide registration process. Soil tests conducted by the Montana State University have determined that crop damage was caused by concentrations of Oust© ranging from 0.079-24 ppb.

Response: The labeled use of sulfometuron methyl (Oust®) is for the control of many annual and perennial grasses and broadleaf weeds in forestry and non-croplands. A 24(c) label or Special Local Needs Label was approved for the states of Utah, Idaho and Nevada to use the herbicide to control downy brome (*Bromus tectorum*), cheat (*Bromus secalinus*), and medusahead (*Taeniatherum caput-medusae*) on fire-damaged land, firebreaks, and other non-crop areas owned and administered by agencies of the State of Idaho or the federal government such as the U.S. Department of Agriculture and the U.S. Department of Interior including the BLM, the Forest Service, and the U.S. Fish and Wildlife Service. However, since the 2001 incident in Idaho, the 24-C label approving its use for fire-damaged lands has been pulled, and the current labeled use of sulfometuron methyl is limited to bare ground applications. The PEIS and PER identify the parameters for use and standard operating procedures that are designed to reduce the risk of all of the herbicides currently used by the BLM including, but not limited to, sulfometuron methyl, as well as those proposed for use, including imazapic.

RMC-0214-043
Natural Resources Defense Council and National Wildlife Federation

Comment: The BLM proposes to use 18 herbicides annually on nearly 1 million acres in 17 western states. This would more than triple the acreage that BLM currently treats with herbicides. See D[raft] PEIS Executive Summary-1. One of the BLM-selected herbicides included in the Preferred Alternative (as well as alternatives A, D, and E) is 2,4-D, which is especially inappropriate for the proposed use because of its toxicity, existing scope of contamination, and threats to the environment and public health.

Response: See responses to Comment RMC-0106-037 under PEIS Environmental Consequences, Fish and Other Aquatic Organisms and Comment RMC-0159-014 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

RMC-0216-019
Neff, Jack

Comment: BLM's wish list contains more than 1,000 separate toxic chemical compounds present within the brand-name pesticides, herbicides, and fungicides BLM proposes.

Response: The PEIS analyzes the impacts of using herbicides on public lands. The use of fungicides on public lands is outside the scope of the document. See response to Comment EMC-0585-057 under PEIS Environmental Consequences, Herbicide Active Ingredients Evaluated under the Proposed Alternatives regarding other herbicide formulation constituents.

RMC-0217-008
Sierra Club Utah Chapter

Comment: The PEIS makes the arbitrary and unsupported leap to merely defining a list of chemicals that might at some future point be used in ways the PEIS does not identify as the most effective, having the least environmental impact, or even scientifically supported as useful for solving the actual problem to be remedied.

Response: See response to Comment EMC-0374-001 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives. As noted in this comment response, the BLM considered effectiveness, environmental risk, and scientific studies of the proposed herbicides when determining which herbicides to evaluate in the PEIS.

RMC-0218-009
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: The BLM would also reserve the right to use new, unspecified active ingredients if they were registered by the EPA and the BLM determined the benefits of use outweighed the risks to public health and the environment. Incorporating approval of such future undefined toxic chemical use without assessment of potential risks at this stage is legally sketchy since it leaves the public and decision-makers in the dark

as to what those future risks would be while approving them now.

Response: Under the Preferred Alternative and alternatives D and E, the BLM would not be able to use new herbicides without conducting a risk assessment, preparing a supplemental EIS, and going through the public review and comment process. These procedures are discussed in more detail in Appendix E of the PEIS under Prepare a New NEPA Document.

RMC-0218-019
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: Toxicity of herbicides proposed for use: Region 6 of the Forest Service decided to drop the use of 2,4-D and dicamba due to their higher toxicity across various exposure scenarios for different wildlife species, humans, water quality, etc . Based on the Forest Service risk assessments, picloram and triclopyr are close behind for high toxicity and should be dropped from use. According to BLM assessments (although their tables seem to under-estimate risk compared to the Forest Service's), Diquat and Diuron consistently come out with higher toxicity risks than other proposed herbicides and should not be used. Picloram and clopyralid both contain an impurity (hexachlorobenzene) that has been identified as having potential to cause human cancer. The Forest Service analysis makes it clear that aerial and boom spraying greatly increase the risks of non-target plant, aquatic organism, wildlife and human hazardous exposures. The Forest Service also made the distinction that the sulfonylurea herbicides should not be aerially sprayed due to their high potency, The sulfonylurea herbicides (listed and banned under alt. [Alternative] E) pose a significant risk to fruit and seed production (including crop plants) and should not be used.

Response: Similar to the Forest Service risk assessments, the BLM risk assessments found that aerial and boom spraying pose higher risks to receptors than other methods of herbicide application. Table 4-29 in the Human Health and Safety section of the PEIS indicates that there is no risk to humans associated with use of clopyralid, picloram, or triclopyr at typical and maximum application rates, or diquat at the typical application rate. These results were obtained using Forest Service risk assessment models with BLM herbicide application rates. Although these herbicides do not pose risks to plants, fish, or wildlife, the BLM proposes to use buffers (see Table 4-14 of the PEIS) to minimize risk to non-target vegetation, and other mitigation measures (see Vegetation, Fish and Other Aquatic Organisms, and Wildlife Resources sections of Chapter 4 of the PEIS) to minimize risk to plants and animals from aerial and boom spraying. Also see response to Comment RMC-0173-007 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

RMC-0218-034
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: Unspecified "new" herbicides not analyzed in this programmatic EIS should not be allowed for use in the future without analysis at this scale. Otherwise the public and decision-makers have no idea what impacts they are agreeing to in choosing an alternative that allows for unspecified new herbicides to be used with risk assessment and analysis only at the District level, where less funding and scientific expertise is available for the kind of detailed risk assessment and analysis needed. Yet automatic adoption of unspecified new herbicides through such inadequate assessment at the District level is proposed for alternatives B, D, and E. ([see] pp. 2-11 - 2-13, DEIS [Draft PEIS])

Response: As discussed in Appendix E (Protocol for Identifying, Evaluating, and Using New Herbicides) of the Final PEIS, the BLM considers the use of herbicides to be a "controversial federal action affecting the human environment." Thus, the BLM would be required to conduct a risk assessment and prepare an EIS for any new herbicides proposed for use.

RMC-0221-054
Center for Biological Diversity

Comment: This D[raft] PEIS and the D[raft] PER completely fail to analyze the effects of eight herbicides proposed for continued use by the BLM: clopyralid, dicamba, glyphosate, hexazinone, imazapyr, metsulfuron methyl, picloram, and triclopyr. The BLM justifies its omission of analyses for these chemicals by noting that "these herbicides have been evaluated in a previous BLM EIS (USDI BLM 1991), as well as more recently in an invasive plant EIS prepared by the U.S. Department of Agriculture Forest Service (Forest Service; USDA Forest Service 2004)." Appendix C DEIS [Draft PEIS] Ecological Risk Assessment at p. C-1. Thus, the D[raft] PEIS and D[raft] PER defer to previous analyses for nearly half the 18 herbicides proposed for use in the preferred alternative.

Response: The BLM conducted a human health risk assessment for dicamba and analyzed dicamba for risks to plants and animals as part of its assessment of Overdrive® for the ERA. For the remaining seven herbicides, the BLM updated and modified the Forest Service spreadsheets using BLM exposure parameters and application rates to better reflect herbicide application risks on BLM-administered lands.

RMC-0221-055
Center for Biological Diversity

Comment: Unfortunately, however, the previous [Forest Service] analyses are either insufficient because they are outdated, or they do not analyze all of the herbicides proposed for use in this action. One of the previous analyses was the BLM's evaluation of herbicides from 1991. Relying on an outdated EIS from 1991 – by now nearly 15 years old – is a violation of NEPA's requirements to insure the use of high-quality, accurate, and updated scientific data. 40 C.F.R. [Code of Federal Regulations] § 1502.22. Hundreds, if not thousands, of new studies have been published over the past 15 years regarding the effects of numerous herbicides, including those proposed for use in this action, on a variety of variables. Analyses from the BLM's previous EIS do not replace the need for new analyses in this D[raft] PEIS due to the outdated nature of the 1991 document.

Response: See responses to Comment RMC-0221-054 and Comment FXC-0071-009 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives. The oldest Forest Service risk assessment used in the PEIS was prepared in 1998, the most recent in 2005.

RMC-0221-058
Center for Biological Diversity

Comment: The Forest Service was proposing to treat 8,989 acres per year out of 24.9 million acres on National Forest System land (USDA Forest Service 2005 at p. 240) whereas the BLM's preferred alternative would treat an astounding 932,000 acres annually. The BLM's analysis of impacts is not analogous to the Forest Service's analyses, as the Forest Service concluded that the small number of acres to be treated with herbicide per year "represents a negligible risk to wildlife on a regional scale." While we disagree with the Forest Service's conclusion that the treatment of nearly 9,000 acres per year would not have serious adverse environmental impacts, particularly on endangered species and rare or restricted plant communities, even if those conclusions were supportable, the fact remains that the analyses and conclusions from the Forest Service's EIS is simply not comparable [with] the BLM's vastly larger proposal.

Response: The two documents are not comparable, as the Forest Service is primarily treating forestlands in the Pacific Northwest, while most public lands are rangelands where weeds and other invasive vegetation have been more successful in establishing and spreading. Based on information provided by BLM field offices, the percentage of acres treated using herbicides in western Oregon (where most BLM forestlands are

located) would be less than half the percentage used by the BLM in the 17 states covered in the PEIS. The PEIS, supporting ecological risk assessments, and Biological Assessment discuss the risks to plants and animals, including threatened, endangered, and sensitive species. These assessments found that for most treatment scenarios, the risks were very minor, but were moderate to high for other scenarios.

RMC-0221-059
Center for Biological Diversity

Comment: In sum, the BLM's D[raft] PEIS and D[raft] PER fail to include any analyses whatsoever about the effects of hexazinone on the biota of nearly 1 million acres proposed for treatment annually, and it does not disclose that it relied on conclusions from a previous, much-smaller Forest Service program that did not include the use of dicamba or 2,4-D. The BLM must not rely on the Forest Service's 2004 EIS for its analyses of these three chemicals, nor can it rely on its previous 15-year old analysis. The lack of examination of these three chemicals as well as the other five chemicals that remain wholly unexamined in these documents due to the BLM's reliance on outdated and non-comparable data, renders the D[raft] PEIS inadequate.

Response: Based on information provided in Table 2-4 of the PEIS, less than 1% (9,300 acres) of the total number of treated acres would be treated using hexazinone under the No Action and Preferred Alternatives, and Alternatives D and E. The BLM used Forest Service risk assessments for some herbicides because they were recently completed and followed protocols that were similar to those used by the BLM. The BLM did not use 15-year-old analysis for its risk assessments, but relied on recent toxicological data for analysis of ecological and human health effects.

Alternatives, Herbicide Modes of Action and Treatment Methods

EMC-0018-003
Shaw, T. Gray

Comment: Several of the herbicides proposed do even not have products currently registered for use by the California by the Department of Pesticide Regulation.

Response: The BLM would not apply any herbicide active ingredient or formulation unless it meets the states registration requirements.

EMC-0027-008
McNeel, Hank

Comment: Page 2-14 [of Draft PER], Second Column, Paragraph 2, Line 7. Anyone applying pesticides on BLM lands must be certified whether the pesticide is general or restricted use. Refer to the BLM Manuals 9011 and H-9011-Chemical Pest Control.

Response: This clarification has been made in Chapter 2 of the Final PEIS under Herbicide Modes of Action and Treatment Methods, and in Chapter 2 of the Final PER under Herbicides Evaluated in the PEIS in the section on Herbicides.

EMC-0063-002
EMC0066-002
EMC0069-003
Gunder, Jenn
Conrick, Teresa
Murphy, Jennifer

Comment: Several of the herbicides proposed do even not have products currently registered for use by the California by the Department of Pesticide Regulation.

Response: See response to Comment FXC-0071-006 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

EMC-0076-002
Viani, Susan and Nick

Comment: BLM needs to make a strong commitment to reducing its reliance on herbicides, for the sake of all life!

Response: As noted in Chapter 2 of the PEIS under Site Selection Priorities in the Vegetation Treatment Planning and Management section, the BLM would consider nonchemical methods of vegetation treatment before using herbicides as part of an

integrated pest management approach to vegetation management. The PER lists other treatment methods the BLM could use before choosing to use herbicides.

EMC-0080-005
Winfree, Robin

Comment: You need to make a strong commitment to reducing its reliance on herbicides. It has been proven that plants develop resistance to repeated applications of herbicides, requiring stronger and more potent applications.

Response: See responses to Comments EMC-0076-002 and EMC-0267-007 under PEIS Alternatives, Herbicide Modes of Action and Treatment Methods.

EMC-0091-003
Rice, Molly

Comment: BLM also needs to make a strong commitment to reducing its reliance on herbicides: This agency needs to make a specific measurable commitment to reducing reliance on herbicides. I have worked for a Landscaping company and recognize the more you spray, the more you Have to spray!!!! The weeds become immune to the chemicals, and that just means the chemical companies make them stronger and stronger.

Response: See responses to Comments EMC-0076-002 and EMC-0267-007 under PEIS Alternatives, Herbicide Modes of Action and Treatment Methods.

EMC-0093-006
Barrett, Anne Albrecht

Comment: BLM needs to make a strong commitment to reducing its reliance on herbicides. These products are chemicals made from expensive foreign oil, and tripling their use does not support the present administration's lip service to reduction of reliance on foreign oil, which is the raw source for these poisonous and not necessary agents.

Response: See response to Comment EMC-0076-002 under PEIS Alternatives, Herbicide Modes of Action and Treatment Methods.

EMC-0101-002
Terry, Noalani

Comment: Large-scale use perpetuates a cycle of pesticide resistance leading to stronger and heavier use of pesticides that create more resistance, etc.

Response: See response to Comment EMC-0267-007 under PEIS Alternatives, Herbicide Modes of Action and Treatment Methods.

EMC-0133-005
Ryan, Stephanie

Comment: BLM also needs to make a strong commitment to reducing its reliance on herbicides by changing your practices in the first place which are contributing to this problem.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of weed spread. See also response to Comment EMC-0145-006 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0140-013
Small, Jack W. and Joyce C.

Comment: I think it would be a step forward to begin monitoring the numbers with respect to the amount of chemicals being dispensed, and make some commitments in the direction of changing the whole program to one more environmentally friendly.

Response: Table 2-4 of the PEIS gives historic and proposed herbicide use by the BLM. This information is based on Pesticide Application Reports completed for each herbicide application by the BLM. Yearly reports of the acres treated, herbicide applied, application rates, and application type (ground vs. aerial) are prepared, which allows the BLM to track the pesticides that are applied on BLM-administered land.

Also see response to Comment EMC-0121-004 under PER Vegetation Treatment Programs, Policies, and Methods, Vegetation Treatment Methods regarding non-herbicide treatment methods used by the BLM and research to find other effective methods to treat vegetation.

EMC-0214-003
Vollmer, Jennifer (BASF)

Comment: Alternatives/Herbicide Modes of Action and Treatment Methods/last paragraph: A drawback of herbicide use is "Weeds may develop a resistance..." This is more likely to happen with limited available herbicides where BLM would have no choice but to use the same herbicide repeatedly over the course of time to control a particular weed, encouraging resistance development. Several herbicide options for control of a weed species will allow BLM to modify the vegetation treatment program to avoid resistance development.

Response: See response to Comment EMC-0267-007 under PEIS Alternatives, Herbicide Modes of Action and Treatment Methods.

EMC-0237-002
Murphy, Patricia

Comment: We also need to be responsive to the fact that you would be engaging in an herbicide cycle, where plants develop resistance, and more and more poison will be needed to control unwanted growth.

Response: See response to Comment EMC-0267-007 under PEIS Alternatives, Herbicide Modes of Action and Treatment Methods.

EMC-0237-004
Murphy, Patricia

Comment: We need to seriously consider that the poison of herbicide application is going to be with us a long time after the plants it kills are dead. We also need to be responsive to the fact that you would be engaging in an herbicide cycle, where plants develop resistance, and more and more poison will be needed to control unwanted growth.

Response: See response to Comment EMC-0267-007 under PEIS Alternatives, Herbicide Modes of Action and Treatment Methods.

EMC-0248-002
Harrer, Roger

Comment: It seems to me that it's pretty well established that many if not all invasive species prosper most in areas where there's no competition, and that is exactly what you have if you spray, is it not? I don't think there are herbicides specific to any of the noxious weeds.

Response: A number of herbicides the BLM proposes to use are selective (2,4-D, chlorsulfuron, clopyralid, dicamba, imazapyr, metsulfuron-methyl, picloram, tebuthiuron, diflufenzopyr + dicamba, and imazapic; see Table 2-3 in Chapter 2 of the PEIS). Selective herbicides are more toxic to some species than to others. Selectivity can be based upon several factors, including, but not limited to, timing and rate of application. Some of these selective herbicides are toxic to broadleaf species, but are practically non-toxic to grass species. This type of selectivity allows for the desirable grass species to tolerate the application of the herbicide at a rate that is effective for the management of the targeted broadleaf species. Not all broadleaves are affected at the same rate of application; thus, selectivity can be achieved by selecting the proper use rate of the herbicide. When conducting an environmental assessment for local projects, field managers will determine if herbicides can be used to selectively manage vegetation, where appropriate, to ensure that non-target vegetation is retained on the site. For rights-of-way and along roadways, removal of all vegetation may be appropriate and non-selective herbicides may be used.

EMC-0267-007
Medbery, Angela

Comment: Intense record keeping should be maintained to discover signs of plant resistance to the chemicals that are used.

Response: Herbicide resistance is the inherited ability of a plant to survive an herbicide application to which the wild-type was susceptible. Resistant plants occur naturally within a population and differ slightly in genetic makeup, but remain reproductively compatible with the wild-type. Herbicide resistant plants are present in a population in extremely small numbers. The repeated use of one herbicide allows these few plants to survive and reproduce. The number of resistant plants then increases in the population until the herbicide no longer effectively controls the weed. Herbicide resistance is not the natural tolerance that some species have to a herbicide. The appearance of herbicide-resistant weeds is strongly linked to repeated use of the same herbicide or herbicides with the same site of action in a monoculture cropping system or in non-crop areas.

There are several things that can be done, and are being done by the BLM, to minimize the potential development of resistant weed species, including, but not limited to the following:

1) rotate herbicides – by understanding the different modes of action of each herbicide proposed for use on public lands, select the appropriate one to minimize resistance;
2) understand the potential effects of long-term residual herbicides on the selection for resistant weeds, and correctly apply these herbicides with the understanding that they can lead to weed resistance if used yearly for several consecutive years;
3) use mechanical and biological management options to eliminate weed escapes that may represent the resistant population; and
4) keep accurate records of herbicide applications.

EMC-0306-010
Klamath River Keeper Program and Klamath Forest Alliance

Comment: The use of Tordon/Picloram and other herbicides proposed for use in this project are not authorized for use for controlling invasive plants in California.

Response: See response to Comment EMC-0018-003 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

EMC-0314-008
Alliance for the Wild Rockies

Comment: Finally, it has recently been shown in careful field experiments (I also attended a presentation by the team leader, as her experiment was performed nearby) that herbicides which target broad-leaf plants (forbs--as most herbicides do) cause weeds to thrive! This is because removing the native forbs opens-up resource niches (nutrients, water compartments, etc.) to weed seeds, which are often present because of human or other activity (Monica L. Pokorny, Roger L. Sheley et al. 'Plant Functional Group Diversity as a Mechanism for Invasion Resistance' Restoration Ecology:13:448-59 (Sept. 2005) doi:10.1111/j.1526-100X.2005.00056.x). In fact, this experiment demonstrates why any activity, such as fire and animal grazing, which targets forbs, seems to inevitably cause weeds. But note, of these various human actions, herbicides are the most direct attack on native forbs. Much other literature supports this direct experiment. Such results--along with the inevitable growth of resistance from overuse of any one management tool--point to the need for a far more integrated approach in immunizing the delicate native resources under your management from aggressive invasive plant species.

Response: In the final two paragraphs of the cited article, the authors discuss the importance of maintaining functional group diversity and point out: "Diversity can be maintained or restored during management practices. For example, intermediate levels

of disturbance, proposed to maintain high levels of diversity, can be obtained by regulating grazing and burning time and intensity. Diversity can also be maintained through careful planning of herbicide applications." See response to Comment EMC-0267-007 under PEIS Alternatives, Herbicide Modes of Action and Treatment Methods, which discusses management strategies to deal with the potential for development of resistant weed species.

EMC-0446-019
The Nature Conservancy

Comment: For situations in which herbicides are to be used, the PEIS should describe how to select among different herbicides and selection methods. Herbicides recommended for use should be selective for the target weed(s) and known to be effective for control of those species; have relatively low persistence in soils and the environment; have low potential for off-site movement; and minimize potential harmful impacts to off-target organisms and human health (including that of the applicators).

Response: The BLM's 9011 manual for *Chemical Pest Control* and 9015 *Integrated Weed Management* describes how the BLM would select the appropriate method(s) to be used in controlling and managing vegetation (9015) as well as the factors to consider before considering chemical pest control (9011). In addition, site-specific analysis would prepare a proposed action that takes into consideration the target species and identifies the best-known, safe and effective method to control vegetation. In conjunction with a site-specific analysis, the preparation of a Pesticide Use Proposal allows the preparer to evaluate the various components of the herbicide application, including, but not limited to, targeted species, characteristics of the proposed herbicide, environmental considerations at the proposed treatment site, desired species composition of the site, sensitive areas associated with the proposed application, and timing of application. Evaluation of all of these components requires the preparer to have a good understanding of the herbicide in order to provide the necessary information on the proposal.

Table 2-2 of the PEIS identifies each of the current approved and proposed herbicides characteristics and the area where it's registered use is appropriate.

EMC-0446-020
The Nature Conservancy

Comment: The Draft PEIS lists certain herbicides that would be allowed for vegetation management, without adequately describing their appropriate uses. The PEIS should list species (where known) and types of plants (including categories for new invaders) that will be controlled and the rationales for controlling each. The Draft PEIS needs to more clearly identify management goals and associated treatments in order to assess which are suitable for public land and to assess the potential impacts of each to native plant communities and their associated wildlife. In some cases, the BLM appears to be controlling native species to artificially increase allowable uses rather than to protect land health. For example, the Draft PEIS discusses situations where native species such as oaks, sagebrush, and rabbitbrush, are being controlled primarily to produce additional forage for livestock on native shrublands and grasslands, rather than to improve ecosystem health. We believe that controlling vegetation to artificially alter rather than restore native ecosystems is not appropriate on BLM-managed public lands. Artificially creating areas for livestock grazing that are not consistent with native plant communities will not restore healthy ecosystems or natural fuel regimes, will not protect ecological values, and will require additional, expensive treatments to maintain.

Response: See response to Comment EMC-0646-191 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding the types of vegetation

targeted by herbicides. As discussed in Chapter 1 of the PEIS under Purpose and Need for the Proposed Action, the goals of vegetation treatments are to improve ecosystem health and reduce the risk of catastrophic wildfire. The analysis of treatment effects presented in Chapter 4 of the PEIS and PER focuses on how treatments would meet those goals, and discusses impacts to resources from treatments. Although treatments could benefit livestock forage, as discussed under Livestock, most treatment situations discussed in the PEIS focus on other resource benefits.

EMC-0446-021
The Nature Conservancy

Comment: The Draft PEIS suggests that there are situations where the BLM allows the use of herbicides for complete vegetation control on public land – not to manage for natural resources, but to maintain open lots and industrial-type sites. For example, the herbicide bromacil, one of the herbicides listed in the Draft PEIS, is labeled for use to control undesirable vegetation for extended periods of time in areas such as railroads, highway and pipeline rights-of-way, petroleum tank farms, lumberyards, storage areas and industrial plant sites. These treatment methods would be more appropriately discussed under a separate category for "facility maintenance" rather than as generally accepted management methods under "vegetation treatment".

Response: See Rights-of-way, Facilities, and Roads in Chapter 3 of the Final PEIS on treating vegetation along utility rights-of-way, oil and gas facilities as well as general facilities maintenance.

EMC-0446-025
The Nature Conservancy

Comment: The Draft PEIS lacks up-to-date information and citations from the scientific literature on potential and appropriate uses of various herbicides. The PEIS lacks rationale for including some herbicides on the recommended "approved for use" list in the Preferred Alternative, other than the fact that the BLM is already using these chemicals and wants to continue to do so. We suggest including a section in the PEIS that justifies the use of each herbicide by describing under what conditions specific herbicides will be used, for what purposes, and why that specific herbicide is appropriate and recommended over others. There are several herbicides on the Preferred Alternative list that could be replaced by more modern herbicides with less environmental impact, less persistence in soil, and with similar control results.

Response: See response to Comment EMC-0646-191 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding the uses of herbicides. See response to Comment EMC-0374-001 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives for the process used to select herbicides for analysis.

EMC-0446-027
The Nature Conservancy

Comment: Bromacil is a pre-emergent herbicide frequently used to keep all vegetation clear along fencerows, parking lots, railroads, etc. It is often used by the oil and gas industry to kill all vegetation on the pads around drilling sites and platforms. This herbicide has a relatively long residence time/half-life, a high potential for water contamination, and a high potential for lateral movement. It is not clear why the BLM needs to use this herbicide for general vegetation management treatments, since there are few uses for it in a natural landscape. If this herbicide is needed for facilities maintenance, a clear statement restricting it to such uses should be included. It can be used effectively, but this herbicide can cause severe damage if used incorrectly due to its long persistence and ability to leach through soil and contaminate groundwater. If this herbicide remains on the BLM's list, there should be a strict process developed for its application in limited circumstances that includes a determination of risks, prior to use.

Response: Bromacil is a non-selective herbicide which is registered for use where there needs to be bare ground, in sites associated with oil and gas, rights-of-way, and recreational and cultural resources, as shown in Table 2-3 of the PEIS. The BLM would follow label instructions regarding the use of bromacil, and Standard Operating Procedures and mitigation measures given in the PEIS, to reduce the risk of bromacil harming the environment.

EMC-0446-031
The Nature Conservancy

Comment: Tebuthiuron is currently widely used by the BLM. According to the PEIS, it was used to treat 34.5 percent of all BLM-managed public land acres treated using herbicides from 1999-2003. The Preferred Alternative proposes that it will be used in the future on 25 percent of all herbicide-treated acres. Tebuthiuron is generally used for control of shrubs and trees as well as weeds, since it eliminates all vegetation from the treatment area. It is often applied at a pre-emergent stage for the long-term control of shrubs such as sagebrush, rabbitbrush, and other native shrub species. It provides long-lasting, non-selective control, and can be used in upland/dry areas away from any water resources. We understand that the BLM uses this herbicide to thin or eliminate woody plants in order to increase grass production for livestock grazing, for non-selective control of all vegetation in oil and gas production areas, and in-concert with chaining to remove sagebrush and juniper. We are concerned with the possible widespread use of this chemical in native grass and shrubland areas, since its non-selective nature has the potential of significantly altering native species composition and inhibiting restoration of a full complement of native species. We do not believe that this chemical will assist the BLM in meeting its goal of improving land health. We recommend that the uses and restrictions for use of tebuthiuron on public land be specifically detailed in the PEIS.

Response: The extent of vegetation control provided by tebuthiuron is dependent on which formulation is applied, and the application rate. According to the label, the dry formulation provides "total control of brush and weeds", while the granular formulation provides "control of woody plants." The label states that that between 1.2 lbs and 4.0 lb. active ingredient (a.i.) of the dry flowable formulation is required to achieve activity on selected weedy grasses for bare ground control. Between 0.5 and 4.0 lbs a.i. of the granular formulation are required to achieve activity on selected woody species in rangeland and pasture applications. On a supplemental label for the application of tebuthiuron to reduce canopy cover of big sagebrush, the rate of application is between 0.2 and 0.3 lbs. a.i. tebuthiuron. This rate of application of tebuthiuron is well below the rate required for the management of annual grasses. Therefore, native perennial grasses are at significantly less risk from application of tebuthiuron at rates used to thin sagebrush, which would not be considered a bare ground application. According to BLM records, over 95% of the tebuthiuron applied on public lands in 2003 was applied at this reduced rate for the purpose of opening up sagebrush dominated sites. At these application rates, damage to the native grass community was not significant.

EMC-0585-111
Western Watersheds Project

Comment: BLM states [on page ES-1-1 of the Draft PEIS] that as a result, the amount of hazardous fuels reduction and other vegetation management work is expected to increase, and 15% will involve use of herbicides. BLM does not reveal the data and analysis used to derive this projection and these figures – either for acreage of herbicide or acreage to be treated by other means. Nor is data presented or the public informed of how much herbiciding will accompany each of the treatment methods, and where it will be conducted, in each of the states, or what specific type of treatments will be accompanied by herbicide use.

Response: See response to Comments EMC-0585-051 and EMC-0405-010 under PEIS Alternatives, Determination of Treatment Acreages.

EMC-0585-174
Western Watersheds Project

Comment: BLM proposes use of existing and new chemicals on Rights-of-way and recreation and cultural sites. So here [page B-30] to it appears BLM is authorizing these chemicals to be used in rights-of-way that elsewhere the [P]EIS claims are not included in acreage totals. In areas such as Wyoming that [are] undergoing massive energy exploration and development, large acreages may be treated on or near rows, exploration swaths, etc.

Response: As noted in Chapter 2 of the PEIS, under Other Programs, herbicides are often the preferred treatment method on rights-of-way. All areas proposed for treatments, including rights-of-way, are included in the acreage totals.

EMC-0585-181
Western Watersheds Project

Comment: How much of the land is considered "directly sprayed" vs. BLM supplying contractors or private entities such as ranchers with chemicals or funding counties or weed districts to apply chemicals? Is aerial application considered 'directly sprayed'?

Response: The BLM considers the application of herbicides by any method, including, but not limited to, all-terrain vehicle or truck-mounted spray, backpack, pack animals, and aerial application, to be a "direct spray" method, regardless of who is applying the herbicide. Acres of public lands directly sprayed with herbicides are quantified in annual pesticide use reports and do not differentiate what agency or entity sponsored the spraying.

EMC-0585-183
Western Watersheds Project

Comment: A question that is unanswered in the [P]EIS, PER, HHRA [Human Health Risk Assessment], etc. is: How much of the chemical application, or treatment, will be done by BLM itself, or will significant parts of this treatment be turned over to local governments, grazing permittees, etc. If so, we are very concerned that even the inadequate mitigation, SOPs [Standard Operating Procedures], etc. will not be followed.

Response: The policy for application of pesticides on BLM-administered lands is addressed in BLM Manual 9011 – Chemical Pest Control, Section 0.1, "Guidelines for Conducting Chemical Pest Control Program." As stated in the policy, "... chemical pest control programs, including those done under BLM proposals, cooperative projects, on rights-of-way, or by lessees and concessionaires, and other activities and authorizations issued pursuant to a permit, must be submitted for review and approval in the PUP (Pesticide Use Proposal) format which is in conformance with the procedures below." Whether the application is made by a local government official, permittee, or contract applicator, the same requirements apply for the preparation of the pesticide use proposal.

In addition, as stated in Chapter 1 of the PEIS, under Relationship to Statutes, Regulations, and Policies, "All the herbicides evaluated in this PEIS are registered with the USEPA, and all applicators that apply them on public lands (i.e., certified applicators or those directly supervised by a certified applicator) must comply..." It is the policy of the BLM, as stated in Manual 9011 (.12) (B.) (5) (a.), that all persons applying pesticides, both general and restricted use, on BLM-administered lands will be certified or under the direct supervision of a certified applicator. The BLM plan for certification of pesticide applicators, Appendix 2, Handbook H-9011-1, *Chemical Pest Control*, outlines how the BLM certifies its applicators. This process is very similar to

the method by which individual states certify their respective applicators. In both cases, the certification plans are approved by the USEPA.

Also see response to Comment EMC-0585-181 under PEIS Alternatives, Herbicide Modes of Action and Treatment Methods.

EMC-0646-239
Californians for Alternatives to Toxics

Comment: The Draft PEIS does not describe the various methods for controlling the most problematic plant species, whether they are currently or anticipated to become the most problematic. Not all plant groups respond the same to herbicide application, for example. Some may be knocked back only to resurrect in a year or two. Others require considerably more herbicide and stronger adjuvants than "usual" before a dose is lethal.

Response: Chapter 4 of the PEIS discusses how invasive species of greatest concern would be treated and the costs and benefits associated with these treatments. We have also listed the major species to be treated using each herbicide in Table 2-3 in Chapter 2 of the Final PEIS.

EMC-0646-240
Californians for Alternatives to Toxics

Comment: An analysis at the programmatic level, for example, could describe plants by the characteristics that most influence the ability and the means to control it by providing guidance such as the following: "Herbicides will not be the control method of choice for invasive plants that spread by profuse seed production such as purple loosestrife, et cetera (listing other species with this characteristic on western BLM lands). These seeds are relatively long-lived and germinate sporadically, therefore the seed bank of an established population of such a plant is at little risk since it is not affected by a control program that removes only the current year's standing crop of growing plants. Plants should be removed before they go to seed and the entire plant including all roots and root tips must be removed. Plant locations should be flagged and rechecked every year."

Response: See responses to Comment RMC-0221-072 under PEIS Alternatives, Monitoring, and Comment RMC-0210-053 under PEIS Alternatives, Coordination and Education. Regarding the development of programmatic species management plans based on specific plant characteristics, such generalities would provide little beneficial guidance to those preparing site-specific analysis documents. The purple loosestrife example provided in the comment, which states that because of its profuse seed production "the seed bank of an established population of such a plant is at little risk since it is not affected by a control program that removes only the current year's standing crop of growing plants," leaves one to question whether we are more concerned with the seed bank of the invasive species or the risk associated with the environment and ecology of the area the plant infests.

The approach proposed in the comment would also eliminate any type of integration with other management options for "invasive plants that spread by profuse seed production." The management plans for invasive species are best addressed by the tiered documents associated with the PEIS and PER, as outlined in Chapter 1 of the PEIS.

FL-0006-003

Comment: Several of the herbicides proposed do not even have products currently registered for use by the California Department of Pesticide Regulation. As a California resident and user of public lands I worry about the irreparable damage these chemicals will do to the natural surroundings and public lands I enjoy, as well as the health hazards these chemicals pose to my family.

Response: See response to Comment FXC-0071-006 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

FXC-0071-006
Campbell, Bruce

Comment: If an active ingredient is not currently registered for use by the California Department of Pesticide Regulation, can it be used on federal land (or water) within the State of California? (I understand that Picloram is no longer registered for use in California).

Response: The BLM would not use an herbicide on public lands administered by the BLM in California or any other state unless the active ingredient and the particular formulation have been registered for use in the state.

FXC-0071-007
Campbell, Bruce

Comment: In regards to "active ingredients" that "may be developed in the future," what if an active ingredient has been discovered and experimented with as of November 10th, 2005 when these BLM documents came out? (Since such has been developed, just because it is not an active ingredient currently being used as a registered herbicide or herbicide formulation does not mean that it hasn't already been "developed". Could such active ingredients be used as herbicides by BLM under the auspices of the Programmatic EIS and Programmatic Environmental Report? Please also note that 3 of the newer active ingredients proposed for use by BLM have yet to be evaluated by the California Dept. of Pesticide Regulation.) Could any of the three active ingredients newly proposed by BLM for use as an herbicide in vegetation treatment be used in California despite the lack of review and approval by CA Dept. of Pesticide Regulation?

Response: Only those herbicide active ingredients evaluated in the Final PEIS could be used by the BLM, although not all herbicides evaluated in the PEIS may be used, depending upon the alternative chosen in the Record of Decision. As discussed in Appendix D of the PEIS, the BLM could use new herbicides, or available herbicides currently not used by the BLM, in the future if the protocol outlined in Appendix D is followed. The BLM would not use an herbicide on public lands administered by the BLM in California or any other state unless the active ingredient and the particular formulation have been registered for use in the state.

PHC-006-003
H. McNeel

Comment: I need to clarify on the use of pesticides on BLM lands. I see in the [Draft] [P]EIS it says restricted use pesticides, individuals must be certified. On the policy within the BLM, it is any pesticide used on BLM lands will be certified, the individuals will be certified. I'd like for that to be clarified.

Response: As directed by the Federal Insecticide, Fungicide, and Rodenticide Act, Section 4, and as stated on the label of pesticides classified as "Restricted Use," restricted use products must be applied by a "Certified Applicator or persons under the direct supervision and only for those uses covered by the Certified Applicator's certification." It is the BLM's policy, as stated in Manual 9011 (.12) (B.) (5) (a.), that all persons applying pesticides, both general and restricted use, on BLM-administered lands must be certified or under the direct supervision of a certified applicator. The BLM plan for training and certification of pesticide applicators, Appendix 2 Handbook H-9011-1, *Chemical Pest Control*, outlines how the BLM certifies its applicators. This process is similar to the process by which individual states certify their respective applicators in that the certification plans are approved by the USEPA. However, state certification is required only for "restricted use" pesticides, while the BLM certification is required for the application of both "general" and "restricted use" pesticides.

The BLM requires any BLM personnel supervising or applying pesticides to complete BLM course 9000-1, a USEPA approved course for Integrated Pest Management and certification in the handling and application of pesticides. This course requires the completion of 40 hours of classroom time and testing to handle and apply pesticides in five categories: Agriculture and Pest, Forestry, Aquatic, Rights-of-way, and Research and Development. Recertification is required every three years. In cases where BLM has no reciprocal agreement with the state, the BLM requires BLM personnel to procure a state license.

RMC-0005-003
Mesa County - Tri River Area Extension

Comment: As for concerns of the health aspects of herbicide use, for the most part problems occur when applicators are not properly trained. Health problems can be prevented when herbicides are used as directed on the label. BLM should use the best educational materials and conduct workshops to assure that employees who are applying herbicides are well trained. Applicators should be certified by their State to assure they are qualified to do their job. Each BLM field office should have a supervisor who is certified and who is assigned primarily as a weed manager. Weed management should be their primary job, not a secondary task that gets less than the full attention of the supervisor. Problems occur when there is insufficient training, supervision and leadership. These suggestions will make the BLM weed management efforts more successful and, more importantly, safer for employees and the public.

Response: See response to Comment EMC-0267-002 under PEIS Proposed Action and Purpose and Need, Federal Laws, Regulations, and Policies that Influence Vegetation Treatments. In the BLM's *Partners Against Weeds - An Action Plan for the BLM* (PAW; USDI BLM 1996), it states under the Budget and Program Opportunities section of the Introduction that "Each Field Office should have at least one individual who has weed management as their primary responsibility depending upon local need." Appendix 2 in the PAW document later identifies the responsibilities of both the state and field office weed specialist.

RMC-0006-035
Central Sierra Environmental Resource Center

Comment: Only pesticides that identify all ingredients on the label should be allowed. Our national pesticide law only requires that certain ingredients in a pesticide (the active ingredients) be identified on the label. All the others are misleadingly called "inert ingredients" and are not identified. These same ingredients often escape from most of the testing and evaluation required for active ingredients. They're not really inert, just untested. The public is being kept in the dark as a favor to the pesticide industry. It's time for a change. Diuron, for example, is the active ingredient of several formulations – Karmex, Karmex DF, Krovar, Krovar 1 DF, Diurex 80 DF, Diurex 4L, Diuron FL – used on California thoroughfares. The portion of diuron in these formulations ranges from 40% to 80%. The identity of the 20% to 60% of the formulations' ingredients is a secret. Chemical manufacturers conceal from the public the names of many chemicals in their formulations, and they are supported by state and federal agencies in this subterfuge. The information that is publicly available about inert ingredients, however, indicates that the majority are biologically active and toxic – often as much as are the active ingredients or in some cases, even more so.

Response: Labeling of pesticides is regulated under the Federal Insecticide, Fungicide, and Rodenticide Act and is outside of the jurisdiction of the BLM. Inert ingredients are discussed in Appendix C of the PEIS under Degradates, Inert Ingredient, Adjuvants, and Tank Mixtures.

RMC-0076-003
San Miguel County Board of Commissioners

Comment: Herbicides are toxic chemicals and must be used properly by well trained applicators. We believe that such use, when in full compliance with the label, can be an effective weed control measures. We suggest that the BLM use professional applicators certified by applicable state or federal agencies for herbicide applications and that BLM personnel be assigned primary duties in weed management rather than weed management as an ancillary duty. Public health concerns and potential for environmental damage must be mitigated through planning, appropriate choice of herbicides and proper application by well trained applicators.

Response: See responses to Comment RMC-0005-003 under Alternatives, Herbicide Modes of Action and Treatment Methods, and Comment EMC-0585-183 under PEIS Alternatives, Herbicide Modes of Action and Treatment Methods.

RMC-0106-015
Public Employees for Environmental Responsibility

Comment: p. 2-8, Table 2-3 [of the Draft PEIS]. Classification of herbicides as selective or non-selective doesn't help—the example of a selective herbicide as one affecting only broad-leaved plants should invite as careful application as is said to be needed for non-selective (broad spectrum) herbicides because "broad-leaved" plants is a general term that may include non-target species.

Response: See response to Comment EMC-0585-044 under PEIS Glossary.

RMC-0122-003
Bowers, Lynn

Comment: [There is] no system for tracking who is using what poison in any given rural area.

Response: The BLM requires their field offices to provide documentation of all pesticide use on public lands. In addition, any use of pesticides by the counties through contracts is reported to the appropriate state.

RMC-0159-005
Proctor, Gradey

Comment: Dicamba acts by mimicking auxins in the plant, resulting in abnormal cell division. It also acts by inhibiting an enzyme found in the nervous system, acetylcholinesterase. Inhibition prevents the smooth transition of nerve impulses. It inhibits enzymes in animal livers that detoxify and excrete foreign chemicals. An oral dose of 3.5 oz. would kill an average sized human. Dicamba caused reproductive problems even at extremely low doses in laboratory tests. These adverse effects were exhibited in both mammals and birds. Dicamba is also alarmingly mutagenic, significantly increasing the unwinding rate, or single strand breaks, of the genetic material in rat livers. It also caused unscheduled DNA synthesis and an increase in sister chromatid exchanges. Dicamba has also caused mutations in bacteria. Dicamba greatly increases the risk of contracting the cancer non Hodgkin's lymphoma up to two decades after exposure. There are also impurities in the products that increase the potential carcinogenicity, such as dimethylnitrosamine, which causes cancer in lab animals. Given the potential adverse health effects, why is the BLM proposing to use such a toxic chemical? What will the BLM do to ensure that the environment is protected from this poisonous chemical?

Response: The toxicity of dicamba is summarized in Appendix B of the PEIS under Toxicity Profiles in the Hazard Identification section. As represented in this section, it is not considered highly toxic. Dicamba is not classified by the USEPA as a carcinogen and poses no risk to workers and the general public under any of the exposure scenarios considered in the risk analysis done by the BLM, except for the accidental spill scenario, under which there would be a low risk to workers. The toxicity values used in the risk assessments account for a large variety of toxic effects, and consider a safe dose to be one at which none of these toxic effects have been

observed.

RMC-0205-021
Oregon Department of Agriculture

Comment: We recognize that protecting water quality is a high priority for public land management, and within the municipal watersheds, this also includes protecting human health. Within the mission, budget, and legal authority, we request that BLM consider local drinking water protection priorities when developing management plans for federal lands and facilities. Implementing protective actions and land use decisions can be very effective in providing clean source water to public intakes and wells. This will preserve the use of public funds that would otherwise be spent to upgrade treatment facilities to remove contaminants downstream.

Response: Provisions of the Well Head Protection program in the Safe Drinking Water Act provide for protection of local or municipal drinking water supplies. These requirements include buffer zones around wells used for drinking water supply. Additionally, provisions in the Source Water Assessment Program in the Clean Water Act amendments of 1996 require delineation of boundaries of areas providing source waters for public water supplies. The BLM will consider this information during treatments.

RMC-0208-029
California Oak Foundation

Comment: Many of the same herbicide active ingredients the BLM proposes to use have historically been used to control vegetation throughout California generally and within oak woodland habitats specifically. In addition, different active ingredients have accumulated over time in California's agricultural lands, rivers, streams, and oak woodlands, suggesting the potential for far greater environmental impacts as more herbicide active ingredients are emitted into the environment as a result of the BLM's vegetation management proposal. The net result is that the BLM's proposed use of herbicides on its lands containing oak woodland habitats will exacerbate the threat to oak woodlands and the special status species that inhabit or rely on oak woodland ecosystems.

Response: See response to Comment RMC-0208-003 under PEIS Alternatives, Vegetation Treatment Planning and Management.

RMC-0211-027
Ghandi, Theresa Marie K.

Comment: I did not find a history of previous "control" applications in areas where noxious or invasive weeds have taken root. Could past use of herbicides by various parts of BLM and agriculture have contributed to the soil being open to invasive species? With trees and animals migrating north could some of the increased problems with fires be the result of changing weather patterns? One hundred plus days of no rain in Phoenix and the ongoing drought could be more than just a part of the cause. Clear cutting forests changes weather patterns, justifying more cutting to prevent fires and a downward spiral makes the problem huge.

Response: A summary of past applications of herbicide treatments over the 17-state area is provided in Chapter 2 of the PEIS (Figure 2-1 and Table 2-4). With regard to the causes of the spread of weeds and invasive species, please refer to response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

RMC-0221-050
Center for Biological Diversity

Comment: The Center [for Biological Diversity] questions the effectiveness of use of herbicides to control fire. Herbicides may have the effect of killing standing vegetation, leaving brushy and highly flammable dead vegetative tissue in its place—which may not actually reduce fire danger at all. The analysis of the herbicide treatments also fails to address potentially caustic reactions when the chemicals are

burned, through natural or artificially ignited fires, and fails to analyze how application of herbicides increases or decreases the flammability of the undesirable vegetation. Without identifying and answering these questions it is impossible for the BLM to explain how its proposed action will mitigate the hazard of catastrophic wildfire.

Response: Through an integrated vegetation management approach, prescribed fire has been successfully used both prior to herbicide treatment and in the season following herbicide treatment. Usually herbicide treatments are completed prior to prescribed fire to provide the fuel necessary to accomplish the burn. Prescribed fire cannot immediately follow a chemical treatment, because the intent is for the vegetation to dry first. Therefore, with at least one season lag time, caustic reactions from the dried vegetation should not be an issue.

When vegetation is treated and killed during a fuels treatment, a secondary treatment is planned to remove any remaining dead plant material. This process would be no different for vegetation treated by herbicide. After the initial treatments, monitoring and follow-up treatments (which can be of any type, not necessarily chemical), will occur if necessary. A comprehensive literature review on the use of prescribed fire for controlling invasive plants can be found at www.weedcenter.org under publications.

RMC-0221-065
Center for Biological Diversity

Comment: The D[raft] PEIS and D[raft] PER fail to include detailed information on the amounts of herbicides that have been used in the project area in the past, as well as the past and current amounts of herbicides that are used by other agencies and on private lands within the project area. These types of data are critical for any meaningful cumulative effects analysis.

Response: Information on historic use of herbicides on BLM-administered lands is provided in Table 2-4 in Chapter 2 of the PEIS (see column "Historic Use [1999-2005]). We have also included information on herbicide use on other lands in the western U.S. in the Vegetation section of the Cumulative Effects Analysis in Chapter 4 of the Final PEIS. The commenter may also want to consult the National Pesticide Use Database at http://www.ncfap.org/database/state/default.asp to obtain additional information on pesticide use by state.

RMC-0233-066
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Because some of the herbicides are restricted use (2,4-D, picloram) and more toxic than others, the final PEIS should state if priority for use will be given to the less toxic herbicides before resorting to the use of more toxic herbicides.

Response: See response to Comment EMC-0585-157 under PEIS Alternatives, Mitigation.

Alternatives, Description of the Alternatives

EMC-0562-004
The Lands Council

Comment: The alternatives section of NEPA documents are the foundation and crux of the law and without providing an adequate range of feasible alternatives within the PEIS, its analysis is incomplete and violates NEPA requirements. The BLM fails to show preference for alternatives that consider the contributing causes if noxious weed infestation. The preferred alternative does not consider non-chemical treatments such as integrating a combination of goat grazing, mowing, prescribed burns, bio-controls, ground covers, etc.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of weed

spread. See response to Comment EMC-0486-020 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding the integrated pest management approach used in designing BLM vegetation treatments projects.

EMC-0562-005
The Lands Council

Comment: NEPA requires that all feasible alternatives be objectively evaluated. By disregarding scientific literature (see citations later in this comment letter), the PEIS is not giving preference to reasonable and feasible alternatives that must be included as part of the possible effective treatment methods. Moreover, the Council on Environmental Quality (CEQ) advises [i]n determining the scope of alternatives to be considered, the emphasis is on what is 'reasonable' rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant. CEQ, *Forty Most Asked Questions Concerning CEQ's NEPA Regulations*, § 2 (a).

Response: The BLM has analyzed a reasonable range of reasonable alternatives in regard to the Proposed Action and Purpose and Need of the PEIS. Scientific literature was reviewed in the development and analysis of the PEIS alternatives and is documented in Chapter 6, References.

EMC-0585-067
Western Watersheds Project

Comment: BLM failed to evaluate any alternatives related to the greatly increased treatment acreages (as discussed in the PER). BLM never evaluates a reasonable range of alternatives or alternative acreages for non-herbicide treatments.

Response: See responses to Comments RMC-0222-005 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments and RMC-0222-006 under PEIS Proposed Action and Purpose and Need, Scope of Analysis. As noted for Comment EMC-0585-236 under Biological Assessment, non-herbicide treatment actions were evaluated in earlier EISs.

EMC-0585-069
Western Watersheds Project

Comment: BLM failed to evaluate a reasonable range of alternatives. BLM never examined an alternative, or range of alternatives including alternative treatment acres that focused on passive restoration.

Response: See response to Comment EMC-0585-068 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0585-071
Western Watersheds Project

Comment: BLM has not assessed a reasonable range of alternative[s] related to chemical use. It has primarily eliminated from consideration some chemicals that it has not used much ([P]EIS at [page] ES-2). BLM has failed to analyze a range of alternatives that do not use chemicals such as Oust that are known to have caused great economic [harm], instead only eliminating this use under one alternative. BLM has not presented a reasoned analysis why it chose to add diquat and other chemicals under several Alternatives.

Response: The range of alternatives evaluated in the PEIS was developed based on comments received during scoping. Oust® and similar herbicides with sulfonylurea and other acetolactate synthase-inhibiting active ingredients would not be allowed under Alternative E. Alternative A is the No Action Alternative. Alternative B includes the full suite of chemicals being considered for use by the BLM. Alternative C prohibits use of herbicides (including Oust®), while Alternative D prohibits aerial spraying. Since Oust® could not be aerially sprayed under Alternative E, Alternative E

responds to some of the issues evaluated in Alternative D. A discussion of how herbicides were chosen for analysis is given in Chapter 2 of the PEIS under Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

EMC-0585-072
Western Watersheds Project

Comment: There is no clear comparison of components of some alternatives, as any passive treatments that may be occurring to some degree on some BLM lands are not assessed under the No Action alternative.

Response: Passive treatments were considered under all alternatives, as passive treatments were considered in Chapter 2 of the PEIS under Standard Operating Procedures and Guidelines. Also see response to Comment EMC-0585-068 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0585-136
Western Watersheds Project

Comment: Also, BLM's discussion claims that BLM uses IPM [Integrated Pest Management], and something it calls IVM [Integrated Vegetation Management], with goals of controlling and prevention of invasive vegetation. BLM violates its own policies and guidance by: Casting aside the RNEA [Restore Native Ecosystems Alternative] and failing to assess a range of passive restoration treatments, and ignoring analysis of a range of alternatives and data that are based on IPM.

Response: See response to Comment EMC-0585-068 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0619-008
Bellovary, Christopher

Comment: For these reasons, I consider the PEIS to be incomplete. The PEIS includes the use of herbicides with inadequate laboratory data from which a rational decision maker can base a decision and still comply with their legal duties as caretaker of the public land. The PEIS does not evaluate alternatives that most decision makers would consider before herbicides, such as reducing or eliminating disturbances by off-road vehicles, logging and grazing through effective regulations or mechanical and biological controls, all of which are likely to have a significantly lower impact on threatened and endangered native species. Furthermore, the PEIS does not appear to comply with applicable Federal law. I suggest that these shortfalls be remedied, as this PEIS provides and incomplete basis for rational decision-making to occur.

Response: The reference to inadequate laboratory data is unsubstantiated. The toxicological analyses conducted for human health and ecological risk presented in the PEIS, Appendixes B and C, disclose the results of the quantitative risk methodology developed in collaboration with toxicological scientists from USEPA, U.S. Fish and Wildlife Service, and National Marine Fisheries Service, and represent the most current state of the science in human health and ecological risk assessment. See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of weed spread and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public land uses. Impacts to Threatened and Endangered Species are described in Chapter 4 of the PEIS and in the Biological Assessment submitted to the services for consultation under Section 7 of the Endangered Species Act. The BLM has complied with all federal laws in the development of this PEIS.

EMC-0640-024
Animal Welfare Institute

Comment: The use of herbicidal and non-herbicidal vegetation treatments should be limited to the direct control of invasive exotic species that represent a potential fuel source for a catastrophic wildlife fire, to reduce the potential for a catastrophic wildfire to destroy property within the wildland-urban interface where there is documented

evidence that such species have degraded wildlife (including fish) habitat, or where vegetation manipulation is deemed crucial to facilitating the recovery potential of protected species (state, federal, and special status species). These limitations would be in addition to the restrictions suggested above.

Response: The range of uses of chemical and non-chemical methods for vegetation treatments, described in Chapter 2 of the PEIS and PER, include control of vegetation related to hazardous fuels and prevention of catastrophic fire. Restrictions and criteria for use are described in Table 2-6 of the PEIS and Table 2-4 of the PER in Chapter 2.

EMC-0646-185
Californians for Alternatives to Toxics

Comment: The BLM has failed to include an IPM [integrated pest management] alternative. Weed control scientists regularly point to the necessity of integrating multiple methods for effective long term weed control.

Response: See response to Comment EMC-0486-020 under PEIS Alternatives, Vegetation Treatment Planning and Management. The BLM already conducts its activities in an IPM context, which has been affirmed in the Records of Decision in all past vegetation EISs leading to this effort. Use of IPM applies to Alternatives A, B, D, and E in the PEIS, as existing management, and does not require a separate alternative analysis. The PEIS focuses on the herbicide component of an IPM program. See Vegetation Treatment Planning and Management in Chapter 2 of the Final PEIS.

PHC-005-011
K. Fite

Comment: So I would just urge BLM to prepare a Supplemental Draft EIS that embraces a broader range of alternatives, including passive restoration techniques. And we – the same coalition of groups that worked in developing an alternative before, would be happy to work with you in amending what we presented, or providing additional information, if necessary.

Response: See responses to Comment EMC-0585-068 under PEIS Proposed Action and Purpose and Need, Scope of Analysis, and Comment RMC-0167-007 under PEIS Alternatives, Vegetation Treatment Planning and Management.

RMC-0067-002
Wyoming Outdoor Council

Comment: BLM's preferred alternative appears to be focused on substantial expansion of the use of herbicides as a means to reduce the incidence of catastrophic fires, and perhaps to a lesser degree as a means to reduce the spread of invasive or noxious weeds. Thus, the preferred alternative appears to be focused on areas that have been subject to catastrophic fires due to cheatgrass invasion in Nevada, Oregon, Idaho, and Wyoming. This expansion of the use of herbicides is problematic for a number of reasons.

Response: See response to Comment EMC-0585-051 under PEIS Alternatives, Determination of Treatment Acreages.

RMC-0087-005
Central Valley California Regional Water Quality Control Board

Comment: Another concern with Alternative B [in the Draft PEIS] is that the BLM would use new active ingredients that are developed in the future if the BLM determines that the benefits of use on public lands outweigh the risks to human health and the environment. The PEIS fails to explain or provide examples of what type of benefits can outweigh risks to human health and the environment. What does the BLM consider an acceptable risk to human health and the environment?

Response: The BLM cannot authorize new herbicides without conducting a new EIS and risk assessment and allowing the public to comment on the proposal. The BLM used the USEPA's definition of acceptable risks (Levels of Concern). There are

significant environmental benefits associated with using herbicides in a responsible manner, if risk assessments show risks to be none to low. The habitat is preserved or restored for wildlife, endangered species, native plants, and recreational users.

RMC-0106-007
Public Employees for Environmental Responsibility

Comment: On p. 1-4, it is stated that the D[raft] [P]PEIS "...does not address vegetation treatments exclusively designed to increase forage production..." It is presumed, therefore, that herbicide treatments using the 20 previously approved herbicides will continue. This means that well over one million acres in the best case will be treated annually or at some unspecified interval with herbicides. The [Draft] [P]EIS documents PEER (Public Employees for Environmental Responsibility) has reviewed that involve "rangeland improvement" generally claim additional benefits to wildlife, habitat, and watershed conditions and thus are not exclusively devoted to "rangeland improvement."

Response: The PEIS and PER address vegetation treatments that provide a multitude of resource benefits. Although treatments would increase forage production, their primary objectives are to control invasive vegetation and reduce hazardous fuels. Under alternatives B through E, only 18 or fewer herbicides would be used by the BLM, and under all alternatives, about 930,000 or fewer acres would be treated using herbicides each year.

RMC-0163-004
Skrine, Eugene

Comment: The Range of Alternatives considered in the DEIS [Draft PEIS] are too narrow. The only Alternative that considers use of non-chemical methods is Alternative C, No Use of Herbicides. This creates a false choice. In the real world, the treatment of invasive plants is not an all herbicides or no herbicides proposition. The best choice for treatment is most often a combination of these methods. These combination alternatives need to be considered. Invasive plant prevention and site restoration also need to be included. Only focusing on treatment, and excluding other important elements of Integrated Weed Management, almost assure the continuation of the invasive plant problem. Only a thoughtful combination of prevention, treatment (both herbicides and non-herbicides) and site restoration will assure success in meeting the stated underlying need.

Response: Alternatives A, B, D, and E involved the use of herbicides, prescribed fire, and manual, mechanical, and biological control treatments. Alternative C did not include the use of herbicides, but did include the use of the other treatment methods. Response to Comment RMC-0214-011 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments discusses the rationale for only evaluating herbicide use in the PEIS. All elements of vegetation control were considered when doing the analysis in the PEIS, although a detailed discussion of prevention and site restoration were mostly limited to the PER; this discussion has been included in the Final PEIS.

RMC-0170-003
Carson Forest Watch

Comment: There are numerous effective, safe, & proven alternatives to herbicides for treating noxious weeds. The DEIS [Draft PEIS] needs to fully analyze these non-toxic methods & propose a wide range of alternatives, as per NEPA regs.

Response: See responses to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation and Comment RMC-0214-011 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments.

RMC-0214-012
Natural Resources Defense Council and National Wildlife Federation

Comment: The D[raft] PEIS fails to consider seriously alternatives that do not focus primarily upon chemical treatment. The one alternative that does not include chemical treatments as the primary action is relegated to the PER. The very fact that traditional vegetative treatments are relegated to what BLM considers a second tier NEPA document is proof that the agency has not considered the broad options that a PEIS requires an agency to explore.

Response: Alternative C analyzed non-herbicide treatments. The PEIS includes a full range of herbicide use alternatives, ranging from no use of herbicides to no aerial spraying of herbicides, to using only certain herbicides, to treatment of 932,000 acres using herbicides. Also see responses to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation, and Comment RMC-0214-011 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments.

RMC-0218-002
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: The Bureau of Land Management's preferred alternative would almost triple herbicide use from the current 325,000 acres per year and increase non-chemical manipulation of the land from 500,000 acres a year to six million acres annually--a twelve-fold increase.

Response: The BLM currently treats about 2 million acres, and proposes to increase treatment levels to about 6 million acres annually (see Executive Summary under Program Objectives and Goals in the PER). The BLM's proposed action would increase herbicide use 3-fold, from about 325,000 acres to 932,000 acres annually, and increase non-herbicide treatments 3-fold, from about 1.7 million acres to 5.1 million acres annually.

RMC-0218-030
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: Inadequate range of alternatives – there is no alternative offered that would emphasize prevention and only use the most ecologically benign herbicides in "last resort" scenarios where risks from invasives outweigh risks from herbicide use and no other non-herbicide control method has worked. In other words the introduction to use of new, less toxic herbicide is held captive to required continued use of existing, more toxic herbicides, so that those members of the public who want only the least toxic herbicides for potential use if needed are not allowed that option, as it is instead either "No Herbicides" or use of <u>all</u> herbicides proposed for use in the offered alternatives.

Response: The comment is incorrect. See response to Comment RMC-0218-005 under PEIS Proposed Action and Purpose and Need, Scope of Analysis for a discussion on prevention. The BLM incorporates prevention measures into all resource programs and authorizations for public land uses. A separate alternative to highlight ongoing policy and practice under all alternatives is not required to assess the environmental effects of herbicide active ingredients on public land resources. Under an integrated pest management (IPM) vegetation treatment strategy, each situation and treatment method is assessed for the best treatment for the given circumstances. An IPM approach does not imply a priority order of use of methods in which herbicides are a last resort only. In some cases, it may be more effective to use herbicides on a small infestation first and eradicate it immediately, rather than through trial and error approaches, potentially allowing the infestation to spread beyond practical control. In every case, best available science and professional expertise and judgment are used to determine which method of treatment is appropriate for a given set of circumstances and provides the authorized officer maximum flexibility to meet land use plan goals and objectives in designing treatment options. See Chapter 2 of the PER for a

discussion of vegetation treatment programs, policies, and methods.

The characterization that the public is provided either a choice of no herbicides (Alternative C) or the use of all herbicides currently approved (Alternative A), plus those proposed under Alternative B, is incorrect. See Table 2-2 of Chapter 2 of the PEIS for a list of herbicides currently approved and proposed under Alternative B. It is noted that six approved herbicides have not been used, or have been used at a limited scale over the past decade. Under Alternative B, the use of these six previously-approved herbicides would be discontinued by the agency. The four proposed herbicide active ingredients under Alternative B are considered to be less toxic, with greater efficacy, than many of the active ingredients currently approved, providing the agency with alternative, less toxic products to use in lieu of more toxic products that are available.

RMC-0222-012
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: In contrast to Alternative E (i.e., "No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients"), the central element of the Restoration Alternative is the linkage of prevention, treatment (both passive and active), and restoration to judicious use of herbicides. By contrast, Alternative B, the Preferred Alternative in the DEIS [Draft PEIS], merely describes the disembodied use or lack of use of herbicides.

Response: See responses to Comment RMC-0222-059 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response, Comment RMC-0163-005 under PEIS Alternatives, Mitigation, and Comment RMC-0148-001 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients.

Alternatives, Alternative A – Continue Present Herbicide Use (No Action Alternative)

EMC-0214-006
Vollmer, Jennifer (BASF)

Comment: Current Emergency Stabilization and Rehabilitation efforts are ineffective with annual bromes out competing expensive plantings of introduced and native grasses and forbs. Of the treatments allowed under Alternative A, none will result in a successful plantings. In my experience, at this time BLM range specialists are satisfied with a 10% desirable plant establishment rate for soil stabilization. These types of results are unacceptable to private landowners and should be unacceptable to tax payers. One reason only a 10% establishment rate is achieved is due to the lack of appropriate herbicide treatment to control the competing annual brome under Alternative A.

Response: Thank you for your comment. The Proposed Action and Preferred Alternative (Alternative B; see Chapter 2 under Description of the Alternatives) of the PEIS includes the use of herbicides that would provide greater control of competing annual brome species.

EMC-0503-014
John Day-Snake Resource Advisory Council

Comment: Why is it, if current levels of herbicide use, according to the [Draft] [P]EIS, are 160,000 acres, that the "no action" alternative states 305,000 acres would be treated?

Response: Although about 160,000 acres have been treated using herbicides in recent years, it was estimated by the BLM that the number of acres treated would be closer to 305,000 at the time of the release of the Draft PEIS based on information provided by field offices.

RMC-0049-020
Wilson, Robert E.
(University of Nevada Cooperative Extension)

Comment: Alternative A has been demonstrated that it is inadequate to address the scope of the invasive weed problem as it is currently being implemented. As such, the effect of increased infestations of invasive weeds on the environment needs to be included in this [Draft] [P]EIS.

Response: See responses to Comment RMC-0221-008 under PEIS Alternatives, Determination of Treatment Acreages, Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis, Comment FL-0004-010 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response, and Comment EMC-0553-006 under PEIS Alternatives, Determination of Treatment Acreages.

Alternatives, Alternative B – Expand Herbicide Use and Allows for Use of New Herbicides in 17 Western States (Preferred Alternative)

EMC-0503-011
John Day-Snake Resource Advisory Council

Comment: The practices discussed in Alternative E should be incorporated into the preferred alternative such as restricting activities such as livestock grazing, OHV [off-highway vehicle] use, logging or oil and gas development in areas where these activities have promoted a less desirable vegetation community or increased soil disturbance and erosion. Also the early detection/rapid response strategies from Alternative E should be incorporated in the preferred alternative.

Response: See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients.

EMC-0503-012
John Day-Snake Resource Advisory Council

Comment: Considerations regarding amphibians in alternative E should be included in the preferred alternative [in the PEIS]. A few of the chemicals proposed for use such as diquat, diuron, and tebuthiuron pose a potential risk to aquatic species and more detailed requirements for their use should be included in the document.

Response: Standard Operating Procedures and Guidelines and mitigation to minimize or avoid risks to amphibians are given in Chapter 2 of the PEIS and in Chapter 4 under the Wetland and Riparian Areas, Vegetation (habitat protection), and Wildlife Resources sections. These protections include elements of Standard Operating Procedures and mitigation recommended under Alternative E. The BLM would treat only about 10,000 acres of wetlands annually using herbicides, and would use the herbicides and treatment methods (e.g., spot treatments) with the least potential to impact amphibians, where feasible. In some cases, impacts to individual amphibians would have to be weighed against the benefits of treating a site and enhancing the long-term success of the local population.

EMC-0562-003
The Lands Council

Comment: The Lands Council strongly opposes the preferred Alternative B, which allows herbicide use and also proposes the use of new herbicides. The range of alternatives should be developed based on the statutory goals and requirements of NEPA, NFMA [National Forest Management Act], and the ESA [Endangered Species Act]. 40 C.F.R.[Code of Federal Regulations] § 1502.2(d) (analyses shall state how alternatives will or will not achieve the requirements of NEPA and other environmental laws and policies); *See Westlands Water District v. U.S. Dept. of Interior*, 376 F.3d 853, 872 (9th Cir. 2004). Instead, the BLM seems primarily focused on experimenting with new chemical treatments of invasive plants, to the exclusion of other alternatives.

Response: The range of alternatives is governed by the breadth of the PEIS' Purpose and Need Statement in Chapter 1; an agency need not consider alternatives that are "inconsistent with the basic policy objectives for the management of the area." *Headwaters, Inc. v. Bureau of Land Management*, 914 F.2d 1174, 1180 (9th Cir. 1990). Where alternatives are analyzed in a NEPA document, the document is adequate "if it considers an appropriate range of alternatives, even if it does not consider every available alternative." *Id.* at 1180-81. *See also Robertson v. Methow Valley Citizens Council,* 490 U.S. 332 (1989) (demonstrating that courts only require federal agencies to consider, in their EIS, alternatives that are reasonable). "When [the statement of purpose] is to accomplish one thing, it makes no sense to consider alternative ways in which another thing might be achieved." *City of Angoon v. Hodel,* 803 F.2d 1016, 1021 (9th Cir. 1986).

The purposes of the proposed action are to provide BLM personnel with the herbicides available for vegetation treatment on public lands and to describe the limitations that apply to their use, as discussed in Chapter 1 of the PEIS under Purpose and Need for the Proposed Action. The need for the proposed action is to reduce the risk of catastrophic wildfires by reducing hazardous fuels, restoring fire-damaged lands, and improving ecosystem health by 1) controlling weeds and invasive species and 2) manipulating vegetation to benefit fish and wildlife habitat, improve riparian and wetlands areas, and improve water quality in priority watersheds. *Id.* Since it is the BLM's purpose to "provide BLM personnel with the herbicides available for vegetation treatment," this defines the range of alternatives BLM must consider.

Furthermore, the BLM considered alternatives to extend beyond the purpose of the proposed action. Therefore, the BLM has not focused on experimenting with new chemical treatments to the exclusion of other alternatives. As examples, the BLM included a no action alternative (see Alternative A – Continue Present Herbicide Use [No Action Alternative] in Chapter 2 of the PEIS) and an alternative which contemplated no use of herbicides by using fire, mechanical, manual, and biological control methods only (see Alternative C – No Use of Herbicides in Chapter 2 of the PEIS).

Council on Environmental Quality (CEQ) regulations addressing more specific requirements for alternatives call for the following: (1) no action alternative; (2) other reasonable courses of actions; and (3) mitigation measures not in the proposed action. 40 C.F.R. § 1502.25(b) (2006). The BLM included a no action alternative (see Alternative A – Continue Present Herbicide Use [No Action Alternative] in Chapter 2 of the PEIS), other reasonable courses of actions (see Alternatives B – D in Chapter 2 of the PEIS), and mitigation measures (see Mitigation in Chapter 2 of the PEIS). CEQ regulations further state that agencies shall (1) evaluate all reasonable alternatives, and for alternatives which were eliminated from study, briefly discuss the reasons for their having been eliminated; (2) devote substantial treatment to each alternative considered in detail; (3) include reasonable alternatives not within the jurisdiction of the lead agency; (4) include the alternative of no action; (5) identify the agency's preferred alternative(s); and (6) include appropriate mitigation measures not already included in the proposed action or alternatives. 40 C.F.R. § 1502.14 (2006). The BLM has addressed (1) – (6) requirements in the PEIS. See PEIS Chapter 2.

The BLM properly addressed the range of alternatives as defined by the purpose and need statement of the proposed action. The BLM properly met specified range of alternative requirements as outlined in CEQ regulations. The BLM is not bound by the NMFA, which applies to the U.S. Forest Service, an agency within the Department of

Agriculture. The PEIS meets the statutory requirements of NEPA and the ESA.

EMC-0609-002
Western Plant Health Association

Comment: This report suggests banning the use of herbicides on up to 5.1 million acres of public lands. WPHA [Western Plant Health Association] represents the manufacturers of fertilizers, crop protection, and biotechnology products, as well as agricultural retailers in California, Arizona, and Hawaii.

Response: The PEIS does not ban the use of herbicides on any public land, but does state that herbicides would be used on approximately 932,000 acres, and other treatment methods would be used on about 5.1 million acres of public land annually. It is likely, however, that there are public lands where the use of herbicides, or other treatment methods, would not be beneficial.

Alternatives, Alternative D – No Aerial Application of Herbicides

EMC-0338-006
Dow AgroSciences

Comment: Also in this alternative it is mentioned that the most sensitive factor for aerial applications is the potential for spray drift. This assumes that the application will be made with a liquid spray solution; however, there are granular formulations of some herbicides, such as tebuthiuron (Spike 20P™), which generally eliminates or greatly reduces drift onto non-target areas.

Response: The BLM agrees that granular formulations would result in less drift from aerial spraying. Also see response to Comment EMC-0338-013 under PEIS Environmental Consequences, Wildlife Resources.

EMC-0623-015
Defenders of Wildlife

Comment: Drastically curtail the plan treat roughly 400,000 acres of anticipated herbicide application aerially. Aerial application involves too great a risk of pesticide drift, reduces the chance that application will be followed by on-the-ground native species restoration, and sets up a cycle whereby the same areas are sprayed year after year. Aerial application should occur only as a last resort in areas that are too remote for ground application and where chance of re-infestation is low.

Response: See responses to Comment EMC-0001-002 and Comment RMC-0208-061 under PEIS Environmental Consequences, Air Quality.

RMC-0210-042
MCS Task Force of New Mexico

Comment: Herbicides should not be aerially applied (because of inevitable and unacceptable amount of drift on to nontarget areas and species).

Response: As discussed in the PEIS in Chapter 4 under Vegetation, there would be impacts to non-target vegetation from drift. However, the long-term beneficial effects on desired plant communities and ecosystems would be greater than any potential short-term negative effects from aerial treatments because some large and remote areas cannot be effectively treated using ground methods.

RMC-0210-043
MCS Task Force of New Mexico

Comment: If herbicides are aerially applied, they should not be applied within 5 miles of surface water, residences, roads, trails, campgrounds, or other areas that are occupied, or may become occupied, by the public.

Response: See response to Comment EMC-0585-178 under PEIS Environmental Consequences, Herbicide Effects Analysis.

Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients

EMC-0234-010
Dremann, Craig

Comment: The "Restore Option" does not contain any mention that tens of millions of dollars will need to be invested, to develop and invent the successful methods to achieve successful restoration of the Great Basin habitat, and that the Appendix G [of the Draft PEIS] lists the old methods that have never worked: Page 17, Section VI "Restoration Vegetation treatments, Part A, "Direct treatments of Invasive Species", Action - Restoration 3 lists the old methods that have never worked on cheatgrass in the Great Basin, for example--Biocontrol, cultural practices, mechanical treatments, chemical treatments and prescribed fire.

Response: Comment noted. The "Restore Option" is a citizen-based alternative submitted to the BLM, described in Appendix I of the Final PEIS. New techniques to address successful long-term cheatgrass control would require substantial investment and time, as well as practical application on large areas. Until such techniques are developed, it is foreseeable many of the standard techniques would continue to be utilized.

EMC-0234-014
Dremann, Craig

Comment: The "Restore Option" suggests that BLM can legally intentionally sow seeds of exotic or non-native plants on their lands. The "Restore Option" VII. Revegetation. Action - Revegetation 2 and 3 suggests that BLM has already written the legally-required NEPA documents allowing the agency to intentionally sow millions of pounds per year of exotic and non-native seeds on their lands? The intentional sowing of a single pound of non-native seed or any exotic plant seeds is illegal, because their use has never been covered by any NEPA documents (EIR, EIS, etc.), but nevertheless, millions of pounds of exotic seeds that permanently change the native ecosystems that BLM has a duty to protect, are sown by the agency every year. You can read about the BLM's intentional sowing of exotic seeds at http://www.ecoseeds.com/juicy.gossip.six.html. Either BLM will have to explain their intentional sowing each year of exotic and non-native seeds in a NEPA document, or they will have to immediately discontinue their use.

Response: The "Restore Option" referred to is Alternative E (see Chapter 2 of the PEIS for a description of the alternative), which is derived from a Citizen's alternative described in Appendix G and included for analysis in this PEIS. BLM policy does allow for the use of non-native seed in vegetation treatment and rehabilitation projects and is not illegal. Use of native and non-native seed is guided by BLM Manual 1745 *Introduction, Transplant, Augmentation and Reestablishment of Fish, Wildlife and Plants*. Each project that proposes the use of non-native seed has site-specific NEPA analysis conducted prior to implementation.

EMC-0416-004
Lengerich, Tim

Comment: The BLM should analyze the Restore Native Ecosystems Alternative in the DEIS [Draft PEIS]/PER, a citizens' alternative submitted to the BLM that addresses both the causes and the effects of weed invasion and undesirable vegetation on public lands (www.blm.gov/nhp/spotlight/vegEIS/vol2/PEIS_Appendix_G_RNEA__Alternative.pdf)

Response: The Citizen's Alternative to Restore Native Ecosystems was evaluated under Alternative E in the PEIS. Also see response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis

EMC-0447-004
Makelacy, Melladee

Comment: Herbicides are not only poisonous and expensive, but they ultimately fail because they are treating symptoms, not the causes, of weed invasion and undesirable vegetation. Instead, the BLM should analyze the Restore Native Ecosystems Alternative in the DEIS [Draft PEIS]/PER, a citizens' alternative submitted to the BLM that addresses both the causes and the effects of weed invasion and undesirable vegetation on public lands.

Response: See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystem alternative.

EMC-0450-001
Ray, Lindsey

Comment: I would like to urge you to take another look at the management of the BLM land concerning the noxious weeds. Please take a look at the restore Native Ecosystems Alternative in the DEIS [Draft PEIS]/PER. The herbicide use is not only costly but harmful to the environment.

Response: See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystem alternative.

EMC-0455-005
Tashjian, Randy

Comment: The BLM should analyze the Restore Native Ecosystems Alternative in the DEIS [Draft PEIS]/PER, a citizens' alternative submitted to the BLM that addresses both the causes and the effects of weed invasion and undesirable vegetation on public lands.

Response: See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystem alternative.

EMC-0456-002
Mendius, Barbara J.

Comment: Please consider seriously the citizen's alternative, Restore Native Ecosystems Alternative in the DEIS [Draft PEIS]/PER, which addresses both the causes and the effects of weed invasion and undesirable vegetation on public lands.

Response: See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystem alternative.

EMC-0464-002
Kaufman, Albert

Comment: Instead, the BLM should analyze the Restore Native Ecosystems Alternative in the DEIS [Draft PEIS]/PER, a citizens' alternative submitted to the BLM that addresses both the causes and the effects of weed invasion and undesirable vegetation on public lands.

Response: See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystem alternative.

EMC-0489-004
Burch, D.

Comment: Herbicides are not only poisonous and expensive, but they ultimately fail because they are treating symptoms, not the causes, of weed invasion and undesirable vegetation. Instead, the BLM should analyze the Restore Native Ecosystems Alternative in the DEIS [Draft PEIS]/PER, a citizens' alternative submitted to the BLM that addresses both the causes and the effects of weed invasion and undesirable vegetation on public lands.

Response: See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystem alternative.

EMC-0512-007
Hells Canyon Preservation Council

Comment: We encourage the BLM to consider and analyze the citizen's alternative to restore native ecosystems. Limiting motorized vehicles, livestock and ground disturbing activities would likely be much more effective than herbicide use. The net effects of using herbicides are not disclosed in the [P]EIS and are likely to show a net loss in natural resource values on public lands.

Response: The Citizen's Alternative to Restore Native Ecosystems was evaluated under Alternative E in the PEIS. Also see response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0521-003
Whitney, Dana

Comment: I urge the BLM to consider using passive restoration as a means of preventing weed invasion and resting areas of public land where weed growth is fostered by overgrazing and rampant off-road vehicles. Furthermore, the BLM should analyze the Restore Native Ecosystems Alternative in the DEIS [Draft PEIS]/PER, a citizens' alternative submitted to the BLM that addresses both the causes and the effects of weed invasion and undesirable vegetation on public lands.

Response: See response to Comment RMC-126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystems alternative.

EMC-0559-002
Daniel, Bill

Comment: The BLM should consider and incorporate the Restore Native Ecosystems Alternative, a thorough and scientifically defensible plan to prevent the introduction and dispersal of invasive plants.

Response: See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystems alternative.

EMC-0584-059
Western Watersheds Project

Comment: At the best, herbicide use is only a temporary measure or intermediate step to be used, and it does not address the basic causes of weed problems. A range of alternatives without use of sulfonylurea and acetolactate synthase-inhibiting herbicides should not be developed. This is essential due to the demonstrated ability of these chemicals to damage off-site plant species.

Response: See responses to Comment EMC-0585-071 under PEIS Alternatives, Description of the Alternatives, and Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0630-010
Porter, Mark C.
(Wallowa Resources)

Comment: Please clarify the reasoning behind Alternative E and explain rationale for considering acetolactate synthase-inhibiting herbicides separately from the rest of the herbicides. These chemicals have low environmental toxicities and are becoming very important in the effective and precise control of noxious weeds in the borage and mustard families.

Response: See response to Comment EMC-0585-071 under PEIS Alternatives, Description of the Alternatives.

EMC-0643-046
California Indian Basketweavers Association

Comment: Further, the BLM implies that none of the other alternatives share the objective of restoring native communities, which is not accurate. In 2002, CIBA [California Indian Basketweaver's Association] spent many weeks working with a coalition of other conservation biologists and analysts to develop a citizens/scientists alternative to the BLM herbicide proposal. This alternative, included as an appendix (G-I) in the volume 2 of the DEIS [Draft PEIS], included extensive references from the scientific literature, each of which was included as a hard copy reference provided to the BLM with annotations to each reference. In spite of this major contribution, the BLM did not use any of the scientific literature to inform the analysis. This is contrary to the NEPA process which states: "Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA." 40 CFR [Code of Federal Regulations] § 1500.1 (b). The Restore Native Communities Alternative exemplifies a best science management approach to achieve this objective. The DEIS [Draft PEIS] failed to demonstrate that this or other alternatives would not be effective. The conclusion is not supported anywhere in the record, and the DEIS [Draft PEIS] is inaccurate and misleading.

Response: See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystems (RNE) alternative. The literature cited and annotated bibliography was considered in the development of this PEIS. All alternatives analyzed in the Draft PEIS have the capability to restore ecosystems; the RNE alternative is not unique in this regard, nor does it represent a best science management approach over the approach the BLM already uses. Refer to the policy analysis in Appendix I in the Final PEIS for a summary of actual BLM policy in regard to the RNE alternative.

EMC-0645-016
Wroncy, Jan (Gaia Vision/Canaries Who Sing)

Comment: The BLM needs to reconsider the Restore Native Ecosystems Alternative, reissue a draft [P]EIS and make the PER subject to the NEPA process.

Response: See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystems alternative. See response to Comment RMC-0214-011 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments regarding development of the PER. The BLM has determined that a new Draft PEIS is not necessary, since there has been no change in the Proposed Action or Purpose and Need, nor has new information arisen relevant to environmental concerns.

EMC-0646-183
Californians for Alternatives to Toxics

Comment: The BLM has failed to include an alternative based on ecological healing and prevention. The current PEIS is focused purely on treatment of symptoms, rather than prevention of the conditions that lead to the problem. CAT [Californians for Alternatives to Toxics] supports an alternative with a focus on restoring native ecosystems. In such an alternative the BLM would view vegetation management in the context of first, prevention of conditions that have led to introduction, colonization, proliferation, and spread of invasive species and fuels hazards; and then second, restoration of healthy public lands (including forests, grasslands, etc) to strong native ecosystems; thereby third, reducing the need for continued treatments (passive restoration). An alternative suggested to the BLM, yet without reason excluded from the PEIS/PER analyses, that CATs endorses is the Restore Native Ecosystems Alternative.

Response: See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystem alternative.

EMC-0648-004
Idaho Cattle Association

Comment: Additionally, we suggest that Alternative E be removed completely from consideration as it would severely limit the effectiveness to manage invasive species and inappropriately asserts that reductions in livestock grazing would be a management tool. It is not the role for this document to attempt to regulate grazing.

Response: See Scope of Analysis in Chapter 1 of the PEIS. Livestock grazing is outside the scope of analysis of the PEIS. There is no attempt to regulate grazing through the PEIS. Alternative E (No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients) is described under Description of the Alternatives in Chapter 2 of the PEIS. Alternative E represents a reasonable alternative to analyze in the PEIS in regard to the herbicide component contained in the citizens' alternative presented in Appendix I of the PEIS. The alternative description also provides a summary of the role passive management would take under the Restore Native Ecosystems Alternative proposal. See the revised text under Description of the Alternatives in Chapter 2 of the Final PEIS for clarification.

FXC-0071-024
Campbell, Bruce

Comment: Since need for forest and rangeland herbicide use was not thoroughly analyzed (to say the least), NEPA is being violated too. Also, though I cannot go into detail here, the so-called American Lands Alliance Alternative (E [in the Draft PEIS]) is not what some preparers of their submission to BLM had in mind.

Response: The PEIS presents detailed analysis on herbicide use and its impacts to public land resources relative to the Purpose and Need for the Proposed Action, found in Chapter 1 of the PEIS. See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the American Lands Alliance proposal.

RMC-0049-022
Wilson, Robert E. (University of Nevada Cooperative Extension)

Comment: Alternative E does not address how invasive mustard (Brassicaceae) species and some annual grasses will be addressed without this family of herbicides.

Response: 2,4-D, dicamba, and picloram can be used to treat invasive Brassicaceae, while annual grasses would be treated using glyphosate.

RMC-0080-003
Idaho State Department of Agriculture

Comment: Additionally, in its current form this alternative [Alternative E] falls outside the scope of analysis of the PEIS. The stated Scope of Analysis of the PEIS "...is to provide an analysis of the expected increased use of herbicides related to implementing mandates to reduce hazardous fuels and manage and control vegetation affecting other resources" and "...does not address…the effects of livestock grazing on vegetation." (pg. 1-4). The PEIS, however, does address the effects of livestock grazing on vegetation under the description of Alternative E. The PEIS states: This alternative would place greater emphasis on passive restoration, by prohibiting or restricting activities such as livestock grazing, OHV use, logging, or oil and gas development in areas where these activities have promoted a less desirable vegetation community, or increased erosion. (pgs. 2-13 - 2-14)

Response: See responses to Comment RMC-0163-004 under PEIS Alternatives, Description of the Alternatives and Comment RMC-0148-001 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-

inhibiting Active Ingredients.

RMC-0080-004
Idaho State Department of Agriculture

Comment: The [Draft] PEIS again addresses livestock effects on vegetation under this alternative on page 4-216, "By reducing the number of livestock entering degraded areas, improvement in ecosystem health can be expected." If this PEIS is not to address the impacts to livestock grazing as it says, then Alternative E is not within the scope of analysis and should not be considered by the decision-maker.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis. The PEIS and PER did not evaluate management of livestock grazing as a vegetation treatment method. Passive restoration, including management of grazing, was an important component of Alternative E and was considered in the Cumulative Effects Analysis in Chapter 4 of the PEIS.

RMC-0126-004
Stevens, Dean

Comment: The BLM should analyze the Restore Native Ecosystems Alternative in the DEIS [Draft PEIS]/PER, a citizens' alternative submitted to the BLM that addresses both the causes and effects of weed invasion and undesirable vegetation on public lands [see the following link]: www.blm.gov/nhp/spotlight/vegEIS/vol2/PEIS_Appendix_G_RNEA_Alternative.pdf.

Response: The Restore Native Ecosystems (RNE) alternative was reviewed by the BLM National Science and Technology Center (NSTC), which determined that the alternative contained a variety of policy provisions which were either duplicative of current BLM policy subsumed under current management (Alternatives A and B), or were outside the scope of this analysis. The salient points of the RNE alternative relative to herbicide use were summarized and used to formulate Alternative E in the PEIS. Alternative E (No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients) is described under Description of the Alternatives in Chapter 2 of the PEIS. A policy analysis of the alternatives is given in Appendix I in the Final PEIS.

RMC-0139-005
Jacobson, Don

Comment: Also, the BLM should analyze the Restore Native Ecosystems Alternative in the DEIS [Draft PEIS]/PER, a citizens' alternative submitted to the BLM that addresses both the causes and effects of weed invasion and undesirable vegetation on public lands [see the following link]: www.blm.gov/nhp/spotlight/vegEIS/vol2/PEIS_Appendix_G_RNEA_Alternative.pdf.

Response: See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystems alternative.

RMC-0148-001
Stone, Delight

Comment: Herbicides are not only poisonous and expensive, but they ultimately fail because they are treating symptoms, not the causes of weed invasion and undesirable vegetation. Instead, the BLM should analyze the Restore Native Ecosystems Alternative in the DEIS/PER, a citizens' alternative submitted to the BLM that addresses both the causes and the effects of weed invasion and undesirable vegetation on public lands.

Response: The Restore Native Ecosystems (RNE) Alternative as submitted provided the source and framework for the limited herbicide use alternative analyzed in the PEIS as Alternative E. In order to develop Alternative E for analysis in the PEIS, certain components of the RNE Alternative that were relevant and applicable to

herbicide use under the Preferred Alternative were carried forward into the alternative analyzed in the Draft PEIS. The remaining content of the RNE proposal was determined to be either already covered under existing BLM policy and, therefore, already a component of the Preferred Alternative, or determined to be outside the scope of analysis for this PEIS. A table was prepared for the Final PEIS that summarizes the BLM's national policy review of the RNE Alternative (Appendix I, Final PEIS). The policy analysis identifies the individual Goals and Actions outlined in the RNE proposal. Each Goal or Action then has a determination indicating whether it is included in current BLM policy (Yes/No) and a citation for the policy. Under Policy Analysis, a brief summary is provided outlining the policy. Under Alternative Comparison, the Alternatives that apply to the policy are identified. In most cases, this is "common to all alternatives." The last column outlines the programmatic net effect or impact of the policy if the analysis is different from that presented in the PEIS, or outside the scope of analysis. Also see response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes of weed invasions.

RMC-0191-004
Ertz, Brian

Comment: It is disappointing that the RNEA [Restore Native Ecosystems Alternative] submitted in 2002 was cast aside as "not within the scope of the Draft PEIS". Such a statement made by Brian Amme during The DEIS public hearing in Boise Idaho, reasonably suggests the BLM's failure to comply with Section 102 of NEPA requiring federal agencies to lend appropriate support to initiatives and programs designed to anticipate and *prevent* a decline in the quality of mankind's world environment. Simply publishing the RNEA in the appendixes does not constitute consideration of the Alternative nor does it constitute "support", especially considering the lack of integration concerning the wisdom and science represented in the RNEA's call to *prevent* the *causes* of invasive species.

Response: See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients. Also see responses to Comment RMC-0163-004 under PEIS Alternatives, Description of the Alternatives and Comment RMC-0148-001 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients.

RMC-0222-010
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: This D[raft] EIS fails to abide by Section 1502.14 of NEPA ("Alternatives including the proposed action"), because it has not considered a reasonable alternative provided to the BLM in 2002. The Restore Native Ecosystem Alternative ("Restoration Alternative": Appendix G [in the Draft PEIS]) is a reasonable alternative. The alternative meets the Purpose and Need by describing 1) herbicides that should be available for vegetation treatment on public lands; and 2) conditions and limitations that apply to herbicide use

Response: See response to Comment RMC-0148-001 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients.

RMC-0222-011
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for

Comment: The BLM claims ([page] 2-13 [of the Draft PEIS]) that Alternative E (i.e., "No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients") is "based on" an alternative submitted by American Lands Alliance, "an alliance of several environmental and conservation groups." In fact, the Restoration Alternative was submitted by the Restore Native Ecosystems Coalition of which the American Lands Alliance was only one entity that prepared the Alternative. The

Alternatives to Pesticides), and O'Brien, Mary

original alternative was collaboratively developed by numerous organizations and submitted by 43 organizations; the revised version was submitted by 13 organizations.)

Response: Alternative E was submitted to the BLM by an individual associated with the American Lands Alliance, although the cover letter with the alternative did note that numerous organizations were requesting that the alternative be included in the PEIS. We have modified the text in the Final PEIS reflect that the alternative was submitted by the American Lands Alliance, but deleted the wording that suggested the organization is an alliance of other groups.

RMC-0222-013
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: As illustrated by the title BLM has given its Alternative E substitute for the Restoration Alternative (i.e., "No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients"), the BLM describes Alternative E only in terms of what it does not do (e.g., doesn't use ALS-inhibiting/sulfonyl urea herbicides, doesn't rely exclusively on active vegetation treatments to (1) control invasive species establishment and/or spread and/or (2) to restore native ecosystems so they will subsequently resist invasive species). The BLM fails to analyze the active, positive control of invasive species that has been and can be accomplished with (1) prevention of the conditions that favor the introduction, establishment, and/or spread of invasive species, and (2) passive treatments in conjunction with, or sometimes obviating the need for, use of (3) herbicides.

Response: Alternative E relied on the salient points contained in the Restore Native Ecosystems (RNE) proposal, found in Appendix I of the PEIS, as they relate to herbicide use and the proposed action. The remainder of the proposal contained recommendations that were either 1) already contained within existing BLM policy and therefore already part of existing management underlying all alternatives presented, 2) outside of the scope of analysis of this PEIS and/or properly addressed in local land use planning, or 3) contrary to statute or regulation. A policy analysis of the alternatives is given in Appendix I in the Final PEIS.

RMC-0222-016
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Thus, the Restoration Alternative, by giving highest priority to passive treatments and second highest priority to passive treatments linked to active treatments (which sometimes and sometimes do not employ herbicides) (1) provides "conditions and limitations" that apply to the use of herbicides for "controlling weeds and invasive species", and (2) "manipulate[es] vegetation to benefit fish and wildlife habitation, improve riparian and wetlands areas, and improve water quality in priority watersheds." The Restoration Initiative thus fully meets the Purpose and Need of the [P]EIS and should have been fully analyzed. It was not analyzed in the DEIS [Draft PEIS].

Response: The PEIS does not propose a priority ranking for treatment types. Within an integrated pest management context, the most effective treatment method or combination of methods, including the use of passive treatments, is considered in the design of any vegetation treatment project. Prioritization of passive treatments over herbicide treatments does not constitute conditions and limitations to the use of herbicides. Conditions and limitations are those circumstances that are identified that guide or modify the use of herbicides in a given situation. These conditions and limitations, commonly referred to as standard operating procedures, include buffers, application rates, and drift management practices, among others. They are found in Table 2-8 (Standard Operating Procedures for Applying Herbicides) in Chapter 2 of the PEIS. Passive treatments, by inherent definition, are not considered to be

treatments that manipulate vegetation, i.e., change, alter, remove, seed, or replant.

The Restore Native Ecosystems proposal only partially meets the Purpose and Need in regard to determining which herbicides would be available for use and those portions of the proposal that meet the purpose and need were carried forward in the development of Alternative E. A policy analysis of the alternative is given in Appendix D of the Final PEIS.

RMC-0222-024
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: In its summary of its Alternative E (i.e., Table 2-8 [Summary and Comparison of Effects on Resources by Alternatives], at [pages] 2-26 through 2-39 [in Chapter 2 of the Draft PEIS]), the BLM focuses on Alternative E's (a) lack of use of ALS [acetolactate synthase]-inhibiting/sulfonyl urea herbicides, even though such herbicides account for less than 17% of BLM's projected herbicide use in their preferred Alternative B (Table 2-4 at [page] 2-11 [in Chapter 2 of the Draft PEIS]), and (b) reduced use of active treatments (i.e., emphasis on passive restoration). The BLM has failed to analyze the Restoration Alternative's active reliance on integrating herbicide use with positive management for prevention and non-chemical active treatments and/or passive restoration actions.

Response: Regardless of the percentage of projected herbicide use for ALS-inhibiting sulfonylurea herbicides, the BLM considers it reasonable to analyze the elimination of this class of herbicides in the impact analysis of the PEIS. Integrated herbicide use with active management for prevention and non-chemical treatments or passive restoration is included within the integrated pest management approach currently practiced by the BLM and is subsumed under all alternatives with the exception of Alternative C (No Use of Herbicides), which would disallow herbicide use, but continue to utilize an integrated pest management approach using other non-herbicide methods.

RMC-0222-029
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The Restoration Alternative conditions herbicide or other treatments on a prior consideration of whether passive treatments can replace, avoid, or augment herbicide use to attain vegetation goals (DEIS [Draft PEIS]: G-4):

> Action- Plan 6
> Prior to implementing site-specific vegetation treatments, prepare goals based on:
> 1. vegetation conditions, including invasive species concentrations
> 2. vulnerable wildlife and plant species and habitats
> 3. habitat important for threatened, endangered, and sensitive species and carnivores: connectivity for habitat-specialist wildlife.
> 4. past and present activities within the watershed leading to vegetation problems
> 5. passive and active restoration needs
> 6. feasible restoration goals

Thus, the Restoration Alternative looks at the whole invasive species problem, not merely what herbicide to spray where. Neither the BLM's alternative E (a fatally truncated version of the Restoration Alternative) nor Alternative B (their Preferred Alternative) include the above planning steps.

Response: See responses to Comment RMC-0163-004 under PEIS Alternatives, Description of the Alternatives, and Comment RMC-0148-001 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients.

Alternatives, Alternatives Considered but not Further Analyzed

EMC-0027-010
McNeel, Hank

Comment: I feel you need to address what would happen to native plant species, wildlife habitat, recreation etc. if no weed control treatments were made on BLM lands.

Response: The BLM would treat weeds and other vegetation under all alternatives. Thus, an analysis of what would happen if no weed control occurred was not done for the PEIS or PER.

Alternatives, Herbicide Treatments Standard Operating Procedures and Guidelines

EMC-0267-006
Medbery, Angela

Comment: [No matter what scenario is adopted I would like to see] Strict avoidance of chemical use in the presence of any people who claim asthma, allergy and/or chemical sensitivity to those chemicals.

Response: As discussed in Chapter 2 of the PEIS in Table 2-8 and under Coordination and Mitigation, the BLM will post herbicide treatment areas and dates and conduct other public information activities so as to minimize public exposure to herbicides.

EMC-0446-011
The Nature Conservancy

Comment: Standard Operating Procedures (SOP's) and Guidelines: The Standard Operating Procedures (SOP's) and Guidelines described in both the Draft PEIS and PER should include additional requirements for wildlife species that are not Federally listed. The SOP's and Guidelines should be mandatory rather than optional ("must" rather than "where possible") to be effective. The PEIS and PER assume that these SOP's and Guidelines are adequate to protect public resources, however, information in the reports appears to contradict this assumption. As an example, there are no specific SOP's to mitigate the impacts of proposed fire or mechanical treatments in sagebrush communities to protect habitat for declining sage grouse populations, although the BLM has developed such guidelines (Guidance for the Management of Sagebrush Communities for Sage-grouse Conservation, November 2004). Although both documents cite the likely negative impacts caused by livestock grazing immediately after certain vegetation treatments, the SOP for livestock use following treatments only requires the BLM to "Provide alternative forage sites for livestock, if possible." In our experience, a minimum of two years of complete rest, preferably three or more, following prescribed fire treatments is needed to allow for native plant restoration. We believe this guidance should be strengthened.

Response: Additional SOPs and guidelines have been included in the Final PEIS and PER. The intent of the SOPs was not to be all-encompassing, but rather to provide guidelines that would apply BLM-wide, with the understanding that additional site-specific SOPs and guidelines would be developed at the local level. Although SOPs would apply to most situations, there are situations in which they might not apply. The SOPs do not ensure resource protection, but are only measures designed to reduce impacts to resources. Because SOPs do not ensure resource protection, additional mitigation measures were developed for the PEIS to provide additional protection. As discussed in the PER in Chapter 2 under SOPs and Guidelines, grazing by domestic livestock would be avoided until vegetation on treatment sites is well established. If total rest from grazing is not possible, efforts should be made to modify the amount and/or season of grazing to promote vegetation recovery within the treatment area.

EMC-0446-016
The Nature Conservancy

Comment: We also support the use of aerial applications of herbicide on extremely large or inaccessible weed infestations where the only way to viably treat these areas would be via aircraft. The PEIS should require that each aerial application proposal include a detailed spray prescription, specifying riparian buffer zones, sites of rare and endangered species and communities, goal and objectives of application, protocols to minimize drift and avoid off-target damage, and suitable monitoring protocols that will elucidate effectiveness of treatment as well as negative impacts to off-target resources. In cases of herbicide use post-wildfire, we recommend that the BLM first determine the actual need of herbicide application (based upon pre-wildfire inventory of the range and extent of weeds in the area) prior to any aerial application to suppress weeds following a wildfire, and to allow for natural re-vegetation of native species, wherever possible.

Response: Best management practices are identified in Chapter 2 of the PEIS under Herbicide Treatment Standard Operating Procedures and Guidelines. Aerial spraying requires detailed spray prescriptions prior to implementing any project utilizing this method. Post wildfire herbicide needs follow the Burned Area Emergency Rehabilitation Team's recommendations, which are based on the circumstances and damage resulting from the wildfire. It is not always possible to utilize pre-wildfire inventories, as not all public lands are 100% inventoried for weeds and there is no way of knowing where a wildfire will occur beforehand.

EMC-0446-018
The Nature Conservancy

Comment: Chemical herbicides are important tools for the management and control of non-native invasive plants when used responsibly. To be most effective in controlling non-native invasive plants on public land, the PEIS should:

- Require and recommend specific standards and practices to prevent new invasions and the spread of weeds;
- develop early detection and rapid response practices;
- Require that all vegetation control treatments occur within the context of a management plan with clear goals and objectives, and desired future conditions;
- Have clear guidelines for prioritization and integrated pest management methods for weed management; and
- Require adequate monitoring to ensure effective control, proper treatment selection, and minimal environmental and health impacts to ensure that off-target impacts are not beyond those predicted and deemed acceptable.

Response: The procedures suggested in this comment are already being implemented by the BLM. Also see response to Comment RMC-0205-013 under PEIS Alternatives, Vegetation Treatment Planning and Management.

EMC-0486-007
Siskiyou Project

Comment: Table 2-6 (DEIS [Draft PEIS], V[olume] 1, p. 2-18) "Standard Operating Procedures for Applying Pesticides" to water resources, streams, and wetlands indicates the use of, "Appropriate herbicide-free buffer zone for herbicides not labeled for aquatic use based on risk assessment guidance within minimum width of 100 feet for aerial, 25 feet for vehicle, and 10 feet for hand spray application." "Dicamba can result in groundwater and surface water contamination under conditions that favor such activities … a known groundwater contaminant, and has a high potential to leach into groundwater" (DEIS [Draft PEIS], V[olume] 1, p. 4-29). "Picloram can move off-site through surface or subsurface runoff, and has been detected in the ground water of 11 states … Concentrations in runoff are often reported to be adequate to prevent the growth of non-target terrestrial and aquatic plants" (DEIS [Draft PEIS], V[olume] 1, 4-31). Because of the risk of contamination of our surface waterways and ground

water from surface runoff, the buffers (mentioned above) do not seem adequate in protecting our watersheds. Herbicide treatments of any kind should reflect a 150 foot buffer for all channels including intermittent ones, (this figure is determined in the Northwest Forest Plan for riparian reserve protection from logging and other ground disturbing activity to ensure the least amount of surface runoff and this figure should honor the use of herbicides too as the loss of vegetation often leads to surface runoff) or a site specific tree length which ever is greater.

Response: The buffer distances identified in the PEIS reflect minimum requirements across a broad spectrum of vegetation types and ecoregions. Local plans, such as the Northwest Forest Plan, would determine appropriate buffer distances for vegetation and water resources within the area to which the plan applies. This PEIS does not supercede local or more conservative requirements that are developed through local planning, consultation with the Services, or court order (in those cases where the courts have specified buffer distances).

EMC-0498-004
Vallone, Cheryl L.

Comment: Focus foremost on managing BLM lands to prevent new weed infestations; follow best management practices for timing and dosage for all herbicides, and use herbicides only in conjunction with an integrated pest management approach that also uses other tools such as mechanical control, controlled burning, and carefully screened biological control organisms.

Response: See responses to Comments RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation and RMC-0042-087 under PEIS Alternatives, Vegetation Treatment Planning and Management.

EMC-0503-013
John Day-Snake Resource Advisory Council

Comment: Chapter 2 page 2-18 the [Draft] [P]EIS states recommended use of herbicides with low toxicity to wildlife "where feasible." That statement is like a red flag causing us to wonder what might be used and what circumstance would cause harm to wildlife. Perhaps the practice should be changed to "in all cases".

Response: See responses to Comment RMC-0144-005 under General Comments and Responses, and Comment EMC-0585-152 under PEIS Alternatives, Mitigation.

EMC-0566-009
Western Society of Weed Science

Comment: The WSWS [Western Society of Weed Science] also supports a section that addresses development of sustainable fuel breaks in the brush/grasslands in an effort to return wildfires to historical size as well as protect property, critical habitat areas, and newly revegetated or rehabilitated sites. Suppression should be a last resort and prevention as fuel breaks and pro-active fuel management as vegetation treatments should be a first priority.

Response: See response to Comment EMC-0214-050 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response.

EMC-0584-045
Western Watersheds Project

Comment: BLM's [P]EIS and the "updated" [P]EFR plans are woefully deficient in providing adequate periods of rest from livestock grazing following treatments. In order to determine necessary rest periods, BLM must understand the condition of the community pre-treatment (see, for example, Eddleman et al 1994 describing poor or fair condition lands requiring significant periods of rest post-treatment). Specific time periods must be applied (5-10 year minimum), along with measurable recovery standards for soils, microbiotic crusts, herbaceous and woody vegetation recovery before livestock grazing can resume.

Response: Most, although not all, vegetation treatments do require some rest from livestock grazing. The PEIS identifies the possibility of requiring rest from grazing in the Standard Operating Procedures for Applying Herbicides in Chapter 2 of the PEIS in Table 2-8. The BLM agrees that the amount of rest required may vary depending on several factors, including the condition of the plant community prior to treatment, and the climatic conditions during and immediately following treatment. However, rarely would a rest period of 5 to 10 years be required, as identified in this comment. The BLM has used 2 growing seasons of rest as the basic standard, and in many cases that amount of rest following the treatment or disturbance has been adequate. However, depending on the specific situation (plant community present before the disturbance, precipitation available following the disturbance, etc.), more or less than two growing seasons may be appropriate. Monitoring is the best means for determining the amount of rest needed for each specific recovery effort.

EMC-0584-065
Western Watersheds Project

Comment: No treatments of any kind should be allowed during nesting periods for migratory birds, or in important or critical wildlife habitats during sensitive times of year such as winter in sage grouse wintering areas. The role of all past and proposed treatments on habitat fragmentation must be assessed. See Knick et al. 2003, Connelly et al. 2004 to understand the tremendous fragmentation that exists.

Response: See response to Comment EMC-0585-155 under PEIS Alternatives, Mitigation.

EMC-0584-074
Western Watersheds Project

Comment: BLM current enforcement of grazing closure restrictions is incredibly lax – we have documented burn trespass after burn trespass where BLM has failed to administer more than a handslap - or simply ignored – permittee trespass of burns… Thus, we have no assurances that any livestock-related post-treatment measures will be followed, and these can not be used as "mitigation" for treatments.

Response: Temporarily restricting grazing following a burn or other treatment is a standard practice that must be identified as an element of these treatments within this document. Unauthorized use actions are taken if livestock are allowed to use a burn or treatment area during the prescribed rest period. The settlement of an unauthorized use situation is dependent on the facts of the specific case, whether the unauthorized use is determined to be willful or non-willful, and the documented number of animals and amount of time involved in the violation.

EMC-0584-102
Western Watersheds Project

Comment: A 4-5 year closure of the pasture or allotment will result in ungrazed areas that help to provide grasses of sufficient height, or other necessary habitat components, for sage grouse and other native wildlife. Only temporary facilities should be allowed, if any are used at all – primarily electric fences. All post-fire rehab plans must specify removal dates for any livestock facilities that result from fire rehab activities.

Response: The amount of rest from grazing needed following treatment will vary depending upon the condition of the vegetation prior to treatment and the climatic conditions that occur following the treatment. A rest period of 4 to 5 years may be appropriate in some cases, but that amount of time would not be needed in all situations. This PEIS allows for decisions about the amount of rest following treatment to be made at the local level, based on the individual situations and the site conditions. In many situations, no facilities or only temporary facilities are required to help provide rest from livestock grazing. There may be some situations, however, in which construction of a more permanent structure such as a fence would be more economical

and would provide for better management beyond the first few years following disturbance.

EMC-0584-112
Western Watersheds Project

Comment: Periods of Rest: BLM must require adequate periods of rest from all livestock grazing to ensure that full recovery, or establishment of seeded vegetation, occurs. This time period is much longer than BLM ever requires, and is often dependent on the condition and health of vegetation communities pre-fire. Eddleman et al. (1994) described 4-5 year periods of rest as necessary for degraded western juniper communities.

Response: See response to Comment EMC-0584-075 under PEIS Alternatives, Mitigation.

EMC-0584-114
Western Watersheds Project

Comment: Commitment to Rehab. Time periods sufficient to achieve adequate and healthy native vegetation communities, must be mandatory. A reasonable time period would be 5-10 years, given the vagaries of weather and drought cycles in depleted arid low elevation lands.

Response: The BLM guidance allows for flexibility in determining sufficient time to achieve adequate recovery of plant communities in rehabilitation projects. For funding purposes, mandatory timeframes for monitoring are set at 3 years for Emergency Stabilization and Rehabilitation projects. Given the variability of plant communities, environmental conditions, and climatic influences across a 17-state area, there is no basis provided by the commenter for the BLM to determine that 5 to 10 years is a reasonable time period in all situations.

EMC-0585-103
Western Watersheds Project

Comment: The [P]EIS claims buffers would be used between treatment and non-treatment areas. Unfortunately, the extent of the land area needed to buffer impacts may be significantly greater on low elevation degraded BLM lands than on non-degraded lands, as often especially in arid climates, there is little standing vegetation to buffer or prevent drift/contamination (in contrast to dense higher elevation forests, or croplands with dense growth at ground level. Topography such as steep canyons may result in need for far greater buffers than are normally applied. Weather such as wind shifts, canyon winds, movement of air with diurnal heating and cooling, will all affect size and configuration of any wild land buffer.

Response: The buffers presented in the PEIS represent minimum distances based on drift modeling results. They do not incorporate the limiting impact that vegetation within the buffer zone would have on herbicide transport. It is recognized that these buffers may need to be adjusted for site-specific conditions. Also see response to Comment EMC-0585-204 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0585-154
Western Watersheds Project

Comment: BLM also claims it will: "Establish appropriate herbicide-specific buffer zones to waterbodies …". Yet, BLM does not set out specific buffer zones, or provide a specific protocol for decisionmaking on appropriate buffers. Likewise, no specific buffers are provided for the witches brew of treatments described in the PER.

Response: Minimum buffer zones for herbicide treatments are given in Table 2-8 of the PEIS. However, buffer widths would usually be developed based on risk assessment guidance. The BLM has identified buffer zones to protect water bodies from individual herbicides evaluated by the BLM in Table C-16 of Appendix C of the PEIS, and in the ecological risk assessments prepared for the PEIS; similar guidance is

provided in the Forest Service risk assessments used in developing the FEIS. Manual treatments, and some mechanical treatments (e.g., mowing) are often appropriate for vegetation treatments close to water bodies; a minimum 25-foot buffer would be maintained for mechanical treatments as discussed in Table 2-5 of the PER. Because biological control organisms can move on their own, it is impractical to establish buffers for these organisms. There are also many situations where it is necessary to burn vegetation to the edge of water bodies.

EMC-0585-168
Western Watersheds Project

Comment: Throughout the [P]EIS/PER, BLM makes sweeping statements such as: "if livestock grazing is managed to increase the vigor of native perennial plants, especially grasses, the chance of weeds invading rangelands is much less" ([page] 2-15 [of the PEIS]), yet provides few or no scientific records or studies to back up its rosy claims.

Response: The wording of the quotation in this comment has been changed by one word from the statement as it appeared in the PEIS. In the Draft PEIS in Chapter 2 under Herbicide Treatment Standard Operating Procedures, it stated "If livestock grazing is managed to maintain the vigor . . ." not "if livestock grazing is managed to increase the vigor . . ." as it was identified in the comment. This statement reflects the concept of "competitive advantage" which can occur when one plant species is grazed, and nearby plants are left ungrazed. The following statements are taken from Ecological Implications of Livestock Herbivory in the West, Edited by Martin Vavra, William A. Laycock and Rex D. Peiper, 1994. "Research in the sagebrush steppe has shown that defoliation of grasses during rapid growth decreases the depletion rate of soil water (Wraith it al. 1987, Daddy et al. 1988, Miller et al. 1990). Reduced uptake of soil resources by forage species due to decreased leaf area and root growth may enhance growth and/or establishment of ungrazed neighboring plants. Grazing avoidance-type plants often gain the competitive advantage over grazed species (Archer and Smeins 1991)." According to Ecological Implications of Livestock Herbivory in the West (M. Vavra, W.A. Laycock, and R.D. Piper, eds. 1994. Society for Range Management, Denver, Colorado), grazing can be managed to reduce this "competitive advantage" by making sure the plants have sufficient opportunity to grow undisturbed and reproduce at least occasionally; the statement in the PEIS is pointing out that this type of management would reduce the opportunity for weeds to become established and/or increase. "The best documented long term evidence indicating that light to moderate livestock use can be compatible with the sagebrush ecosystem is from communities where plant species composition remained unchanged from adjacent ungrazed sites in good ecological condition (Mueggler 2950, Laycock 1967, Beedlow et al. 1988), or where native perennial grasses, forbs and palatable shrubs have reestablished under good grazing management (Sneva et al. 1984, Kindschy 1987)."

EMC-0585-242
Western Watersheds Project

Comment: BLM makes false claims. The claim that BLM 'recommends' as a SOP [Standard Operating Procedure] that grazing animals be fed only weed free forage for a minimum of 96 hours prior to going onto public lands' is completely divorced from the reality of BLM actions related to livestock turnout on public lands. In review of hundreds if not thousands of grazing permits and BLM NEPA or other assessments of grazing, WWP [Western Watersheds Project] has never found any permit Term and Condition or EA [Environmental Assessment] management requirement to so. In fact, BLM has repeatedly ignored our comments that such measures be used to control weed infestation and spread by domestic livestock. ([page] 2-15 [of the PER]). BLM elsewhere terms these SOPs [Standard Operating Procedures] "Mitigation". Examination of both Tables 2-6 [in the Draft PEIS] (SOPs [for Applying Herbicides]),

and 2-7 (Mitigation [Measures]) show no indication that this is even "recommended". In fact, the discussion of "livestock" relates to limiting impacts of treatment to livestock, and not impacts of livestock to the land or treatment outcome. Livestock may continue to bring weeds onto lands, or create disturbed conditions for sprayed or treated lands to stay infested or to become reinfested, yet no SOP or mitigation is applied to limit this.

Response: This is a new recommendation that we will be making to all public land users that have grazing animals, but it will not be a condition of their permit. We have moved this recommendation from under the heading of Standard Operating Procedures and Guidelines to under the heading Prevention of Weeds and Early Response and Rapid Detection, as this action would do much to help prevent the spread of weeds.

EMC-0585-243
Western Watersheds Project

Comment: BLM refers to "poor grazing management" as a resulting in "conditions that enhance invasive species spread", yet never defines "poor grazing management", or provides any data or other information showing where this has or is occurring. Since 35 million acres of public lands are now dominated by invasive species (where are these lands, and how old is this figure???), and weeds continue to spread at an alarming rate, such "poor" management must be commonplace. ([page] 2-15 [of the Draft PEIS]).

Response: Poor grazing management could involve various things, such as the use of excessive numbers of livestock, poor management that results in concentrations of animals in some areas, or grazing during critical times during the plants' annual growth cycle year after year; or leaving animals in the same area for a long period of time, which allows animals to graze the same plants repeatedly during the grazing season. Although these grazing practices may create conditions that would enhance the spread of invasive species, this is not the only vector that can do so. Many of the plant species that we now consider to be invasive were purposefully introduced into this country for a variety of reasons unrelated to livestock grazing, and many others were accidentally introduced through activities unrelated to livestock grazing. Many of the invasions of undesirable vegetation have occurred in areas that have not had any recent (or in some cases historical) livestock use, so it would not be correct to assume that areas dominated by invasive species have experienced poor grazing management. The 35 million acres are scattered throughout the West, and that figure was derived from information gathered in 2000.

EMC-0597a-006
Beeland, DeLene

Comment: If there is going to be oil and gas development on our public lands – BLM and other government agencies must set up a strict policy for vehicle washing, including the undercarriage of trucks and ORVs [off-road vehicles] to halt the spread of seeds and grasses using the network of roads and trails accessing the well-heads.

Response: See response to Comment EMC-0544-004 under PEIS Alternatives, Other Programs.

EMC-0623-013
Defenders of Wildlife

Comment: Follow best management practices for timing and dosage for all herbicides, and use herbicides only in conjunction with an integrated pest management approach that also uses other tools such as mechanical control, controlled burning, and carefully screened biological control organisms. Subsequent drafts of the [P]EIS should document how many acres the BLM intends to treat with other methods, so that stakeholders can evaluate pesticide treatment in the context of other weed control methods. BLM should also report on the efficacy of each method.

Response: See response to Comment EMC-0623-008 under PEIS Alternatives, Vegetation Treatment Planning and Management.

EMC-0640-041
Animal Welfare Institute

Comment: In the event that BLM believes limited herbicide use is needed, the agency must: 1) minimize such use to the extent possible; 2) only use herbicides that will not produce a high impact or effect on non-target species; 3) use only application methods that will minimize impacts to non-target species; 4) ensure that its vegetation management plans be based on adaptive management; and 5) engage in comprehensive pre and post monitoring work to immediately assess the impact of herbicides on wild species and cease or alter herbicide use if adverse impacts are identified. Moreover, to the extent that the BLM considers adding any new herbicides to its poison arsenal, it should mandate that any toxicity tests be conducted using non-animal testing methodologies and that any field applications would be preceded by focused and limited field studies to determine how the herbicide might impact wildlife and other natural features and functions under natural conditions.

Response: See responses to Comment EMC-0623-008 under PEIS Alternatives, Vegetation Treatment Planning and Management, Comment EMC-0115-005 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated, Comment EMC-0640-036 under PEIS Environmental Consequences, Wildlife Resources, and Comment EMC-0640-037 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0643-047
California Indian Basketweavers Association

Comment: The DEIS [Draft PEIS] also does not substantively demonstrate through citation to scientific studies that the Preferred Alternative and the use of herbicides to kill unwanted vegetation will in fact in any way achieve the desired goals for restoration of native habitats.

Response: A listing of the scientific publications relied upon in this PEIS analysis is found in Chapter 6 of the Final PEIS.

EMC-0645-012
Wroncy, Jan (Gaia Vision/Canaries Who Sing)

Comment: [Herbicides should be considered for use only under the following conditions:] 1. When all ingredients in the formulation (including inert ingredients) are publicly disclosed and analyzed for their impacts to human health, wildlife and water quality; 2. There is notification to the public through signs, newspaper announcements and other means; 3. When surface and ground water samples are collected and analyzed for herbicides and their breakdown products; 4. When an up-to-date publicly accessible database is kept to record the formulation of herbicide, amount applied, date, time and weather conditions during application; 5. Vegetation cannot be burned the same year it was treated with herbicides; and 6. Herbicide treatments are not permitted during the bird nesting season of bird species found through site-specific surveys of the application area.

Response: Thank you for the suggestions to consider when applying herbicides. The BLM considers the toxicological effects of herbicides, the potential for public exposure and notification, and environmental variables, including effects on nesting species and use of fire after herbicide applications, if applicable, in the risk analysis and project design and through site-specific NEPA analysis for the project. Herbicide use records are currently not in a central database for the BLM; however, these records are available from the field offices or state, county, or local agencies that apply herbicides. Many regulatory agencies, such as the California Department of Environmental Quality, post herbicide use data on their websites. Similar data on herbicide application is also provided to both the U.S. Fish and Wildlife Service and

National Marine Fisheries Service when applications involve potential effects to listed species.

EMC-0647-005
Alaska Community Action on Toxics

Comment: The vegetation management program must provide regular monitoring to determine if and when treatments are needed. Educational, physical, mechanical, and biological measures of prevention and control will be given priority over chemical measures. Herbicides will be used only as a last resort. If herbicides are used, the BLM will use the smallest amount of the least toxic formulation with the least potential for contamination of subsistence resources, wildlife, or human exposure. Further, no chemical is permitted for use if it is acutely toxic or proven to cause cancer, hormone disruption, reproductive damage, immune system damage or nervous system toxicity. The BLM will apply the precautionary approach in all pest management decisions to prevent harm to human health and the environment from the use of toxic pesticides that have not been fully tested. The public process should be open and inclusive if herbicides are being considered in a particular area. If herbicides are used as a last resort, people that may use the area should be properly notified well in advance with publication in local newspapers and signage around the perimeter. Signage should be posted at least 72 hours in advance and left up at least 72 hours following herbicide applications. The notification and signage should include information about the environmental and health effects of the herbicides.

Response: Most of these measures are listed as Standard Operating Procedures or mitigation in the PEIS or PER. Some of the herbicides used by the BLM could be acutely toxic if applied incorrectly or accidentally spilled; the BLM would review and consider human health and ecological risks before selecting and using herbicides to treat vegetation to minimize or avoid risks to humans and plants and animals.

FL-0004-011

Comment: PEIS is in need of a section addressing development of sustainable fuel breaks in the brush/grasslands in an effort to return wildfires to historical size as well as protect property, critical habitat areas and newly revegetated or rehabilitated sites. Suppression should be a last resort, prevention as fuel breaks and proactive fuel management as vegetation should be a first priority.

Response: See response to Comment EMC-0566-009 under PEIS Alternatives, Herbicide Treatment Standard Operating Procedures.

FL-0007-008

Comment: The second addition would be to place a greater emphasis on the development of sustainable fuel breaks. This would help to return wildfires to historical size, protect property, critical habitat areas, and newly rehabilitated sites.

Response: See response to Comment EMC-0566-009 under PEIS Alternatives, Herbicide Treatment Standard Operating Procedures.

FXC-0071-014
Campbell, Bruce

Comment: In regards to herbicide labels, will BLM assure that all herbicide/formulations (and not just in the original package) will have warning and instructions in Spanish(?) – seeing that almost all agricultural spraying and an increasing amount of rangeland and forestland spraying is done by Latino workers. If not, why if you wish the workers to understand the proper precautions to take? The BLM documents admit various risks to workers from herbicides proposed for use in vegetation treatments in 17 western states – for instance on page 4-131 [of the Draft PEIS] where it is said in a clear manner that "The health and safety of workers could be at risk from exposure to herbicides"

Response: Table 2-8 in Chapter 2 of the PEIS describes Standard Operating Procedures and Guidelines for applying pesticides. In addition, any work contracted by the BLM requires the contractor to have the appropriate state licenses and training for handling and applying any pesticide. If Latino workers are used, it is the responsibility of the contractor to relay appropriate information from the Material Safety Data Sheets (MSDS). MSDSs are available in Spanish. In addition, any BLM employee handling and applying pesticides is required to be trained and hold an updated state and federal license, and to be able to read and speak English.

FXC-0074-010
Copper Country Alliance

Comment: In such a case [use of herbicides], BLM should adhere to the following guidelines:

- Aerial spraying is not used.
- The herbicide chosen has been fully tested for toxicity to humans and other non-target organisms.
- The herbicide chosen is the least toxic of effective herbicide candidates.
- The amount of herbicide used and the area covered are as small as possible for effective eradication.
- Public input prior to application is strongly encouraged through public notification.
- Warning of toxic risks are well-advertised.
- The treatment area is described in a way that the public can readily understand.
- Warning signs are posted around the perimeter of treated areas.

Response: See responses to Comment EMC-0585-157 under PEIS Alternatives, Mitigation, Comment EMC-0220-006 under PEIS Alternatives, Coordination and Education, and Comment EMC-0092-003 under PEIS Alternatives, Coordination and Education. The herbicides used by the BLM, or proposed for use, have been tested by the Environmental Protection Agency for their toxicity to plants, animals, and humans. In addition, the BLM and Forest Service conducted human health and ecological risk assessments to evaluate the risks to humans and plants and animals from the 18 herbicides proposed for use in the PEIS. Risk assessments done by the BLM are summarized in Appendixes B and C of the PEIS. Alternative D, No Aerial Spraying, was one alternative evaluated in the PEIS.

RMC-0006-034
Central Sierra Environmental Resource Center

Comment: Buffer distances between herbicide treatments and all aquatic habitats and sensitive species should be a minimum 50 feet. In an attempt to minimize potential impacts, the PEIS proposes that "Buffer zones would be used to reduce the risks to vegetation from herbicide treatments" p. ES-4 [of the Draft PEIS]). Yet in table C-16 (p. C-89 [of the Draft PEIS]) "buffer distances" to aquatic areas and non-target plants for some herbicides are zero (Chlorsulfuron, Diuron, Imazapic, Tebuthiuron), and, for some, not "evaluated" (Diquat, Fluridone, and Tebuthiuron). CSERC [Central Sierra Environmental Resource Center] urges that a *minimum* buffer distance for any herbicide used be 50 feet from all aquatic zones and all non-target or sensitive plant and animal species. Furthermore, the buffer distances proposed in Table C-16 [of Appendix C of the PEIS] are based on modeling, not on empirical data (Table C-16, p. C-89 [of the Draft PEIS]). "In some cases, buffer distances were extrapolated (if the largest distance modeled still resulted in risk)" (p. C-89 [of the Draft PEIS]). Considering the significant possible negative effects, the accuracy of modeling is not high enough to be sufficient for establishing buffer guidelines. CSERC strongly urges that buffer distances must be determined empirically through experimentation under controlled conditions of varying droplet size, application rate and height, and wind

speed. The alternative is to be extremely conservative.

Response: As discussed in Table 2-8 under Herbicide Treatment Standard Operating Procedures and Guidelines in Chapter 2 of the PEIS, the buffer zone would be at least 100 feet for aerial applications, 25 feet for vehicle applications, and 10 feet for hand applications. Buffer widths could be greater if modeling done for the herbicide risk assessments showed that larger buffers are required to protect aquatic habitats. Modeling did show that some herbicides were safe to use adjacent to aquatic habitats, as noted above. However, minimum buffer requirements would still apply to those herbicides.

RMC-0040(1)-008
Resource Concepts, Inc.

Comment: Pg. 2-26 [of the Draft PER], in Table 2-4 Vegetation Treatment Methods Standard Operating Procedures and Guidelines, wildlife resources section for Mechanical treatments, limiting chaining clearings to 100 yards in width may not be appropriate for fuels reduction projects. For example, in the Mt. Wilson area (Ely BLM District, Nevada) 600 to 700 feet was the prescription width for tree thinning activities along the wildland-urban interface. A qualified specialist, or specialists, should determine the appropriate chaining width, considering the best available knowledge regarding potential fire behavior and the wildlife habitat concerns of each specific treatment site.

Response: There may be instances where the 100 foot buffer is not appropriate for the site-specific objectives and proposed actions. The wording in Table 2-5 of Chapter 2 of the Final PER has been changed to read: "Chaining should be designed to provide the maximum mosaic of treated and nontreated sites. No more than 50% of an area should be chained at one time. Provide natural travel lanes, resting and thermal cover areas, snags, and corridors (> 30 feet wide) connecting non-chained areas. The size of clearings and chaining widths should be determined using best available knowledge regarding potential fire behavior and the wildlife habitat concerns of the specific site, but they generally should not exceed 100 yards at their widest point. Fuel breaks and projects to provide protective fuel buffers are possible exceptions."

RMC-0040(1)-009
Resource Concepts, Inc.

Comment: Pg. 2-27, Table 2-4 [of the Draft PEIS], wild horse and burro section for chemical treatments, includes an SOP [Standard Operating Procedures] of minimizing herbicide use in areas grazed by horses and burros. This SOP would preclude use of herbicides in millions of acres of Nevada, and substantial acreages in Wyoming. Instead, areas of weed infestations treated with chemical may need to be temporarily fenced. Limiting herbicide use across all herd management areas and other horse and burro grazing areas could lead to increases in noxious weed infestations throughout these two states. In many instances, areas grazed by horses will very likely be a high priority for treatment due to year around grazing, and in some cases overgrazing, which establishes ideal conditions for weed infestations.

Response: The SOPs in Table 2-5 of the Final PER refer to minimizing use of herbicides in vegetation treatment project areas that may be actively grazed by wild horses and/or burros. Minimizing herbicide use does not necessarily mean precluding the use of herbicides. Under an integrated pest management approach, herbicide use can be minimized by various methods, including, but not limited to selective targeting of the herbicide to individual plants or groups of plants, or the use of other treatment techniques (manual, mechanical, fire, biological) in conjunction with herbicides or in place of herbicides. This information has been clarified in the text for the SOP in Table 2-4.

RMC-0049-024
Wilson, Robert E. (University of Nevada Cooperative Extension)

Comment: Page 2-14 [of the Draft PEIS] Herbicide Treatment Standard Operating Procedures – need to incorporate Ecologically Based Invasive Weed Management as part of the standard operating procedures.

Response: The BLM's Manual 9015 (*Integrated Weed Management*) incorporates the same integrated approach used in ecologically-based invasive weed management. The BLM goes further to identify standard operating procedures that will be used in conjunction with the treatment in Chapter 2 of the FEIS under Vegetation Treatment Standard Operating Procedures and Guidelines.

RMC-0057-012
California Wilderness Coalition

Comment: The D[raft] PEIS fails to describe specific measures to minimize dispersal of invasive and non-native vegetation. The Final PEIS should require development of Best Management Practices to minimize the dispersal of invasive weeds and require BLM employee and contractor compliance with these practices.

Response: Measures to minimize dispersal of invasive and non-native vegetation are discussed in Chapter 2 of the PEIS under Herbicide Treatment Standard Operating Procedures and Guidelines. At the broad scale of this PEIS, it is not feasible to identify which specific measures would be utilized, since they would be determined on a project-by-project basis, depending on factors such as the type of treatment and the characteristics of a particular treatment site. As discussed in this section of the PEIS, the BLM is required to develop a noxious weed risk assessment for all projects that disturb the ground or alter plant communities to determine the risk of introducing noxious weeds. The BLM will design management practices or prescriptions, as necessary. These activities will take place at the local level, and will be part of the local environmental analysis process for vegetation treatment projects.

RMC-0070-005
California Regional Water Quality Control Board

Comment: Your [P]EIS should include detailed descriptions of all project-wide and site-specific temporary and permanent Best Management Practices (BMPs) or other measures to be utilized/installed. This is necessary for us to evaluate the effectiveness of proposed BMPs or other measures in mitigating the potential water quality impacts that may result from project implementation. Of particular concern are measures proposed to mitigate the potential water quality impacts of aerial pesticide applications, and ground applications in proximity to surface waters (including wetlands).

Response: Project-wide and site-specific BMPs and related measures are outside the scope of the PEIS/PER, which is not project- or site-specific. Chapter 4 of the PEIS, under the Water Resources and Quality subheading, lists Standard Operating Procedures (SOPs) that are recommended to reduce potential unintended impacts to water resources from herbicide treatments. These SOPs provide general guidance that will be consulted when the BLM develops treatment programs and assesses their impact at the local level. Project-level SOPs and mitigation measures will be developed at the local level based on detailed information about the proposed treatment program and the treatment site.

RMC-0080-008
Idaho State Department of Agriculture

Comment: Under the "General" guidelines of Table 2-6 on page 2-17 [of the Draft PEIS], Standard Operating Procedures for Applying Herbicides, the seventh bulleted item states, "Have licensed applicator apply herbicides." This guideline is more stringent than Idaho state law requires and may be more stringent than other states as well. For example, members of a seasonal weed crew that apply general use herbicides are not required to obtain an applicators license in Idaho as long as they are directly supervised by a licensed applicator. Following appropriate state laws is adequate and

will significantly lessen the burden of supervisors trying to find qualified applicants as well as decrease program costs. ISDA [Idaho State Department of Agriculture] suggests that this bulleted item be changed to read: "Follow respective state laws regarding herbicide application licenses."

Response: The BLM requires BLM employees who supervise and handle pesticides to complete and pass BLM course 9000-1, a USEPA approved course to certify BLM employees for the handling and application of pesticides. Where the BLM has reciprocal agreements with the states, those states recognize the BLM 9000-1 course for state certification. Where no reciprocal agreement is in place, BLM employees follow state laws regarding herbicide application licensing.

RMC-0106-022
Public Employees for Environmental Responsibility

Comment: [Page] 4-13 [of the Draft PEIS]. Here and elsewhere, the assumption that SOPs [Standard Operating Procedures] and label instructions will be followed is insufficient. Noncompliance must have stated mitigations.

Response: By definition, a Standard Operating Procedure is a set of instructions providing direction and cover features of operations that lend themselves to a definite or standard procedure without loss of effectiveness. The USEPA defines them as " a set of written instructions that document a routine or repetitive activity followed by an organization." The development and use of such instructions "promote quality through consistent implementation of a process or procedure within the organization." There is no need to mitigate for a group of instructions.

As for "following the label," the BLM understands that the label associated with any herbicide is defined by the courts as a "legal document," and any deviation from the guidelines, directions, and precautions stated on the label, or other relevant application information, is a violation of federal law.

RMC-0144-011
Wyoming Game and Fish Department

Comment: [Page] 2-16 [of the Draft PEIS] statement: "Where total rest from grazing is not feasible, efforts should be made to modify the amount and/or season of grazing to promote vegetation recovery within the treatment area." We strongly recommend BLM replace the term 'should' with 'will'. We generally recommend a minimum of at least two growing seasons of rest, assemblage of forage reserve areas to accommodate grazing permittees or lessees, and appropriate post management as a part of the plan.

Response: The statement cited is among the Standard Operating Procedures the BLM will follow when revegetating sites, and is followed by examples of the types of modifications that could be made to livestock grazing practices in a treatment area. The PEIS does not stipulate actual terms and conditions of grazing permits, and it is beyond the scope of the PEIS at this programmatic level to predetermine what specific terms and conditions or modifications to grazing permits should be made. The BLM generally provides a minimum of two growing seasons of rest, although a rest period of less or more than 2 years can be authorized if there is sufficient justification based on monitoring for modifying the rest period. The BLM recognizes the potential advantages of using forage reserve areas to help facilitate the needed rest following vegetation treatments, including the potential benefits to grazing permittees by providing more options during the rest period.

RMC-0144-015
Wyoming Game and Fish Department

Comment: 2-15 statement: "If the risks is moderate to high, the BLM may have to modify the project….". We suggest the term 'may have to' to be replaced with 'will' such that the risk will be less than moderate.

Response: Project modification is one method to address moderate to high risk of weed establishment or spread. Other methods to address moderate to high risk may include identifying specific mitigation through NEPA analysis, selecting a no project alternative, or implementing specific prevention measures, without modifying the project.

RMC-0144-016
Wyoming Game and Fish Department

Comment: [Page] 2-15 [of the Draft PEIS] statement: "Conditions that enhance the invasive species abundance should be addressed....". We strongly urge the term 'should be' be replaced with 'will be'. This is crucial to the long-term success of the treatments.

Response: The statement refers in general to the variety of prevention measures that are feasible in any given circumstance. In order to design and implement prevention measures, the conditions that enhance invasive species abundance should be addressed in order to ensure an appropriate prevention measure is identified. The statement has been modified to state: "Conditions that enhance invasive species abundance should be addressed in developing mitigation and prevention plans for activities on public lands. For example, excessive disturbance..."

RMC-0210-044
MCS Task Force of New Mexico

Comment: Ground application of herbicides should not be applied within 1 mile of surface water, residences, roads, trails, campgrounds, or other areas that are occupied, or may become occupied, by members of the public.

Response: See responses to Comment EMC-0585-185 under PEIS Environmental Consequences, Herbicide Effects Analysis, Comment EMC-0597(a)-007 under PEIS Environmental Consequences, Air Quality, and Comment RMC-0210-043 under PEIS Alternatives, Alternative D - No Aerial Application of Herbicides.

RMC-0210-046
MCS Task Force of New Mexico

Comment: No herbicides should be used unless the identity of all inert ingredients and contaminants in the product are disclosed to the public.

Response: See responses to Comments EMC-0623-017, EMC-0646-011, and FXC-0071-020 under PEIS Environmental Consequences, Herbicide Effects Analysis.

RMC-0210-047
MCS Task Force of New Mexico

Comment: No vegetation should be burned sooner than one year after an application of herbicide.

Response: The burning of vegetation following herbicide application would depend upon several factors, including the species to be managed, the site of the proposed treatment, environmental conditions, management plans, and other similar factors. Wolters et. al. 1994 (Wolters, G.L., C.H. Sieg, A.J. Bjugstad and F.R. Gartner. 1994. Herbicide and fire effects on leafy spurge density and seed germination. U.S. Department of Agriculture Forest Service Research Notes RM-526. Fort Collins, Colorado) found that a fall application of picloram followed by a spring burn gave better control of leafy spurge in North Dakota than use of herbicides alone. French broom canopy cover was reduced from 87% to less than 1% when plants were treated with an herbicide, cut and burned one month later, then treated with glyphosate for two years to control the germinated seedlings (Bossard, C.C. 2000. *Genista monspessulana*. In: Bossard, C.C., R.M. Randall and M.C. Hoshovsky [eds.]. Invasive Plants of California's Wildlands. University of California Press, Berkeley.)

RMC-0221-033
Center for Biological Diversity

Comment: The D[raft] PEIS should also analyze an alternative that mandates the use of weed- and seed-free livestock feed and supplements on public lands. All livestock should be certified weed- and seed-free before being turned out on the public lands. This simple preventative measure would reduce the potential for future invasive colonization and spread by non-native species.

Response: An alternative that mandates the use of weed and seed-free livestock feed is beyond the scope of the PEIS, as discussed under Scope of Analysis in Chapter 1 of the PEIS. The use of weed and seed free livestock feed is endorsed by the BLM and many other groups as a prevention measure, and is listed as a Standard Operating Procedure in Table 2-6 of Chapter 2 of the PEIS.

RMC-0222-063
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The BLM wrongly considers the use of "SOPs [Standard Operating Procedures] identified in the [Draft] PEIS" ([page] 4-197) as an assumption for cumulative impacts assessment, as the DEIS [Draft PEIS] indicates that the ten Standard Operation Procedures it identifies as mitigation for herbicide use "can be implemented at local level according to specific conditions" [emphasis added]. One of the "Standard Operating Procedures," "use native or sterile species for revegetation and restoration projects" cannot be assumed to be operating for the purposes of cumulative impacts, as it is not part of any alternatives being considered by the BLM ([pages] 2-10 through 2-13 [of the Draft PEIS]). It is part of the unanalyzed Restoration Alternative.

Response: As noted in Chapter 2 of the PEIS under Herbicide Treatment Standard Operating Procedures and Guidelines, "SOPs would be followed by the BLM under all alternatives..." However, as noted in the comment, not all SOPs may be implemented at the local level because not all SOPs may be relevant or useful for a specific project. However, if an SOP is relevant or useful in reducing impacts, the BLM would implement the SOP. These SOPs, including revegetation, were analyzed as part of all alternatives, including Alternative E, also referred to as the Restoration Alternative. Also see response to Comment EMC-0646-230 under PEIS Alternatives, Herbicide Treatment Planning.

RMC-0222-084
\Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The BLM goal does not mention native vegetation but instead "desirable" vegetation (which could be exotic, as in introduced pasture grasses), Desirable for whom? Livestock permittees? Sage grouse? Ground cover in the midst of disturbance? Erosion control?

Response: Desirable plant communities are defined in goals and objectives typically identified and determined through land use planning (See BLM Handbook H- 1601-1). They are often called "Desired Outcomes," and may be expressed in written form in the planning document as Desired Future Condition, Desired Plant Community, or Desired Range of Conditions. The Desired Outcome may be restricted to natives only, or may include a combination of native and non-native species. Based on the objectives outlined in the land use plan, vegetation treatment proposals are identified to meet these objectives.

RMC-0228-007
Metropolitan Water District of Southern California

Comment: Metropolitan [Water District of Southern California] is also concerned about the terrestrial herbicide application that could occur close to the Colorado River. The Standard Operating Procedures in the Draft PEIS specify buffer zones of 100 feet for aerial, 25 feet for vehicle, and 10 feet for hand spray applications. These buffer zones should be adequate to avoid overspray but aerial applications may be more prone to error. However, the mechanism to ensure compliance with these procedures

has not been specified.

Response: These are the minimum buffer distances that would be applied for herbicide treatments. Herbicide-specific buffer zones were identified in Chapter 4 of the PEIS under Vegetation and Fish and Other Aquatic Resources (wildlife resources buffers would be the same as those for vegetation) that are in many cases greater than those given in the Standard Operating Procedures. Although it is impossible to ensure 100% compliance with procedures, use of qualified pesticide applicators, as discussed in Comment RMC-0005-003 under Alternatives, Herbicide Treatment Modes of Action and Treatment Methods is the most effective way to ensure compliance.

Alternatives, Prevention of Weeds and Early Detection and Rapid Response

EMC-0133-006
Ryan, Stephanie

Comment: What preventative-based practices for [treating invasive vegetation] can be used instead? I hear you are not even open to considering this. Is this true? If you are interested in considering alternatives, please respond and I will happily offer you the best research I can find.

Response: See responses to Comment RMC-0222-059 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response, and Comment RMC-0214-029 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response.

EMC-0214-050
Vollmer, Jennifer (BASF)

Comment: An important missing priority is the development of sustainable fuel breaks in the brush/grasslands in an effort to return wildfires to historical size as well as protect property, critical habitat areas and newly revegetated or rehabilitated sites. Suppression should be a last resort, prevention as fuel breaks and pro-active fuel management as vegetation treatments should be a first priority.

Response: We agree that the development of fuel breaks is an important element in managing fire. We don't agree that suppression should be considered a last resort. Suppression efforts will always be necessary. We do agree that more emphasis must be place on prevention and treatment efforts to reduce the risk of wildfire threatening lives or property. This is emphasized in the documents, *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan* (USDI and USDA 2006a) and *Protecting People and Sustaining Resources in Fire Adapted Ecosystems: A Cohesive Strategy* (USDA and USDI 2006b). The Bureau has already increased fuels treatments five-fold since the year 2000.

EMC-0221-014
EMC-0256-004
EMC-0272-004
EMC-0299-004
EMC-0305
EMC-0325-009
EMC-0328
EMC-0332
EMC-0347
EMC-0348
EMC-0368
EMC-0370
EMC-0376-009

Comment: PEIS is in need of a section addressing development of sustainable fuel breaks in the brush/grasslands in an effort to return wildfires to historical size as well as protect property, critical habitat areas and newly revegetated or rehabilitated sites. Suppression should be a last resort, prevention as fuel breaks and pro-active fuel management as vegetation treatments should be a first priority.

Response: See response to Comment EMC-0241-050 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response.

EMC-0388
EMC-0390
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EMC-0399
EMC-0400
EMC-0418
EMC-0422
EMC-0427
EMC-0431
EMC-0433
EMC-0438
EMC-0443
EMC-0482
EMC-0578
EMC-0596

EMC-0233-004
Dyber, Kenneth James

Comment: What about prevention of the problems that create the so-called need for usage of herbicides?

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of weed spread. See also responses to Comment RMC-0167-007 under PEIS Alternatives, Vegetation Treatment Planning and Management, Comment RMC-0218-005 under PEIS Proposed Action and Purpose and Need, Scope of Analysis, and Comment RMC-0218-030 under PEIS Alternatives, Description of the Alternatives regarding prevention-based practices.

EMC-0306-008
Klamath River Keeper Program and Klamath Forest Alliance

Comment: As directed by the BLM's policies, Department of Interior's policies, presidential Executive Order 11312, the BLM should focus primarily on preventing the introduction and spread of prioritized invasive plants rather than relying largely on unproven methods to eliminate existing invasive plant populations through the use of unsafe herbicides on public lands. It is well understood and accepted that the only way to achieve the effective control of invasive plants, the BLM must first adopt strong prevention-based practices for activities (livestock grazing; road construction, use and management; use of off-road vehicles; timber harvests; mining; energy development; fuel reduction projects; watershed/habitat restoration and various forms of recreation) that encourage invasive plants.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of weed spread. See also responses to Comment RMC-0167-007 under PEIS Alternatives, Vegetation Treatment Planning and Management, Comment RMC-0218-005 under PEIS Proposed Action and Purpose and Need, Scope of Analysis, and Comment RMC-0218-030 under PEIS Alternatives, Description of the Alternatives regarding prevention-based practices.

EMC-0331-007
Weed Science Society of America

Comment: Finally, WSSA [Weed Science Society of America] supports two additional sections not currently covered in the Programmatic Environmental Impact Statement (PEIS). The WSSA strongly encourages the BLM to add section that addresses an Early Detection Rapid Response (EDRR) protocol for invasive weeds. In

Appendix D [of the Draft PEIS], the process to secure a new herbicide is 2+ years. This is unacceptable for EDRR. There must be an approved procedure for EDRR in regard to herbicide use.

Response: See Herbicide Treatments Standard Operating Procedures and Guidelines in Chapter 2 of the Final PEIS regarding discussion of Early Detection and Rapid Response (EDRR). The use of the protocol described in Appendix E of the Final PEIS to evaluate new herbicides does not constrain, nor preclude, the BLM from implementing EDRR practices with existing tools or already approved herbicides. The objective of the protocol is to provide a consistent, state-of-the-science methodology and public process for the BLM to evaluate herbicides for use on public lands. The 2+ years outlined is necessary to integrate the BLM budget process requirements to provide funding to conduct risk assessments and National Environmental Policy Act compliance for herbicide approval. The last effort to review and approve herbicides for use on public lands was initiated in 1988 and completed in 1992. Adopting the proposed protocol in the PEIS would establish a consistent approach and streamline this process to about 2 years in contrast to the 16 years that have lapsed since the last effort.

EMC-0331-008
Weed Science Society of America

Comment: The WSSA [Weed Science Society of America] also supports a section that addresses development of sustainable fuel breaks in the brush/grasslands in an effort to return wildfires to historical size as well as protect property, critical habitat areas, and newly revegetated or rehabilitated sites. Suppression should be a last resort and prevention as fuel breaks and pro-active fuel management as vegetation treatments should be a first priority.

Response: See response to Comment EMC-0214-050 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response.

EMC-0350-001
Morris, Nancy

Comment: In light of all the recent studies that show there is very serious potential health hazards to many segments of our population and wildlife when exposed to chemical herbicides, we need to take a preventive approach to managing invasive weeds. Another factor to consider is that more and more herbicides are used to treat our lands because invasive plants are becoming resistant to these chemicals. Dousing areas with herbicides, exposing people and wildlife to toxic chemicals is not the solution. There are numerous cases where helicopter spraying companies contracted by BLM have even broken the law by using concentrations of chemicals that where beyond the recommended level and have needlessly exposed people to pesticide drift. Using preventive measures would stop this and prevention should be the goal since new invasives can appear if BLM doesn't regulate the activities that cause invasive plant species to take over in the first place.

Response: See responses to Comment RMC-0218-005 under PEIS Proposed Action and Purpose and Need, Scope of Analysis, and Comment RMC-0218-030 under PEIS Alternatives, Description of the Alternatives regarding prevention. The BLM is not aware of any Federal Insecticide, Fungicide, and Rodenticide Act violations involving helicopter spraying contracted by the agency. All herbicide spray activities are required to have pesticide application reports completed within 24 hours of the spray activity.

EMC-0446-017
The Nature Conservancy

Comment: The Draft PEIS should provide additional guidance, direction, and emphasis on prevention and early detection of weed outbreaks, rapid response to detected outbreaks, and integrated pest management that would minimize the need for

future control efforts. The main focus of the PEIS appears to be on treatment of already infested areas. The Draft PEIS is mostly silent on prioritization of treatment areas, recommendations of which method(s) to use under different circumstances, or how to prioritize weed species, treatments and sites of high value. The PEIS should provide guidance on how to select among different weed control methods and combinations of methods, how to determine when certain treatments are allowable, and under which conditions certain treatment options (and certain herbicides) may not be used or only used as a last resort.

Response: See response to Comment RMC-0205-013 under PEIS Alternatives, Vegetation Treatment Planning and Management.

EMC-0447-003
Makelacy, Melladee

Comment: The Forest Service made a commitment to address prevention as part of its every day management decisions, and adopted an objective of reducing its reliance on herbicides, BLM's proposed herbicide increase will only create a dependence on chemicals. I strongly urge the BLM to take a similar approach.

Response: The BLM's approach to prevention is discussed in Chapter 2 of the Draft PER under Prevention of Weeds and Early Detection and Rapid Response. This section has been revised and expanded for the Final PER, and this information has also been included in the Final PEIS.

EMC-0452-001
Clark, Charlene Carroll

Comment: As a physician in the West, and member of PSR, I feel moved to write you about the pesticide use planned by the BLM. The long term effects of these poisons on human health is only now being recognized. It should not be after the harm is done that we find alternate methods of invasive vegetation control, and stop the use of pesticides. We should be doing that now. Please adopt strong prevention-based practices for activities (livestock grazing, road construction and use, use of off-road vehicles, timber harvests, and fuel reduction projects) that encourage invasive plants.

Response: The long-term effects of herbicide use are assessed in the human health risk assessment found in Appendix B of the PEIS. Prevention is discussed in Chapter 2 of the Final PEIS and PER under Prevention of Weeds and Early Detection and Rapid Response. See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding the causes and vectors of weed spread.

EMC-0488-005
Howell, Mark (Starr Valley Conservation District)

Comment: Early detection and rapid response to these invasive plants must be addressed. Only through the education of identifying these plant species to mapping them through some sort of GPS [Global Positioning System] system, and destroying them through spraying or mechanical means will we finally be able to get some sort of control over this growing problem in the West.

Response: Prevention, Early Detection and Rapid Response, and mapping of infestations are part of the BLM's ongoing invasive species management program and strategy. The program and strategy are discussed under Prevention of Weeds and Early Detection and Rapid Response in Chapter 2 of the PER and has been included in Chapter 2 of the Final PEIS.

EMC-0489-003
Burch, D.

Comment: Until the agency takes a similar approach to that of the Forest Service who made a commitment to address prevention as part of its every day management decisions, and adopted an objective of reducing its reliance on herbicides, BLM's proposed herbicide increase will only create a dependence on chemicals.

Response: Prevention policies are already established within the BLM. See responses to Comment RMC-0218-005 under PEIS Proposed Action and Purpose and Need, Scope of Analysis, and Comment RMC-0218-030 under PEIS Alternatives, Description of the Alternatives regarding prevention.

EMC-0496-003
DeLong, Colleen

Comment: Focus foremost on managing lands to prevent new weed infestations.

Response: See responses to Comments RMC-0222-059 and RMC-0214-029 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response.

EMC-0503-009
John Day-Snake Resource Advisory Council

Comment: There needs to be greater emphasis on prevention in the document. No clear text or guidance is given to prevention of weed infestations. The document does state several times the importance of prevention, but only states actions that ought to be taken, rather than establishing some policies which would more clearly assist with prevention (such as those established by FS [Forest Service] Region 6 (weed free hay requirements, vehicle washings, etc).

Response: Prevention policies are already established within the BLM. See responses to Comment RMC-0218-005 under PEIS Proposed Action and Purpose and Need, Scope of Analysis, and Comment RMC-0218-030 under PEIS Alternatives, Description of the Alternatives regarding prevention.

EMC-0512-005
Hells Canyon Preservation Council

Comment: BLM has not taken effective steps to prevent invasive weed spread, and until you do so no herbicides should be used.

Response: See responses to Comment RMC-0218-005 under PEIS Proposed Action and Purpose and Need, Scope of Analysis, and Comment RMC-0218-030 under PEIS Alternatives, Description of the Alternatives regarding prevention. The BLM has been aggressively implementing and stipulating prevention practices, as outlined in the BLM *Partners Against Weeds - An Action Plan for the BLM* (USDI BLM 1996). The BLM welcomes efforts to promote invasive species prevention on lands administered by the Forest Service, which provide additional coordinated and seamless prevention practices across agency jurisdictions.

EMC-0575-003
Davlantes, Nancy

Comment: It is abundantly clear that the spread of invasive plants is caused by removal of native vegetation and ground disturbance by off-road vehicles, logging and grazing. BLM can stop the spread of invasive plant species by restricting or limiting these activities from intact native ecosystems, particularly in riparian areas. The PEIS offers none of these preventative management measures as an alternative to herbicide spraying – a major shortfall of the plan.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public lands uses.

EMC-0584-025
Western Watersheds Project

Comment: Passive treatments primarily minimize site disturbance, and generally remove or minimize an environmental irritant that is affecting the health of the plant community. Thus, they have less risk of soil erosion, weed invasion or proliferation and other negative impacts associated with them. They also have a high probability of being beneficial to watersheds, native wildlife habitats and populations and the economic well-being of western communities that are increasingly dependent on tourism and recreational uses of public lands. An array of passive treatments (provided

to BLM in the RNEA [Restore Native Ecosystems Alternative]) exist that will enable BLM to treat many of the affected lands. Such treatments, wrongfully ignored by BLM, includes: Livestock grazing treatment: Livestock grazing treatments can reduce spread of flammable invasive species, heal damaged understories so that more natural, cool-burning fires can occur, and reduce the proliferation of doghair thickets of dense young trees which serve as ladder fuels. Treatments include significant reductions in livestock numbers accompanied by prudent utilization and trampling standards in plant communities found to have damaged understories vulnerable to invasion by flammable exotic species. Closure of pastures with known invasive species infestations. Closure of lands to grazing that have known exotic species infestations is a prudent first step toward control of spread of flammable, watershed-altering exotics. Closure of pastures "at risk" to weed invasion – such as any Wyoming big sagebrush, Basin big sagebrush, or juniper communities that still contain relatively intact understories. This [P]EIS process should map and identify such areas, as well as all areas where cheatgrass already dominates the understory.

Livestock removal treatment: Grazing permit buyout and permit retirement using federal fire funds is a very reasonable treatment that will heal damaged lands, help restore natural fire cycles, minimize the spread of exotics and other hazardous fuels. Livestock facility removal treatment: Livestock facilities (fences, artificial watering sites – especially troughs associated with pipelines and water haul sites, corrals, etc.) serve as zones of livestock concentration, and result in areas of severe disturbance readily colonized by highly flammable exotic species. Removal of these facilities and restoration of disturbed zones will limit spread of invasive flammable species, and help develop healthy understories necessary to carry cool, light fires in surrounding lands. We are alarmed that BLM's Draft [P]EIS casually casts aside Alternatives development based on a series of passive livestock treatments, and fails to adequately explain the ecological benefits of such treatments.

Response: The benefits of passive treatments are described under Prevention of Weeds and Early Detection and Rapid Response in Chapter 2 of the Final PEIS and PER. See response to Comment RMC-0126-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding analysis of the Restore Native Ecosystems alternative. See also response to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of invasive vegetation spread.

EMC-0584-038
Western Watersheds Project

Comment: Pristine and near-pristine lands should be protected using all possible techniques, especially passive restoration techniques such as immediate removal or reduction of livestock disturbance. Such lands typically serve as important habitats for native species and protection of biodiversity. Economically, it is a lot more cost-effective to keep lands from becoming degraded than it is to conduct wide-scale treatments after they have become degraded. It is critical that a BLM Weed EIS [PEIS] do so.

Response: See response to Comment EMC-0486-020 under PEIS Alternatives, Vegetation Treatment Planning and Management. The BLM agrees that it is more cost-effective to prevent lands from being degraded than to rehabilitate the lands after they are degraded.

EMC-0585-068
Western Watersheds Project

Comment: BLM never addresses an array of passive treatments in its PER, let alone under a range of alternatives in the [P]EIS, and the dramatically increased acreage.

Response: Passive treatments were included in the Standard Operating Procedures and mitigation in the PEIS, and were also considered in some detail for Alternative E. However, the focus of the PEIS and PER was on the effects of the treatments.

Alternative C in the PEIS did evaluate the effects of not using herbicides, but the PER focused on the management of vegetation using prescribed fire, and manual, mechanical, and biological control techniques. Also see responses to Comments RMC-0222-005 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments and Comment RMC-0222-006 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0623-009
Defenders of Wildlife

Comment: Monitoring and Rapid Response. Ongoing monitoring and prevention need to become an integrated part of BLM's response to invasive species. It has been proven time and again that eradication of new exotics, as well as controlling the spread of established invaders, is best accomplished when early detection and rapid response capabilities are in place. The BLM needs to investigate and expand its capacity building in early detection and rapid response.

Response: See response to Comment FL-0004-010 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response and the section on Prevention of Weeds and Early Detection and Rapid Response in Chapter 2 of the Final PEIS.

EMC-0630-007
Porter, Mark C.
(Wallowa Resources)

Comment: Another aspect of the [P]EIS that could use more emphasis is the prevention of weeds. While mentioned in the document, it is a critical element of Integrated Weed Management and needs more detail. The use of certified weed free forage and mulch products should be required on all BLM lands and projects. The North American Weed Management Association has a developed a program and standards for certifying such products which is easily accessible at their website (http://www.nawma.org/). Their standards are very applicable to the Western US.

Response: See responses to Comment RMC-0218-005 under PEIS Proposed Action and Purpose and Need, Scope of Analysis, and Comment RMC-0218-030 under PEIS Alternatives, Description of the Alternatives regarding prevention. BLM policies require certified weed-free forage and mulch, and the BLM collaborates with State Departments of Agriculture in developing weed-free standards based on the Weed Science Society of America certification standards.

EMC-0630-008
Porter, Mark C.
(Wallowa Resources)

Comment: The [P]EIS should provide some prevention standards for all activities that happen on the BLM such as road work, grazing, recreational use, and logging (i.e. ATV's [all-terrain vehicles]). Cleaning equipment, quarantining livestock before entry onto allotments if they are from out of the local area, or having completed a weed education course before being able to ride an ATV on BLM lands are some examples of such measures.

Response: These practices are already being applied in the BLM and are part of existing management under all alternatives analyzed. Also see responses to Comment RMC-0218-005 under PEIS Proposed Action and Purpose and Need, Scope of Analysis and Comment RMC-0218-030 under PEIS Alternatives, Description of the Alternatives regarding prevention practices.

EMC-0630-009
Porter, Mark C.
(Wallowa Resources)

Comment: Finally, prevention standards need to recognize that members of the public who use BLM lands are critical partners in weed control. Prevention standards should not, in general, be penalties of use but rather means with which to enlist participation in the management of noxious weeds.

Response: The BLM agrees with this comment.

EMC-0641-006
Idaho Conservation League

Comment: Purpose and Need for Action We believe that the BLM should take a strong leadership role in the proactive management of noxious and invasive weeds. The most effective way to do so is to focus on prevention by aggressively addressing root causes of noxious weed dispersal. The PER itself states that "prevention and detection is the cheapest and most effective weed control method" (p. 2-16 [of the Draft PER]). Yet neither the PER nor the PEIS considers prevention as a treatment method. Rather, the documents focus exclusively on reactive methods such as herbicide application, fire use, mechanical and manual treatments, and biological controls. Simply treating current infestations of weeds does little to prevent future problems and ensures that the cycle of treatment and infestation will continue into the foreseeable future. The BLM needs to consider alternatives that more directly and more aggressively seek to reduce activities that contribute to the spread of noxious weeds such as roads, irresponsible ORV [off-road vehicle] use, and grazing. Though we appreciate the BLM's duty to manage public lands for multiple uses including grazing, OHV [off-highway vehicle] use, and energy/mineral development, we believe the BLM can and should do much more to promote more responsible and less ecologically destructive use.

We recognize that the current [P]EIS is broad in scope and provides basic information to local BLM offices to assist them with the development of more specific weed management programs. Nonetheless, we feel it is critical that the BLM address root causes of the spread of noxious weeds at the programmatic level and to direct local BLM agencies to do the same at the RMP (Resource Management Plan] and implementation levels. A focus on the prevention of noxious weed infestations via the aggressive management of primary vectors should be uniform to all BLM agencies and management plans.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of weed spread, and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public land uses. The *Partners Against Weeds - An Action Plan for the BLM* (USDI BLM 1996) outlines that BLM Resource Management Plans (RMPs) should address invasive species and provide appropriate goals, objectives, and management direction for invasive species. The BLM is currently in the process of a 10-year national level effort, which began in 2000, to revise most of its existing land use plans. Direction for invasive species management, as well as off-highway vehicle management, among other programs, is being incorporated into these RMPs as they are revised, per direction outlined in Appendix C of the Land Use Planning Handbook H-1601-1 (2005).

EMC-0641-011
Idaho Conservation League

Comment: The BLM should strictly enforce ORV [off-road vehicle] regulations and initiate an aggressive campaign encouraging responsible use. As part of this decision, the BLM should encourage ORV users to clean off their vehicles at car washes before and after use. Signs identifying noxious weeds should be posted at the trailheads. The BLM should work with ORV clubs on a noxious weed control program in which club members hand pull weeds before they seed, similar to the "Adopt a Highway"

program.

Response: The BLM already has established relationships with ORV user groups for weed education and volunteer activities. Prevention measures including vehicle washing are encouraged and in applicable cases required as a term and condition of a land use authorization or permit.

EMC-0645-004
Wroncy, Jan (Gaia Vision/Canaries Who Sing)

Comment: I was amazed to find that the comments I wrote to the BLM sixteen years ago regarding the proposed treatment of symptoms (invasive species) with herbicides on 13 Western States were still germane! Since that EIS, the BLM has done nothing in the "prevention" department, and has added more chemicals and more acreage to the proposal. This only proves BLM's utter failure to grasp what is important here: prevention, passive and active restoration, native plants and seeds are the keys to dealing with invasive plants – not herbicide use!

Response: The BLM disagrees with your comment regarding prevention. See responses to Comment RMC-0218-005 under PEIS Proposed Action and Purpose and Need, Scope of Analysis and Comment RMC-0218-030 under PEIS Alternatives, Description of the Alternatives. The BLM has been aggressively implementing and stipulating prevention practices, as outlined in the *Partners Against Weeds - An Action Plan for the BLM* (USDI BLM 1996).

EMC-0646-210
Californians for Alternatives to Toxics

Comment: Focusing non-chemical control efforts along the river corridors, at trail heads and recreation locations, and along side roads would be an obvious starting point for reducing weed vectors. If prevention actions aren't part of the proposed project, after a few years, following project completion, a new problem may arise, with possibly worse conditions. CATs [Californians for Alternatives to Toxics] questions the wisdom of the proposed herbicide related actions without a long-term game plan to manage invasive species in the project area, and hopes the BLM provides this as part of project NEPA documentation.

Response: See responses to Comment EMC-0590-010 under PEIS Alternatives, Vegetation Treatment Planning and Management, Comment EMC-0590-012 under PEIS Alternatives, Vegetation Treatment Planning and Management, and Comment FL-0004-010 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response.

EMC-0646-211
Californians for Alternatives to Toxics

Comment: The standard Region 5 Forest Service prevention weed methods of washing heavy equipment and vehicles, weed free straw, and education of area users are a good start (USDA Forest Service 2000). While CATs applauds these efforts, we feel that more can, and should be done. The BLM must include those and additional methods as part of the proposed actions for this project to be successful. Immediate action, digging or pulling new infestations, post and pre project monitoring, and flagging and avoiding large infestations can all be effective. These are basic prevention methods commonly referred to by weed experts and utilized with success by many public land managers.

Response: The sections on Herbicide Treatment Standard Operating Procedures (SOPs) and Guidelines in Chapter 2 of the Final PEIS and PER include a section on Prevention of Weeds and Early Detection and Rapid Response to include more information on and SOPs for prevention of the spread of weeds.

EMC-0646-212
Californians for
Alternatives to Toxics

Comment: The BLM needs to develop a plan to deal with prevention, and eliminate disturbance factors that led to past, and will lead to future, invasive species distribution and establishment. Re-vegetation with desirable and competitive natives is essential, but timing and reduction of the seed bank first is essential to rehabilitation success. What specific activities on BLM public lands have facilitated invasive species infestations? What can the BLM do to limit future invasions?

Response: See Chapter 2 of the Final PEIS and PER under Vegetation Treatment Standard Operating Procedures and Guidelines (Prevention of Weeds and Early Detection and Rapid Response) for information on prevention.

EMC-0646-213
Californians for
Alternatives to Toxics

Comment: Seed banks exist and one-time (or short term) herbicide spraying treatments will not prevent the weeds from returning and proliferating, most likely in greater numbers, as herbicide residues in the soil will kill any competitive natives. Each noxious or exotic weed species must be analyzed to determine the most effective treatment strategy. It appears that the BLM accepts the presence and proliferation of noxious weeds and cheatgrass, as the PEIS fails to disclose adequate prevention measures.

Response: See responses to Comment EMC-0070-003 under PEIS Proposed Action and Purpose and Need, Scope of Analysis, Comment RMC-0217-031 under PEIS Alternatives, Vegetation Treatment Planning and Management, and Comment EMC-0238-009 under PEIS Alternatives, Monitoring.

EMC-0646-214
Californians for
Alternatives to Toxics

Comment: Disturbances are likely to occur beyond what is described in PEIS or PER. The PEIS fails to even outline efforts to keep vehicles, machinery, or workers (shoe treads, clothing) clean of exotic seeds, the very least that can be expected. Unfortunately, while cleaning efforts will reduce the likelihood of seed dispersal, this approach is not fail-safe and in most cases avoidance is not feasible. It is possible however to set strict guidelines that weed infestations exceeding specific magnitudes of density or area will be avoided. Recent land management policy (USDA Forest Service) has suggested buffers established around weed populations are necessary to ensure their isolation (Lassen National Forest 2005, Clark 2003). Such mitigation will reduce the extent of future herbicide treatments deemed necessary for weed suppression. For this reason, among others described below, a more thorough analysis is required so that mitigations can be formed.

Response: Standard Operating Procedures (SOPs) to reduce the spread of weeds, including use of clean equipment that is free of plants and plant parts, are discussed in the PEIS and PER in Chapter 2 under Vegetation Treatment SOPs and Guidelines, and in Tables 2-8 (PEIS) and Table 2-5 (PER). These tables have been expanded to include more SOPs to prevent the spread of weeds. Although buffers may be useful in slowing the spread of weeds in some areas, new infestations may develop from wind dispersal of seeds from isolated sites, and buffers may be impractical for larger infestations. The objective of the PEIS and PER is to evaluate the treatment of vegetation. Isolation of weeds is not mitigation for the treatment of weeds.

EMC-0646-217
Californians for
Alternatives to Toxics

Comment: The exclusion of grazers from sensitive areas where weeds exist already or may spread to in order to facilitate the restructuring of soil, provide a competitive advantage to native perennials, and eliminate an additional vector of seed dispersal, is necessary to achieve the desired goals of the PEIS. The exclusion of grazers from existing infestations is most crucial and should be the bare minimum expected.

Response: As stated under Scope of Analysis in Chapter 1 of the PEIS, management of livestock grazing is outside the scope of the PEIS analysis. BLM policy is to exclude grazing for up to two growing seasons following reclamation or rehabilitation of public lands damaged thought wildfire or other activities, or until short-term objectives are met as determined through monitoring. Grazing use restrictions for specific areas are identified through terms and restriction of livestock grazing permits as determined through allotment evaluations and monitoring conducted under the grazing regulations at 43 CFR [Code of Federal Regulations] 4100.

EMC-0646-227
Californians for Alternatives to Toxics

Comment: The BLM needs to include steps to prevent the spread of weeds by both vehicles and especially off-road vehicles as part of its weed management strategy. The PEIS must analyze the impacts that off-road vehicles are having on the spread of invasive weed and thus the potential success of the proposed actions.

Response: See responses to Comment RMC-0218-005 under PEIS Proposed Action and Purpose and Need, Scope of Analysis and Comment RMC-0218-030 under PEIS Alternatives, Description of the Alternatives regarding prevention. Off-road vehicle use is outside the scope of analysis of the PEIS.

FL-0004-010

Comment: PEIS is in need of a section addressing Early Detection Rapid Response (EDRR). In Appendix D [of the Draft PEIS] the process to secure a new herbicide is 2+ years. This is unacceptable for EDRR [Early Detection and Rapid Response]. There must be an approved procedure for EDRR in regard to herbicide use.

Response: See response to Comment EMC-0566-008 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response. EDRR is common to all alternatives. Chapter 2 of the PER under Herbicide Treatment Standard Operating Procedures describes standard operating procedures for prevention, and the BLM's *Partners Against Weeds - An Action Plan for the BLM* (USDI BLM 1996) identifies further measures to prevent and reduce the introduction and spread of noxious and invasive weeds that can be incorporated into site-specific level actions. The BLM has included additional information on EDRR in Chapter 2 of the Final PEIS under Herbicide Treatment Standard Operating Procedures and Guidelines.

FL-0007-007
EMC-0214-049
EMC-0221-013
EMC-0256-003
EMC-0272-003
EMC-0299-003
EMC-0305
EMC-0325-008
EMC-0328
EMC-0332
EMC-0347
EMC-0348
EMC-0368
EMC-0370
EMC-0371
EMC-0376-008
EMC-0382
EMC-0387
EMC-0388

Comment: [The] PEIS is in need of a section addressing Early Detection Rapid Response (EDRR). In Appendix D the process to secure a new herbicide is 2+ years. This is unacceptable for EDRR. There MUST be an approved procedure for EDRR in regard to herbicide use. Example: A process modeled after EPA/FIFRA [Federal Insecticide, Fungicide and Rodenticide Act] Section 18, to allow temporary, targeted new herbicide use by limited BLM district(s) while the appendix D [in the Draft PEIS] protocol is in process. Following NEPA, an EA should be sufficient for this very small-scale use that is typical of an EDRR because, due to the small area treated, there would be no significant effect.

Response: The BLM supports the principles associated with the EDRR system, and is committed to addressing new infestations of invasive species as they are found. In an integrated pest management approach, several management options are available to the land manager. In addressing the problem, should an herbicide be the management option of choice, the land manager upon evaluating several factors associated with the infestation (including species of interest, location of infestation, characteristics associated with the infestation, and other factors), would have several active ingredients to consider along with their different formulations, as a result of information presented in the Final PEIS. The BLM is in the process of establishing a

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policy regarding the use of herbicides not presently approved for use on lands they administer (see Appendix E of the Final PEIS). Such a policy will follow NEPA guidelines and may involve specific mitigation measures.

FXC-0032-005
Germino, Matthew J. (Idaho State University)

Comment: The BLM should pursue a course of action that addresses the cause of invasions, and should not consider mass application of herbicide or other reactive-eradication measures. Actions that address the susceptibility of BLM lands to initial invasion and long-term persistence of weeds are the only path towards economically and environmentally sounds and pro-active control measures. As the attached manuscript suggests, land uses and revegetation with only grasses probably contribute to the susceptibility of communities to persistence of weeds.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of weed spread.

RMC-0006-024
Central Sierra Environmental Resource Center

Comment: The continued spread of exotic-invasive weeds should be prevented prior to allowing any use of herbicide treatments.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

RMC-0006-032
Central Sierra Environmental Resource Center

Comment: The BLM needs to develop and implement innovative policies focused on reducing and preventing invasions of new weed species. Dollars invested in prevention would be well spent if such expenditures can curtail a potential loss of billions of dollars to agricultural and environmental weed problems in the future.

Response: The BLM agrees that prevention is important for containing costs and invasions of new weed species. Also see response to Comment FL-0004-010 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response.

RMC-0128-003
Shoemaker, Bob (Platte County Weed and Pest Control District)

Comment: Thank you for extending the comment period. It is important to make provisions to be able to respond very quickly to new weeds as they appear. It would be a good idea to get the BLM involved with the Early Detection Rapid Response Program. An emergency herbicide approval procedure should be included to allow this program to work as it was intended.

Response: See Prevention of Weeds and Early Detection and Rapid Response under Vegetation Treatment Standard Operating Procedures and Guidelines in Chapter 2 of the Final PER for a discussion of Early Detection and Rapid Response. The proposed protocol for approval of additional herbicides for use on public lands is described in Appendix E of the Final PEIS. The BLM has the flexibility to respond proactively to new infestations of invasive species without an emergency herbicide approval procedure.

RMC-0144-009
Wyoming Game and Fish Department

Comment: The analysis failed to thoroughly discuss, analyze and evaluate more passive, long-term management actions. Section 2-8 in the Treatment [Draft] PER lightly touched on programs and actions to prevent or minimize the need for treatments in the long-term. In 50 to 100 or more years, these passive actions may make a large difference in terms of effectiveness of the treatments and reduction in management costs associated with treatment re-entry.

Response: See response to Comment RMC-0167-007 under PEIS Proposed Action and Purpose and Need, Scope of Analysis Also see Vegetation Treatment Standard Operating Procedures and Guidelines in Chapter 2 of the PEIS and PER for a discussion on passive treatment methods.

RMC-0163-002
Skrine, Eugene

Comment: The use of herbicides is not the only way to meet this need. Preventing the introduction, establishment and spread of invasive plants in the first place is the best approach to meeting the underlying need for action. Why isn't invasive plant prevention addressed and emphasized in this EIS?

Response: The BLM agrees that prevention is the best approach. See Prevention of Weeds and Early Detection and Rapid Response in Chapter 2 of the PEIS and PER for a discussion of prevention and early detection. This discussion has been expanded to better highlight the role prevention takes in an integrated pest management program.

RMC-0172-003
Phillips County Weed Board

Comment: Specifically, the Phillips County Weed Board supports Alternative B. This alternative provides the most progressive approach to the invasive weed issue. Additionally, PEIS is in need of a section addressing Early Detection Rapid Response (EDRR). In Appendix D [of the Draft PEIS], the process to secure a new herbicide is 2+ years. This is unacceptable for EDRR. There must be an approved procedure for EDRR in regard to herbicide use.

Response: See Section on Prevention of Weeds and EDRR in Chapter 2 of the Final PEIS. Also see response to Comment EMC-0566-008 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response. There is nothing in the protocol that precludes the BLM from implementing EDRR with available tools and approved herbicides.

RMC-0200-005
Lindsay, Dianne

Comment: The PEIS/PER fails to address prevention of the weed problem.

Response: See responses to Comment RMC-0218-005 under PEIS Proposed Action and Purpose and Need, Scope of Analysis and Comment RMC-0218-030 under PEIS Alternatives, Description of the Alternatives regarding prevention. Prevention is discussed under Prevention of Weeds and Early Detection and Rapid Response in Chapter 2 of the Final PER and PEIS.

RMC-0210-040
MCS Task Force of New Mexico

Comment: The primary focus of weed control should be on prevention, by minimizing factors that foster weed establishment or spread, such as ground-disturbing activities associated with livestock grazing, logging, mining, road and other construction, and off-road vehicles, as well as only using 100% weed-free seed for revegetation.

Response: See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of weed spread and response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public lands uses. It is BLM policy is to utilize weed-free seed for all revegetation projects.

RMC-0214-029
Natural Resources Defense Council and National Wildlife Federation

Comment: The Singularly Most Effective Strategy is Not Even Considered—Prevention. The BLM in the D[raft] PEIS ignores almost without exception "prevention" as a primary mean to address the spread of invasive species. The most effective treatment within the realm of Integrated Pest Management is preventing the spread of invasive species to begin with—biologically and economically.

Response: As discussed in Chapter 2 of the PER, under Vegetation Treatment Standard Operating Procedures and Guidelines, prevention is identified as the cheapest and most effective weed control method, and prevention and early detection strategies could reduce the number of acres treated for noxious weeds in the future. We have included additional information on weed prevention strategies in the Final PER and PEIS under Prevention of Weeds and Early Detection and Rapid Response.

RMC-0218-005
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: "The purposes of the proposed action are to provide BLM personnel with the herbicides available for vegetation treatment on public lands and to describe the conditions and limitations that apply to their use." (DEIS [Draft PEIS], p, 1-3) This automatically biases the decision toward their preferred action alternative, which is illegal under the National Environmental Policy Act. Such a narrow and mechanistic focus also de-emphasizes the whole range of prevention measures that could be implemented to limit invasive plant introduction and spread, such as weed-free livestock feed requirements; keeping livestock, heavy equipment and off-road vehicles out of invasive weed-infested areas; vehicle inspections and cleaning; limits on forest canopy removal and ground-disturbing activities which encourage invasive exotics; public education and re-planting native plants in disturbed areas, etc.

Response: The Proposed Action (Alternative B; see Chapter 2 of the PEIS) and Purpose and Need (see Chapter 1 of the PEIS) provide the context for the analysis of the alternatives. The alternative analysis compares and contrasts the environmental effects of continuing present practices with regard to herbicide use, the BLM's proposed action to use additional herbicide formulations, the effects that would result if no herbicides were used, the environmental effects on public lands resources if herbicides were used without the techniques of aerial spraying, and consideration of eliminating certain classes of ALS (acetolactate synthase)-inhibiting herbicides. The analysis is appropriate to support the decisions to be made and is not illegal under NEPA. See response to Comment RMC-0167-002 and Comment RMC-0167-007 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding prevention measures. Prevention is discussed under Prevention of Weeds and Early Detection and Rapid Response in Chapter 2 of the PEIS and PER. The BLM *Partners Against Weeds - An Action Plan for the BLM* (USDI BLM 1996) details the prevention measures for the BLM to follow, which include but are not limited to weed-free livestock feed requirements; keeping livestock, heavy equipment and off-road vehicles

out of invasive weed-infested areas; vehicle inspections and cleaning; limits on forest canopy removal and ground-disturbing activities that encourage invasive exotics; public education; and re-planting native plants in disturbed areas. The BLM PAW Action Plan has been implemented for over a decade, and there is no implied de-emphasis in the PEIS of continuing with sound and prudent prevention practices in public lands resource management.

RMC-0218-028
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: Prevention of introduction and dispersal of invasive exotic plants should have been the overriding priority and emphasis in all of the BLM's action alternatives and thoroughly discussed and laid out as a strategic plan – treating symptoms endlessly with more and more toxic herbicide use does not address the causes of the problem and therefore does not meet the purpose and need of the project without a carefully planned prevention program.

Response: Prevention is discussed in Chapter 2 of the Final PEIS and PER (Herbicide Treatment Standard Operating Procedures and Guidelines). The PEIS was developed to assess the impacts of herbicide use in vegetation treatments across a range of activities, including hazardous fuels reduction and habitat enhancement. The purpose of the PEIS was not to develop a strategic plan focusing on exotic plants, as discussed in Chapter 1 of the PEIS under Scope of Analysis.

RMC-0221-018
Center for Biological Diversity

Comment: The proposed project reviewed in the D[raft] PEIS offers none of these preventative measures as vegetation treatments, and it is a major shortfall of the framing of the scope of the project.

Response: See responses to Comment RMC-0167-007 and Comment EMC-0590-010 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding prevention measures. See response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding curtailment of public land uses as a prevention measure.

RMC-0221-019
Center for Biological Diversity

Comment: The BLM also failed to discuss or determine the benefits of passive restoration, including the removal of livestock and off-highway vehicles from weed infested or otherwise disturbed areas. The D[raft] PEIS entirely neglects the effects of livestock on weeds species; and the D[raft] PEIS fails to compare alternatives that incorporate passive restoration treatment.

Response: The benefits of passive restoration are discussed in the PER under Chapter 4, Effects of Vegetation Treatments. The comparison of alternatives in the PEIS is germane to the Proposed Action and Purpose and Need, as stated in Chapter 1 of the PEIS. Passive treatment, where appropriate, is an option that may be considered by the authorized officer in the design for any vegetation treatment project.

RMC-0221-020
Center for Biological Diversity

Comment: While the D[raft] PER does discuss prevention, minimization, and non-chemical treatments, it is entirely unclear how the BLM intended the two documents to relate to each other. For example, the D[raft] PER states that when developing treatment objectives, the BLM will first take actions to prevent or minimize the need for vegetation controls and use effective, non-chemical solutions. However, the D[raft] PEIS proposes the use of herbicides without including any discussion of prevention and minimization or prioritization of non-chemical solutions.

Response: See response to Comment EMC-0505-008 under PEIS Alternatives, Vegetation Treatment Planning and Management.

RMC-0222-022
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: When preventative actions and restoration treatments (potentially including passive treatments) are linked to the judicious use of herbicides, the herbicide use will have far more lasting, positive results (i.e., efficacy) than spraying invasive species while leaving intact the activities that fostered the introduction, establishment and spread of invasive species. This is, in popular parlance, a "no-brainer." Yet this DEIS [Draft PEIS] insists on disconnecting herbicide use from any other management on BLM lands and then purports to estimate the benefits of herbicide spraying apart from other preceding or subsequent non-chemical treatments. The benefits/costs of herbicide use alone versus herbicide use limited and conditioned by priorities for prevention and non-chemical passive and/or active restoration must be analyzed in the [P]EIS.

Response: See responses to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of weed spread, Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on uses of public lands, Comment RMC-0218-005 under PEIS Proposed Action and Purpose and Need, Scope of Analysis, and Comment RMC-0218-030 under PEIS Alternatives, Description of the Alternatives regarding prevention. See Scope of Analysis in Chapter 1 of the PEIS. The management of resource programs is properly addressed through land use planning. Herbicides are used in an integrated pest management context that includes consideration of prevention, non-chemical treatment and passive or active restoration, prior to a herbicide project being proposed.

RMC-0222-034
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: But annual herbicide use prescribed for 900,000 acres by the DEIS [Draft PEIS] is itself a "vegetation and land use management practice." So, given the [P]EIS purpose (i.e., to describe the conditions and limitations that apply to herbicide use), this [P]EIS is the appropriate place in which to analyze the Restoration Alternative's approach to conditioning and limiting use of herbicides, including linking prevention to herbicide use, for its direct, indirect, and cumulative beneficial impacts.

Response: As discussed in Chapter 2 of the PEIS and PER, prevention is an important element of all alternatives, not just the Restoration Alternative's approach. Also see responses to Comment RMC-0222-059 and Comment RMC-0214-029 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response.

RMC-0222-037
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The BLM must analyze the consequences for herbicide use of herbicide treatments being linked to prevention. The DEIS [Draft PEIS] has not done this, and then the BLM expects the public to fund and acquiesce each year to toxic applications on 930,000 acres of the land the BLM is charged with managing each year, even though much of the toxic applications will be doomed to failure because of the BLM's failure to explicitly link their applications of toxic chemicals to prevention of the need for at least some toxic applications.

Response: See response to Comment RMC-0222-024 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients regarding prevention and its relationship to all alternatives. See response to Comment RMC-0167-002 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding project design using herbicides. Herbicides are considered effective in controlling certain vegetation. Herbicide methods are applied under an integrated pest management framework, which includes prevention practices. Claims that the BLM's application of herbicides is doomed to failure are unsubstantiated.

RMC-0222-059
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Chapter 2 of the Programmatic Environmental Report does not indicate that passive restoration treatments would be considered "first" when developing restoration management plans, nor does it indicate that it would be used "to the extent possible within the constraints of FLPMA [Federal Land Policy and Management Act]." It doesn't even use the words passive restoration.

Response: As noted in several places in Chapter 2 of the PER and PEIS, and in particular under Vegetation Treatment Standard Operating Procedures and Guidelines, prevention and early detection of weeds is identified as the cheapest and most effective weed control method. Prevention and early detection are passive restoration techniques that can lead to a reduction in the number of acres that are actively treated. This section also notes that the BLM must manage livestock, recreation, and other land uses to minimize the introduction and spread of weeds.

Alternatives, Revegetation

EMC-0115-006
Steele , Mark

Comment: The most important question I can ask at this time is does BLM have the several million pounds of native grass seed to restore the land immediately after spraying to try and insure cheatgrass does not come back the next year from lack of enough grass competition? If not, then we begin a cycle of spray, plant, and pray, and are at the mercy of the weather and other factors. Those of us with a history of CRP [Conservation Reserve Program] and disturbances from natural gas pipelines, drought years, and competition among weeds and the commercial grasses we planted, would have a concern about starting an ongoing program that may never really see an end. That has to be balanced with the need to fight the invasion of cheatgrass.

Response: See response to Comment EMC-0584-095 under PEIS Alternatives, Herbicide Treatment Planning.

EMC-0115-007
Steele , Mark

Comment: If the BLM does not have on hand several million pounds of the various native grass seeds for the areas in question (and I doubt they do because of the very nature of the grasses and lack of commercial growing), then other grasses will have to be used. A monoculture of thousands of acres of crested wheatgrass may not be much better than the same amount in cheatgrass. The reseeding needs to be done in native species that have evolved over the thousands of years to compete here. Those same species do very well, when established and not disturbed on the surface, against most invasive weeds like cheatgrass. Leafy spurge and a few other specific weeds can infest native grasses, but we are mostly concerned with cheatgrass, which has a hard time competing against established native grasses and plants.

Response: See response to Comment EMC-0623-007 under PEIS Alternatives, Herbicide Treatment Standard Operating Procedures.

EMC-0125-003
Seastedt, Timothy R.

Comment: First, herbicide use, without proactive reseeding and aggressive changes in management, will fail to solve this problem. The work will provide cosmetic, short-term effects only. This is not good science, nor is it effective use of taxpayer resources.

Response: See response to Comment RMC-0222-019 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding the BLM's Integrated pest management approach to vegetation treatments.

EMC-0139-019
Troutman, Doug

Comment: One final comment. The BLM should address a program of acquiring a continuous source of native seeds and plants for restocking wherever fire, chemical or

other means is used to "treat" the land. Only by the total exclusion of such seedings as "Crested Cheatgrass" – crested wheatgrass, will range trends truly improve on the public lands.

Response: See response to Comment EMC-0584-077 under PEIS Alternatives, Herbicide Treatment Planning.

EMC-0234-009
Dremann, Craig

Comment: No herbicide spray program will ever manage the cheatgrass in the Great Basin, because there is no longer a sufficient native seed source in the vicinity to naturally restore the cheatgrass areas after spraying.

Response: It is BLM policy that natural recovery by native plant species is preferable to planting or seeding (BLM Handbook 1742-1 *Burned Area Emergency Stabilization and Rehabilitation*), but where native seedbanks have been depleted, native seed is applied. Also see response to Comment EMC-0584-095 under PEIS Alternatives, Herbicide Treatment Planning.

EMC-0234-013
Dremann, Craig

Comment: In the last decade, the agency has never involved the Ecological Restoration professionals, because their agency annual budget from Congress to manage exotics annually on their land has only been 3 cents per acre. So the lack of exotic plant management funds, and the lack of professional consultation has left the agency without any successful restoration technologies or any knowledge on how to achieve the "Restore Option".

Response: The claim the BLM has never consulted with ecological restoration professionals is unsubstantiated. See response to Comment RMC-0167-008 under PEIS Alternatives, Decisions to be Made and Scope of Analysis.

EMC-0234-016
Dremann, Craig

Comment: Regarding the [Draft] PEIS [PER], Chapter 4, Effects of Vegetation Treatment: 13.) Page 4-26 [of the Draft PER], Standard Operating Procedure: "The goal of revegetation is to stabilize and restore vegetation on a disturbed site and to eliminate or reduce the conditions that favor invasive species." That is a nice statement in the document, but for the last 50 years, BLM has done everything in their power to avoid doing that, by intentionally sowing millions of pounds annually of exotic and invasive non-native invasive species. How can we believe that the BLM, after these documents are approved, will start to do anything that they are claiming in these documents, and not just continue to sow another million pounds of exotic seeds in 2006?

Response: The seed mixtures utilized by BLM, which may include non-native species, are not considered to be exotic species or invasive non-native species. Please refer to Chapter 1 of the PER, Terminology, for definitions of what is considered to be exotic and invasive vegetation. Also see response to Comment EMC-0234-024 under PEIS Alternatives, Herbicide Treatment Planning.

EMC-0234-018
Dremann, Craig

Comment: The issue of fire being useful as a "restoration" tool is only applicable, if there still exists in the soil-seed bank, any of the native understory and fire-colonizing seeds to sprout after the fire. According to a survey of the Great Basin that I conducted in 1997, better than 90% of the Great Basin's native shrub understory (grasses and forbs) has been extinct for such a long period of time (>100 years), that the native seeds in the soil-seed bank have been dead for decades.

Response: Revegetation is discussed in Chapter 2 of the PEIS and PER under Revegetation. It states, "Reseeding or replanting may be required to revegetate sites in which the soil has been disturbed or vegetation removed, and where there is insufficient vegetation or seed stores to naturally revegetate the site." The section further lays out Standard Operating Procedures (SOPs) for the BLM to follow when revegetating sites. These SOPs include using weed-free seed, revegetating soon after treatment is completed, cleaning equipment to remove weed seeds, and using non-natives only when locally adapted native seed is not available. The Native Plant Materials Development program is supported by the BLM fire program. This program is working towards developing an extensive supply of locally adapted native seed for the multitude of ecoregions that the BLM manages.

EMC-0234-019
Dremann, Craig

Comment: Even in areas of BLM land where the native understory plants are still abundant, and are still producing seeds in the Great Basin, there exists a modern paradox-that even if 200 pounds of local native understory seeds per acre were applied to 80% of the Great Basin soils, that the seedlings would not survive. You can see pictures at http://www.ecoseeds.com/good.exaple.html. I'm certain that the $2.3 million USDA/BLM project discovered that dying seedling paradox in their test plots also, at http://www.ecoseeds.com/2.3million.html so I'm referencing their conclusions when they are published, in my comments.

Response: See response to Comment EMC-0623-007 under PEIS Alternatives, Herbicide Treatment Standard Operating Procedures. The Native Plant Materials program covers BLM lands across all states with BLM lands, not just in the Great Basin. The BLM has been consistently increasing their knowledge regarding the planting of local natives through interagency efforts which include pollination studies, genetic variability tests, and development of seed transfer zones.

EMC-0234-022
Dremann, Craig

Comment: BLM has no current knowledge on how to replant local native understory plants (grasses and forbs), and for 50 years BLM has resorted to the sowing millions of pounds of exotic and invasive non-native seeds, in the States that this document covers. Page 4-95 [of the Draft PER] states: "Treatments that control populations of non-native species on public lands would be expected to aid in the re-establishment of native plant species. The use of fire, herbicides, or other treatment methods to simply kill vegetation is often inadequate, especially for large infestations. Thus, the BLM would introduce and establish competitive plants to successfully manage weed infestations and restore desirable plant communities (Jacobs et al. 1999)." Unfortunately, for the last 50 years, to BLM, "Competitive plants" and "Desirable" plant communities also included the sowing of exotic and invasive plant seeds by the millions of pounds per year, like Crested Wheatgrass, Smooth Brome, Intermediate Wheatgrass, etc.

Response: See response to Comment EMC-0234-019 under PEIS Alternatives, Herbicide Treatment Planning.

EMC-0234-023
Dremann, Craig

Comment: All aerial and most hand-seeding of Great Basin understory plants (grasses and forbs) does not work. Page 4-114 [of the Draft PER] states: "Aerial reseeding would also be allowed to restore natural vegetation." Yes, that would be a good plan if it would work, but it doesn't and it will not, as BLM knows it, and that's why that suggestion has no references next to it.

Response: The BLM has found the use of aerial reseeding, especially after wildfire, to be useful and cost efficient. The use of mechanical and manual methods for reseeding

in designated wilderness or Wilderness Study Areas is often precluded by policy and physical restrictions for manual and mechanical methods due to lack of access, terrain, remoteness, and the general incompatibility of mechanical equipment with wilderness and wilderness values. Where revegetation goals allow, aerial reseeding is a cost efficient and effective method of seed dispersal in areas of terrain otherwise inaccessible. Success of any reseeding is dependent on several factors, including but not limited to available moisture, soil characteristics, and time of year. Reseeding provides an opportunity to revegetate unstable soils and control erosion following fire, to reduce potential degradation of wilderness values.

EMC-0234-024
Dremann, Craig

Comment: Herbicides cannot restore native vegetation or restore natural ecosystem processes. Page 4-163 [page 4-136 of the PER] states: "Herbicides would be used to treat vegetation to... restore native vegetation, and restore natural ecosystem processes," but there's no supporting documents. It's as if BLM has a big wish for that to happen, but all the Ecological Restoration professionals know that herbicides will not restore the native vegetation or restore the native ecosystem processes in the Great Basin. The only option is seeding of the local native understory (grasses and forbs).

Response: It is true that seeding is an important component of restoration in the Great Basin. Several long-term projects are currently in place in the Great Basin under the auspices of the Great Basin Restoration Initiative (Great Basin Native Plant Selection and Increase Project, Integrating Weed Control and Restoration, A Regional Experiment to Evaluate Effects of Fire and Fire Surrogate Treatments in the Sagebrush Biome). These projects are making great strides in restoration with and without herbicides. Results will most likely vary due to site-specific variables, but seeding will most certainly be a component leading to success. At the local level, the integrated weed management process will help the BLM determine the appropriate combination of treatment and restoration requirements, including type of seeding.

To ensure that suitable native species are made available, the Native Plant Materials Development program (a Congressionally directed interagency program) has been in place since 2001. This program is funded primarily through federal fire appropriations (emergency fire rehabilitation funding). Its purpose is to manage and supply native plant materials for use in federal land for rehabilitation and restoration efforts. Creating a native plant material supply takes time, research into the use of the proper locally adapted seed, and a long-term commitment to reach the supply level required. Efforts have been successful in moving toward such a goal; commercial native grass seed growers are on the increase.

EMC-0238-008
California Partners in Flight

Comment: CalPIF supports another recommendation in Alternative E that we believe will be a critical component of success for the herbicide treatment program. In the overarching discussion covering all of the Alternatives, BLM has taken the position that it will only use native plants in its post-treatment vegetation work. CalPIF strongly supports that position. We urge BLM to resist using non-native plant species in post-treatment revegetation other than as an initial step in the long-term establishment of native vegetation. We support the following recommendations for the use of native plants put forth under the Revegetation section of Alternative E, and recommend they be incorporated as part of the final planning document:

- In revegetation efforts, whenever it is possible to do so, use native seed and seedlings that have been grown from seeds of locally adapted populations.
- If native seeds/plants are not available, revegetation projects will rarely be undertaken until native plant seed or plants become available. Non-native

plant species will be used only in extremely degraded/severely altered systems as an intermediate step toward/placeholder for native restoration.

- When reseeding with non-native species, certification must be provided that only species that have been documented as non-persistent are present in the seeding mixture.

Response: See response to Comment EMC-0584-077 under PEIS Alternatives, Herbicide Treatment Planning. BLM policies are in concert with the majority of recommendations listed in this comment. Revegetation projects may need to take place prior to native seed availability, though, to ensure stability and reduce risk of noxious weed infestation. Once seed is available, restoration efforts would take place based on the local office priorities. The BLM also has policy that no noxious or invasive plant seeds be part of seed mixtures (established both in BLM Handbook 1742-1 [*Burned Area Emergency Stabilization and Rehabilitation*] and a 2006 Instructional Memorandum).

EMC-0446-042
The Nature Conservancy

Comment: In much of the Intermountain West where downy brome (*Bromus tectorum*) has invaded, fire frequency has been greatly increased, leading to the destruction of native plant and animal communities and the perpetuation of downy brome domination. Projects to restore healthy native plant communities as well as to restore historic fire regimes are needed in these areas in addition to or instead of fuels treatment projects. Only one paragraph ([Draft[PER [page] 2-3) discusses the BLM's native plant initiative, which has a goal of increasing native seed production for restoration use on 500,000 acres per year. The amount of seed production projected appears to be inadequate to meet the needs of fire rehabilitation (which treats 1.5 million acres per year), resource management needs (1.0 million acres per year) and restoration of historic fire regimes in altered landscapes (over 1.0 million acres per year). The PER should integrate the goals and funding of this program with both the fuels reduction and the burned area rehabilitation programs in these documents.

Response: Fuels treatments reduce hazardous fuels to a level where restoration of healthy plant communities and the return of more natural fire intervals will be successful. Without such treatments, restoration projects may fail as a result of unnaturally intense wildfire. The initiative referred to in the comment is the Great Basin Restoration Initiative, and the acreage referenced is only applicable to the Great Basin. On a larger scale, the Native Plant Materials Development program is a Congressionally-directed program that has been in place since 2001 and is funded primarily through federal fire management appropriations (emergency fire rehabilitation funding). Its purpose is to develop a program to manage and supply native plant materials for use in rehabilitation and restoration efforts on federal land. Creating a native plant material supply requires time, use of the appropriate locally adapted seed, and a long-term commitment to reach the supply level required. So far, efforts have been successful in moving toward program goals; commercial native grass seed growers are on the increase.

EMC-0498-008
Vallone, Cheryl L.

Comment: Follow all control efforts with restoration of native plant species.

Response: Revegetation of disturbed or treated sites is discussed in Chapter 2 of the PER under Vegetation Treatment Standard Operating Procedures and Guidelines.

EMC-0541-012
Associated Oregon Loggers

Comment: Herbicide use must be an available tool to direct rapid establishment of reforestation, and "free-to-grow" status, after any harvest or stand damage. The current BLM reforestation backlog of poorly-stocked stands is abysmal, in part due to

unnecessary herbicide use obstacles. This problem must be corrected to accomplish forest sustainability. Such a backlog is illegal for non-federal forest landowners in Oregon. Why do BLM managers blatantly disregard Oregon reforestation law? You might not be aware that the Oregon Forest Practices Act requires any landowner [including BLM] to reforest stands to "free to grow" standards within six years of completion of commercial activities, when stocking levels drop below legal standards. [Refer to ORS 527.745 and OAR 629-610-0000 to 629-610-0090]. While the BLM seldom harvests many burned areas, nonetheless commercial activities do occur across these burned forests—which might be construed as commercial [such as a single tree planting, fireline construction, contract firefighting, erosion control, riparian improvement, or grass seeding].

Response: The BLM agrees that successful reforestation is a vital component of a sustainable forest management program. And in certain situations, the use of herbicides to control competing vegetation is an important tool toward ensuring timely and successful reforestation. While the BLM strives for timely reforestation of all forest lands following commercial harvest activities and catastrophic events, such as wildfire, the federal government is not subject to state law unless Congress explicitly directs it. Congress has not made the public lands in Oregon subject to the Oregon Forest Practices Act. The focus of the PEIS and PER is on restoring the health and vigor of vegetation communities on BLM-administered lands. As such, these documents do not address the need for rapid reforestation following commercial timber harvest activities. The use of pesticides to promote forest growth on BLM-managed lands in western Oregon will be addressed in the step down NEPA process that will follow the completion this PEIS and PER.

EMC-0584-012
Western Watersheds Project

Comment: We are alarmed that BLM in the PEIS avoids focus on treating the extensive crested wheatgrass and other seedings that have so altered and largely destroyed wildlife habitats, and which often form the basis of stocking excessive numbers of livestock that also affect native vegetation in or near these seedings. Many crested wheatgrass seedings that resulted in the aftermath of past treatments have become infested with cheatgrass, halogeton or other weeds and now contain continuous fine fuels. In many seedings, exotics such as crested wheatgrass have been planted at unnaturally thick densities, and thus present an increased fire risk, or have significant components of cheatgrass in understories. Large wildfires sweep across such seedings - as in the 2005 Clover fire in the Jarbidge Field Office. The harm and fragmentation of native species habitats caused by these seedings must be assessed – as it is important to in understanding their role in habitat fragmentation on top of the extensive alterations of habitat proposed by BLM under the DEIS [Draft PEIS]/PER. Both the Jarbidge and Burley BLM lands provide a perfect example of a woefully fragmented landscape where crested wheatgrass seedings have greatly fragmented sage grouse habitats across middle to lower elevations, and many are in very poor condition and have rampant cheatgrass, halogeton and other problems – as well as loss of forage. Yet, in Burley, BLM persists in promoting the killing of native vegetation (junipers, mountain big sagebrush, pinyon, and other species) in the Jim Sage and other areas, while ignoring the habitat loss, and weed and fire risks, posed by the crested wheatgrass and other purposefully altered lands, including those BLM itself "treated" with fire and which have become weedlands. The Weed [P]EIS/PER continues blindly down this same path.

Response: The Scope of Analysis in Chapter 1 of the PEIS states that it does not address vegetation treatments exclusively designed to increase forage production, which was the objective of many past crested wheatgrass seedings. But the commenter

should be aware that as part of management to move toward or exceed rangeland health standards, many BLM offices are now treating crested wheatgrass seedings by adding additional native forbs and shrubs to those old seedings.

Historically the BLM did use non-natives at a greater scale than it does currently. While it is true that non-natives still can be used by the BLM, their use is primarily for emergency stabilization to reduce erosion after disturbance, since native species can take longer to become established. The BLM has committed to the use of natives, as established in policy. Use of crested wheatgrass as part of seed mixes containing native and non-native species may still occur, but must meet BLM policy requirements listed in BLM Manual 1745 (*Introduction, Transplant, Augmentation and Reestablishment of Fish, Wildlife and Plants*). This manual states, "Native species shall be used, unless through the NEPA process it is determined that: 1) suitable native species are not available; 2) the natural biological diversity of the proposed management area will not be diminished; 3) exotic and naturalized species can be confined within the proposed management area; 4) analysis of ecological site inventory information indicates that a site will not support reestablishment of a species that historically was part of the natural environment; or 5) resource management objectives cannot be met with native species. Also, seeding must meet BLM policy requirements established in BLM Handbook 1742- 1 (*Burned Area Emergency Stabilization and Rehabilitation*), which requires the use of a native/non-native worksheet that must document the rationale for using non-native plants and lists criteria for selecting native plants for revegetation.

EMC-0584-030
Western Watersheds Project

Comment: BLM must focus significant treatment and restoration efforts and spending of federal fire funds on restoration of native species composition and function to crested wheatgrass that has been rampantly seeded as following ill-conceived sagebrush removal or as post-fire "rehab", and lands overrun by cheatgrass. The current abundance of federal fire funds should be used to follow-through on BLM post-fire rehab actions that have failed in the past (please evaluate all seedings and identify failures and causes of failure), or where crested wheatgrass and other exotics were planted as a first step in arid lands rehabilitation.

Response: See response to Comment EMC-0584-077 under PEIS Alternatives, Herbicide Treatment Planning.

EMC-0584-031
Western Watersheds Project

Comment: BLM should use this [P]EIS/PER as an opportunity to complete post-fire rehabilitation that has failed or had poor results on likely tens of millions of acres across the arid West. As part of this [P]EIS/PER process, BLM should identify all lands where post-fire rehab/"emergency" stabilization with crested wheatgrass, intermediate wheatgrass and other exotics was conducted, and prioritize treatment of these lands to return them to native vegetation and restore natural fire cycles.

Response: See response to Comment EMC-0584-077 under PEIS Alternatives, Herbicide Treatment Planning. Restoring the ecological role of fire is required under federal fire policy. Monitoring of post fire stabilization and rehabilitation has been established in BLM Handbook 1742-1 (*Burned Area Emergency Stabilization and Rehabilitation*). Areas that are identified as needing restoration of native vegetation will be prioritized, and restoration will be implemented based on goals and objectives established in the local land use plan.

EMC-0584-036
Western Watersheds Project

Comment: As part of this [P]EIS, BLM must consider restoration of native vegetation on all lands initially seeded to exotics in past or future ESR [Emergency Stabilization and Rehabilitation] activities. This NEPA document should include a timetable for accomplishing this.

Response: All ESR activities utilize certified weed-free seed. Depending on availability, native seed is used where appropriate. ESR activities are required to be funded and completed within 3 years of a fire event.

EMC-0584-077
Western Watersheds Project

Comment: BLM must commit to mandatory use of native species, and local ecotypes not over-sized cultivars, in all post-treatment plantings. BLM cannot rely on the old excuse of seed being unavailable or too expensive for use. Use of all native seed with commitments to reseed repeatedly must be part of the planning and funding for all projects. Planned development of reliable supplies of native ecotype seed sources is essential.

Response: See responses to Comment EMC-0584-012 under PEIS Alternatives, Herbicide Treatment Planning and Comment EMC-0446-042 under PEIS Alternatives, Herbicide Treatment Planning.

EMC-0584-091
Western Watersheds Project

Comment: Use of Native Species: BLM must commit to use native species in all restoration seedings in all instances. In the past, BLM has used exotic, soil depleting crested and Siberian wheatgrasses, and aggressive, invasive, weedy forage kochia and intermediate wheatgrass. Instead of focusing on larger exotic plants (primarily because they produce livestock forage, no matter how limited its palatability), BLM must use natives, especially species like Poa sandbergii, bottlebrush squirreltail and Indian ricegrass in lower elevation sites. In the past, BLM has failed to rest lands for sufficient periods of time to allow successful establishment of seeded native species.

Response: See response to Comment EMC-0584-077 under PEIS Alternatives, Herbicide Treatment Planning.

EMC-0584-092
Western Watersheds Project

Comment: As part of this [Draft] [P]EIS, please provide a science-based (not livestock-forage-based, but ecological science-based) assessment of predicted establishment times for seedings or recovery of native vegetation under the various environmental settings, and include in this predictions of "success" with specific livestock rest periods much greater than are now applied. Please also thoroughly describe and assess the ecological impacts of the exiting seedings – impacts on soils, waters, vegetation, weeds, native biota, recreational and cultural concerns.

Response: See response to Comment EMC-0584-077 under PEIS Alternatives, Herbicide Treatment Planning. The Native Plant Materials Development program is scientifically based and is incorporating studies that have already and will continue to provide information on seed establishment and recovery at the regional or local level. The recommendations made in this comment are best performed at the local level using data specific to seeding sites. Effects analyses will be performed during the site-specific NEPA process.

EMC-0584-093
Western Watersheds Project

Comment: BLM must closely study the lessons provided by the bluebunch wheatgrass seeding in an ungrazed area near Kuna Butte in the Four Rivers FO [Field Office] – and any examples the agency may have across the West. Due to no grazing occurring for a decade, seeded bluebunch wheatgrass was surviving and thriving at low elevations. In addition, please use existing exclosures as reference areas for

comparison of effects of no grazing for several years following a fire, vs. BLM's typical woefully inadequate 2 growing season's rest. There are also exclosures in the Jarbidge FO that can serve as reference sites and comparative examples. One is located north of Winter Camp Butte, others are near Roseworth. Please visit these sites, and quantify the differences between vegetation inside and outside these exclosures, and use this information in developing a realistic time frame for livestock exclusion from seeded lands.

Response: The BLM has established numerous reference locations and key use areas throughout the West in relation to allotment monitoring and other program requirements (e.g., wildlife habitat). Each state in the West has specific examples of these types of reference areas that are utilized by field office resource specialists in the planning of future treatments. BLM policy is two growing seasons or until the specific restoration objectives are met for that site. The authorized officer has the administrative flexibility to extend grazing closures longer than two growing seasons to allow for recovery of vegetation and habitat resources.

EMC-0584-095
Western Watersheds Project

Comment: BLM must use some of its burgeoning fire funding to set up a reliable network and system for supply and storage of native seed, including locally adapted ecotypes, so that this native seed is readily available in the wake of fire. BLM will then no longer have the time-worn excuse that "we couldn't get native seeds, so had to plant cwg". It is time to act responsibly, and apply federal fire funds to setting up a reliable system of seed supply. BLM must also commit to re-seeding of natives in subsequent years, if initial seeding attempts are not successful due to drought or other factors. This must be factored into any

Response: See response to Comment EMC-0446-042 under PEIS Alternatives, Herbicide Treatment Planning. Monitoring, as required under BLM Handbook 1742-1 (*Burned Area Emergency Stabilization and Rehabilitation),* would help to determine if re-seeding is necessary. The National Seed Warehouse has been supplying a variety of tested seed through Memoranda of Understanding with Great Basin states.

EMC-0584-097
Western Watersheds Project

Comment: BLM claims it may reseed or replant areas with "desirable" vegetation when the plant community cannot receive and occupy the site sufficiently. BLM provides no methodology or protocol used for making such determinations.

Response: See responses to Comment EMC-0584-012 and Comment EMC-0446-042 under PEIS Alternatives, Herbicide Treatment Planning.

EMC-0584-113
Western Watersheds Project

Comment: Low elevation sagebrush-steppe communities may require a decade or more, and repeated seeding efforts during periods of favorable weather, to allow re-establishment of native vegetation. The [P]EIS plan must address these necessary periods of rest, and not base its actions on the convenience of the livestock industry.

Response: The BLM agrees that lower elevation and lower precipitation sagebrush-steppe communities often require greater effort to establish the desired native vegetation. As a result of the lower precipitation available, the appropriate conditions for seed germination and seedling survival in these harsh environments may not occur every year. Therefore, reclamation efforts may not respond as quickly as they would in areas where favorable conditions for establishment of the desired vegetation occur more frequently. We agree that the manager must plan for additional effort and possibly additional rest from livestock grazing to promote recovery of these lower elevation areas; however, this planning must be based on site-specific monitoring and

prescribed at the local level. In most cases we would expect the recovery to occur sooner than the 10 or more years indicated by this comment.

EMC-0584-115
Western Watersheds Project

Comment: What About Restoration? "Rehabbing" in the BLM sense, is vastly different from restoration to a full component of native vegetation and ecological processes. Under what circumstances will BLM undertake Restoration?

Response: The need for restoration is determined by the local field office based on resource conditions and circumstances (e.g., catastrophic fire).

EMC-0623-007
Defenders of Wildlife

Comment: Native Species in Restoration. Restoration efforts should include native species. Since one of the outstanding obstacles to the use of native species is seedstock availability, BLM should develop models to predict the species needed to restore the native vegetative communities that have been displaced by invasive species, conduct an inventory of available native seedstocks and work with relevant agencies and organizations (such as the Natural Resources Conservation Service and local Natural Heritage Programs) to build capacity to identify and utilize native species in restoration efforts.

Response: See responses to Comment EMC-0584-012 and Comment EMC-0446-042 under PEIS Alternatives, Herbicide Treatment. The Native Plant Materials Development program is scientifically based and is incorporating studies that have already and will continue to provide information on seed establishment and recovery at the regional or local level. The program involves numerous organizations at all levels, and is coordinated by the Plant Conservation Alliance. The Plant Conservation Alliance promotes rehabilitation, restoration, and conservation activities through partnerships with other federal agencies, state governments, tribes, and the private sector.

EMC-0623-014
Defenders of Wildlife

Comment: Follow all control efforts with restoration of native plant species. Native species restoration is particularly critical in habitats for rare, declining and listed species. Where this is not practicable due to seed availability, all plantings must be ecologically appropriate and pose low risk of invasiveness.

Response: See response to Comment EMC-0623-007 under PEIS Alternatives, Herbicide Treatment Standard Operating Procedures. Restoration projects are developed at the local level using interdisciplinary teams, including biologists, to ensure that ecologically appropriate actions are developed.

EMC-0646-230
Californians for Alternatives to Toxics

Comment: The omission of re-vegetation, in the forms of grasses and forbs, from the proposed action will not achieve the desired conditions of a "biologically and structurally diverse forest" as described in the FEIS [Draft PEIS]. The herbal layer will most likely consist of significant areas dominated by annual exotic grasses and weeds, which contribute to catastrophic fire, soil destabilization, and increased soil moisture loss. This will defeat the BLM's very justification for the proposed actions. If the PEIS is not altered to avoid these consequences, an analysis of their effects must be undertaken due to the significant impacts that may be anticipated. This concern was not addressed in the PEIS.

Response: Revegetation of sites is discussed in Chapter 2 of the Final PEIS and PER under Revegetation.

FXC-0071-011
Campbell, Bruce

Comment: Will any genetically engineered (crossing the trans-species barrier to natural reproduction) grasses, turf, plants, or trees be used in revegetating any sites on BLM land which have undergone "vegetation treatments"?

Response: No. BLM has not used genetically engineered or modified plants in its revegetation projects in the past and the use of genetically engineered plants in the future is not proposed under this PEIS.

RMC-0006-029
Central Sierra Environmental Resource Center

Comment: Page 2-15 of the [Draft] PEIS states, "Disturbed areas may be re-seeded or planted with desirable vegetation when the native plant community cannot recover and occupy the site sufficiently." Repeated seeding or planting of native vegetation and animals should be required until self-sustaining native vegetation and wildlife communities, free of exotic invasive weeds, become established. This should be a requirement for any project, not an option.

Response: One of the goals of any vegetation treatment or project is to ensure that disturbed non-target vegetation has the capability to recover its native plant community and sufficiently occupy the site free of exotic species or weeds. The statement found under Herbicide Treatment Standard Operating Procedures in Chapter 2 of the Draft PEIS refers to the BLM prevention practice to ensure that areas disturbed as a result of vegetation treatments or by projects are either reseeded or planted with desirable vegetation. In this case it is a requirement, rather than an option, that one or the other prevention measures be accomplished. Depending on the objective of the treatment, seeds or plants that will directly compete with noxious weeds may be either native or non-native species, depending on the circumstances and availability of native seed and/or plant stocks. The need to repeat seeding or planting of desirable vegetation is determined on the success of the initial treatment and establishment of desired vegetation, based on monitoring.

RMC-0040(1)-007
Resource Concepts, Inc.

Comment: Pg. 2-25, in Table 2-4 [of the Draft PER] Vegetation Treatment Methods Standard Operating Procedures and Guidelines, vegetation section for Mechanical treatments, there is a SOP [Standard Operating Procedure] to use plant and seed stock from appropriate elevations when conducting revegetation activities. This SOP should also apply to Fire Use and Chemical Control when seeding is necessary.

Response: The suggested rewording has been incorporated into the Final PER in Table 2-5.

RMC-0067-005
Wyoming Outdoor Council

Comment: The following scenario is readily imaginable. An area is sprayed with herbicides killing essentially all broad-leafed vegetation, or perhaps all vegetation. Then the area is seeded to an introduced grass such as crested wheatgrass. This has been the exact scenario that has played out on BLM lands for at least the last 50 years. But the effect of this scenario is to create another monoculture of an introduced species, crested wheatgrass, which is by no means clearly an improvement over what may have been there beforehand, even if it was a noxious weed. If this scenario is possible, BLM needs to provide evidence that crested wheatgrass monocultures are a desirable change in the vegetation community. In the view of many (including many scientists), a monoculture of crested wheatgrass is as noxious and ecologically undesirable as a monoculture of cheatgrass [downy brome]. It certainly will have no lesser impacts on native species and native ecosystems. Again, the programmatic EIS does not appear to ensure that the result of the herbicide spraying is to not replace one introduced species with another introduced species, a pyrrhic victory at best.

Response: Development of forage for livestock, such as through crested wheatgrass seedings, is beyond the scope of this PEIS, as stated in Chapter 1 of the PEIS under Scope of Analysis. The scenario described in the comment does not accurately represent the intent of vegetation treatments conducted by the BLM. Seedings, such as crested wheatgrass, are developed typically through mechanical treatment of the soil and vegetation through chaining or plowing and ripping, in much the same way an agricultural field is prepared and planted with seed to grow a crop. The BLM does not spray vegetation to kill it only to replace it with a monoculture seeding of crested wheatgrass. An important difference between crested wheatgrass and downy brome is that the latter is an invasive species and crested wheatgrass is not. Downy brome also has little forage value, where crested wheatgrass has high forage value for livestock. Seedings developed for forage are designed and implemented based on land use plan objectives. Seedings, such as would be addressed under this PEIS would fall under Emergency Stabilization and Rehabilitation (ES&R), and would utilize pre-emergent herbicides to retard the growth of downy brome, prior to seeding with an appropriate seed mix in order to increase the competitive advantage of the native vegetation. ES&R seedings are not typically monocultures of crested wheatgrass; rather, they are an appropriate grass and forb species mix to stabilize the soils and provide a favorable environment for reestablishment of native vegetation.

RMC-0067-006
Wyoming Outdoor Council

Comment: BLM needs to explain more clearly what exactly will replace the invasive species it is targeting and how that will be achieved. What species will replace the invasive species, or will bare dirt or another suite of weeds or introduced species be the result? Over what time frame will this occur—will the replacement of undesirable species be immediate or occur over time, by natural revegetation? How will this change occur—will BLM actively plant native species to replace the invasives, plant other introduced species such as crested wheatgrass, or simply allow natural succession to occur? When and where will various options be used? What impact will budget limitations have on what is done? What scientific basis is there for pursuing any of these routes and claiming that they will be successful? The environmental impact statement needs to answer these questions before a proposed action can be properly chosen.

Response: Revegetation is discussed under Revegetation in Chapter 2 of the PEIS and PER. The BLM has committed to the use of natives for revegetation, as established in policy. BLM Manual 1745 (*Introduction, Transplant, Augmentation and Reestablishment of Fish, Wildlife and Plants*) states, "Native species shall be used, unless through the NEPA process it is determined that: 1) suitable native species are not available; 2) the natural biological diversity of the proposed management area will not be diminished; 3) exotic and naturalized species can be confined within the proposed management area; 4) analysis of ecological site inventory information indicates that a site will not support reestablishment of a species that historically was part of the natural environment; and 5) resource management objectives cannot be met with native species." Also, seeding must meet BLM policy requirements as established in BLM Handbook 1742-1 (*Burned Area Emergency Stabilization and Rehabilitation*), which requires the use of a Native/Non-native Worksheet that must document the rationale for using non-native plants, and lists criteria for selecting native plants for revegetation.

To ensure that suitable native species are made available, the Native Plant Materials Development program (a Congressionally directed interagency program) has been in place since 2001 and is funded primarily through federal fire appropriations (emergency fire rehabilitation funding). Its purpose is to develop a program to manage

and supply native plant materials for use in rehabilitation and restoration efforts on federal land. Creating a native plant material supply takes time, research into the use of the proper locally adapted seed, and a long-term commitment to reach the supply level required. Efforts have been successful in moving toward such a goal; commercial native grass seed growers are on the increase.

Revegetation specifics must be determined at the local level, where knowledge, expertise, and site-specific research can be used to determine the best means of revegetation after treating invasives. The scientific basis for restoration is a growing field, and the latest studies can be accessed by local project planners from such journals as Restoration Ecology.

RMC-0067-008
Wyoming Outdoor Council

Comment: Emphasis should be given to promoting the establishment of native plant species and communities.

Response: See response to Comment EMC-0584-077 under PEIS Alternatives, Herbicide Treatment Planning.

RMC-0213-017
California Native Plant Society

Comment: BLM introduces non-native seeds to a variety of habitats such as prairies. CNPS [California Native Plant Society] believes that BLM's seeding program should be assessed before or along with proposals to spray herbicides to manage non-native plants. Introductions include alfalfa, crested wheatgrass, sweetclover, white and subterranean clover, tall fescue, smooth brome, non-native pines, and Norway spruce. The BLM Seed Guidebook recommends many non-native grasses and forbs for "rehabilitation and conservation seeding," including many species considered to be moderately to highly invasive in natural ecosystems by the Exotic Pest Plant Councils, U.S. Fish and Wildlife Service, National Invasive Species Council and Executive Order No.13112 concerning Invasive Species.

Response: BLM Instruction Memorandum (IM) #2006-073 dated 1-27-06 directs the use of weed-free seed on lands administered by the BLM. The IM addresses all BLM programs which place seed or approve the placement of seed on public lands as well as addressing the quality of seed purchased by BLM for use on public lands. In addition, BLM Manual Section 1745 (1992) establishes policy and guidance for transplantation, augmentation, and reestablishment of habitat on public land utilizing native, and when necessary, introduced plant species. All BLM field offices are required to use seed on public lands that contain no noxious weed seed and meets certified seed quality. All seed applied on public land must have a valid seed test, within 1 year of the acceptance date, from a seed analysis lab by a registered seed analyst (Association of Official Seed Analysts). The seed lab results shall show no more than 0.5% by weight of other weed seeds; and the seed lot shall contain no noxious, prohibited, or restricted weed seeds according to state seed laws in the respective state(s). All seed procured for use on public land meets the Federal Seed Act criteria. In addition, BLM state contracts for seed may be more restrictive with "other weed seeds" of concern as deemed necessary. This includes all donated seed or seed used for "mitigation or restoration" by contractors per reclamation plan must meet BLM's noxious weed seed policy prior to use on public lands. BLM does allow an exemption for small reclamation projects, less than 20 acres (not to exceed 200 pounds of seed) which have an approved BLM reclamation or rehabilitation plan or permit. This IM also includes straw or mulches applied as part of seeding, stabilization, rehabilitation, or restoration projects on public lands must be certified weed seed-free.

RMC-0222-039
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The Restoration Alternative proposes that revegetation may be needed, and that the revegetation use native seeds/plants (DEIS [Draft PEIS] [Appendix G page] G-16):

> Action- Revegetation 1
> In revegetation efforts, whenever it is possible to do so, use native seed and seedlings that have been grown from seeds of locally adapted populations.
>
> Action- Revegetation 2
> If native seeds/plants are not available, revegetation projects will rarely be undertaken until native plant seed or plants become available. Non-native plant species will be used only in extremely degraded/severely altered systems as an intermediate step toward/placeholder for native restoration, accompanied by a full commitment to complete restoration of native species. This commitment must include funds set aside as part of the project, with specific deadlines for accomplishment.
>
> Action- Revegetation 3
> When reseeding with non-native species, certification must be provided that only species that have been documented as non-persistent are present in the seeding mixture.
>
> Action- Revegetation 4
> Assure availability of native seed and plants:
> 1. establish BLM contracting systems that will provide growers the necessary assurance their native, locally-adapted seed plants will be purchased if grown
> 2. establish sufficient storage facilities for native seeds for major revegetation efforts.

The DEIS [Draft PEIS] does not include these revegetation considerations in its Alternative E ([page] 2-13 [of the Draft PEIS]), which is supposedly "based" on the Restoration Alternative. Alternative B (BLM's Preferred Alternative; [Draft PEIS page] 2-11) does not mention use of native vegetation for reseeding/revegetation linked to herbicide use.

Response: Revegetation of disturbed or treated sites is discussed in Chapter 2 of the Final PEIS and PER under Vegetation Treatment Standard Operating Procedures and Guidelines.

RMC-0222-040
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The DEIS [Draft PEIS] needs to examine the results of where revegetation with and without native seeds has been linked to herbicide use on BLM lands or in the scientific literature in order to compare Alternative B with the Restoration Alternative for its cumulative consequences for subsequent herbicide use.

Response: See response to Comment EMC-0584-051 under PER Vegetation Treatment Programs, Policies, and Methods, Programs, Policies, and Initiatives Influencing Vegetation Treatment Activities. See Appendix I of the Final PEIS for a comparison of the Preferred Alternative (Alternative B) to the No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients (Alternative E).

RMC-0222-042
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: However, at [Draft PEIS page] 4-61, under "Impacts by Alternative", the DEIS [Draft PEIS] proposes no plan to revegetate with native vegetation:

Herbicides would be used on rangelands dominated by annual grasses such as downy brome and medusahead, followed by revegetation with perennial grasses and forbs.

The DEIS [Draft PEIS] doesn't state whether the perennial grasses and forbs will be exotic or native.

Response: See response to Comment RMC-0222-039 under Alternatives, Revegetation. As discussed in this section of the PEIS, the BLM attempts to select species that are native or adapted to the area when revegetating a site. Non-native species are used only when locally adapted native seed is not available.

RMC-0222-044
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The above passage (and DEIS [Draft PEIS]) fails to note a major reason herbicide activity may not result in native vegetation: Often there are virtually no native seed sources remaining in a large, highly invaded site (e.g., where cheatgrass or star thistle form a near-monoculture over hundreds or thousands of acres). DEIS [Draft PEIS] fails to analyze on what proportion of the estimated 900,000 acres of annually sprayed acres revegetation might be needed based on its own experience of the failure of herbicide use to promote the establishment of native species.

Response: For purposes of analysis, the BLM estimated the number of acres that may potentially treated with herbicides on an annual basis. The proportion of these acres requiring revegetation is unknown at this time and cannot be summarized at this scale of analysis. Site-specific requirements for revegetation would be identified in the overall treatment project proposal at the time the treatment is proposed.

RMC-0222-046
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The DEIS [Draft PEIS] fails to analyze the Restoration Alternative's explicit commitment to seeding with native species and its commitment to developing an institutional availability/storage of native seeds for revegetation. The Restoration Alternative's use of native species for revegetation as a condition/limitation on use of herbicides must be examined.

Response: See responses to Comment RMC-0222-042 and Comment EMC-0115-007 under PEIS Alternatives, Herbicide Treatment Planning, and Comment EMC-0623-007 under PEIS Alternatives, Herbicide Treatment Standard Operating Procedures.

Alternatives, Special Status Species

EMC-0338-007
Dow AgroSciences

Comment: Comments on the use of herbicides around Threatened and Endangered species: Herbicides can benefit threatened and endangered (T&E) species by controlling noxious and invasive weeds that otherwise adversely alter habitats making them less suitable for T&E organisms. There are herbicides that are selective and will control noxious or invasive plants without harming T&E species. Generalizations that herbicides should not be used around T&E species ignores the potential value of herbicides to help restore T&E habitats. An additional important aspect is that the spread of invasive plants is a greater threat to some T&E species than the use of a selective herbicides. For example, use of herbicides that control sensitive invasive broadleaf species could be used around T&E grass species. Both Dr. Rod Lym, North Dakota State University, and Dr. Joe DiTomaso, University of California, have conducted field research that support this beneficial effect of herbicides in improving or preserving T&E habitat quality. Additionally, some measure of unintentional

damage to T&E species should be articulated where non-herbicidal approaches are taken. Mechanical removal of invasive plants will likely disturb habitats and possibly physically damage T&E species.

Response: The BLM agrees that the use of herbicides can benefit T&E and other special status species. The PEIS does not generally conclude that herbicides should not be used around T&E and other special status species. The PEIS discloses the effects of herbicide use on these sensitive species and provides recommendations in the form of Standard Operating Procedures for mitigation of impacts. The BLM proposes to use the conservation measures outlined in the Biological Assessment to protect sensitive and federally-listed species and critical habitats. NEPA analysis and consultation will also take place at the local level, potentially allowing for use of selective herbicides and incorporation of additional protective measures for listed and other special status species. Any action implemented under this PEIS that "May Affect" an Endangered Species Act (ESA)-listed species will be subject to the consultation requirements under section 7(a)(2) of the ESA.

EMC-0446-009
The Nature Conservancy

Comment: The PEIS and PER should reference and utilize the many recovery and conservation plans that apply to Federally listed and rare species found on public land for restoration goals needed to assist in species recovery. In some cases, restoration of historic fire regimes, without other significant habitat restoration, may lead to additional decline of species of concern.

Response: This comment pertains to plans that will be consulted on a site-specific and species-specific basis after the PEIS has been approved. Many federal recovery plans for listed species are referenced in the Biological Assessment that has been issued as a supporting document to the PEIS/PER. Other recovery and conservation plans will be consulted at the local level when developing treatment programs and participating in consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service. The potential for adverse effects to special status species that occur within a project site will be considered before conducting vegetation treatments, including the use of fire.

EMC-0446-067
The Nature Conservancy

Comment: All special status species should be surveyed prior to designing any vegetation treatment. Treatments should be designed to conserve and restore habitats for special status species in addition to avoiding or minimizing adverse effects to these species. Additional guidance should be provided to plan projects that will conserve and restore habitats used by Birds of Conservation Concern (USFWS 2002).

Response: As noted in Chapter 2 of the PEIS and PER, under Special Precautions, Special Status Species, surveys are conducted for special status species to ensure that BLM vegetation treatment actions have minimal impact upon these species. When planning projects, the BLM generally strives to implement projects that benefit a broad range of resources, including bird and other wildlife special status species. Guidance to conserve and restore habitats by Birds of Conservation Concern would be developed at the local level.

EMC-0467-005
Garvey, Lydia

Comment: It's also extremely concerning that endangered, threatened, sensitive species would be certainly be killed, violation of the ESA [Endangered Species Act]!!! Herbicide use Must be Prohibited for use in riparian areas, aerially, or in Wilderness Areas, ORVs [off-road vehicles] must be restricted also. Biocontrols (exotic) must Not be released in the wild without stringent testing to ensure that they will not harm native plants. The herbicides with the least impacts are the ones that have been studied

the least... They all are toxic!

Response: The BLM is complying with the ESA through formal consultation with both the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (the Services). The Biological Assessment (BA) is found on the CD included with the Final PEIS and PER. The BA is also available for public download from the Washington Office Website where the PEIS is posted and was posted during public comment. A discussion on biological control agents and the National interagency approval process for release of organisms is described under Biological Control in Chapter 2 of the PER. The BLM does not release any biological agents until they have been 1) thoroughly tested and determined to be host-specific and approved for release by the USDA Agricultural Research Service; 2) undergone ESA consultation; and 3) have appropriate NEPA analysis conducted prior to release. See response to Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations of uses. See Scope of Analysis in Chapter 1 of the PEIS. ORV use is outside the scope of analysis of the PEIS.

EMC-0525-093
Western Watersheds Project

Comment: BLM must conduct on-the-ground inventories of species, and habitat conditions and populations across the [P]EIS area. BLM must use its current special status species list, Partner in Flight species lists, information from the Conservation Data Center, and other important recent summaries, such as Connelly et al. 2004 and Dobkin and Sauder 2004, and Wisdom et al. 2000, to examine species of concern and their habitat needs. It must conduct in depth surveys and analyses for species of concern, and collect thorough and up-to-date information on the quality and quantity of habitats across the [P]EIS area. BLM must carefully review these lists, and updated information, and assess habitat conditions for these species. BLM must conduct systematic baseline surveys for breeding birds, migrants, wintering species. BLM should work with experts to assess populations, genetic uniqueness, etc.) BLM must also fully consider the changing dynamics in wildlife populations – such as elk, and the high priority segments of the public place on this species, as well as antelope and mule deer.

Response: It is not possible in this PEIS to conduct inventories of species habitat conditions and populations across a 17-state area of the West, including Alaska, encompassing nearly 261 million acres of public lands. The cost and time would be exorbitant. BLM has reviewed all current and pertinent information provided by the Services and other agencies and organizations relative to sensitive species addressed in this PEIS. The BLM conducts appropriate wildlife baseline inventories to support site-specific NEPA analysis for vegetation treatments at the time a project is proposed or during monitoring and assessments leading up to a project proposal.

EMC-0559-005
Daniel, Bill

Comment: There is a huge list of "Special Status" species that may be threatened to the point of uplisting under the Endangered Species Act or locally or regionally extirpated by the preferred action, yet the DEIS [Draft PEIS] fails to analyze how each species would be affected or whether requires mitigation.

Response: The intent of BLM vegetation treatments is to improve public lands for special status species, and implement Standard Operating Procedures (SOPs) and mitigation to avoid or minimize impacts to these species from treatment actions, so these species would not be extirpated by the Preferred Alternative, or require listing under the Endangered Species Act. In general, SOPs and mitigation measures identified in the PEIS, PER, and Biological Assessment apply to broad species groups, in many cases, making it unnecessary to analyze how each species would be affected

by treatment actions. In addition, effects to special status species would be analyzed at the local level under NEPA prior to implementing any projects.

EMC-0585-065
Western Watersheds Project

Comment: The current documented declines or endangerment of many species were not considered. Outcomes of treatments may wipe out/locally extirpate rare or declining species. See Dobkin and Sauder 2004, discussion of small mammals existing in highly fragmented habitats. In a context of species existing in small, highly fragmented pockets of suitable habitat, BLMs treatments that may disturb native habitats or herbicide drift, may have much greater impacts.

Response: The potential effects of treatments on special status species are addressed in the PEIS, PER, and Biological Assessment (BA). This information may be found in Chapter 4 of the PER under the subheadings Effects to Special Status Plant Species, Effects to Special Status Fish and Other Aquatic Organisms, and Effects to Special Status Wildlife Species; in Chapter 4 of the PEIS under the subheadings Special Status Plant Species, Special Status Fish and Other Aquatic Organisms, and Special Status Wildlife Species, and throughout Chapters 4 through 6 of the BA. Conservation measures presented in the BA for threatened, endangered, and proposed for listing (TEP) species take into account factors that make species especially sensitive to treatments, such small, fragmented habitats. When developing treatment programs at the local level, the BLM would take into account all special status species in and near the treatment area, and come up with additional conservation measures, as needed, on a species by species basis. In addition, consultation with U.S. Fish and Wildlife Service and National Marine Fisheries Service would occur at the project level.

PHC-006-006
H. McNeel

Comment: One other thing is I think would help you is – and I haven't read this in detail, is what happens if the BLM doesn't use a herbicide or a combination of the integrated weed management. What happens to our threatened and endangered species.

Response: Information on the benefits to threatened and endangered species from integrated weed management is provided in the Biological Assessment that accompanies the PEIS (and is included on the CD that is included with the Final PEIS). Additional information is provided in the Special Status Species sections for Vegetation, Fish and Other Aquatic Organisms, and Wildlife Resources in Chapter 4 of the PEIS and PER.

PHC-006-007
H. McNeel

Comment: Many people do not understand that these are useful tools also to save our native species and our threatened and endangered species. Sometimes the risk of the weed or the nonwanted plant is greater on eradicating a threatened and endangered species that the use of herbicides.

Response: See response to Comment PHC-006-006 under PEIS Alternatives, Special Status Species.

RMC-0006-036
Central Sierra Environmental Resource Center

Comment: All areas to be treated with herbicides should first be surveyed for rare and at-risk plants and animals. If rare and at-risk plants and animals are found on the site, herbicide treatments should not be allowed, or actions to mitigate impacts to rare and at-risk species should first be taken.

Response: As discussed in the PEIS in Chapter 2 under Special Precautions, Special Status Species, surveys for special status species would be conducted before any vegetation treatment or ground disturbance occurs. Conservation measures to protect

special status plant and animal species are given in the Biological Assessment.

RMC-0144-017
Wyoming Game and Fish Department

Comment: [Page] 2-15 [of the Draft PEIS] statement: "The BLM state directors may designate sensitive species in cooperation with their respective state." We recommend this be changed from the term 'may' to 'will'. The Wyoming Game and Fish Department recently completed a Comprehensive Wildlife Conservation Strategy Plan for the state that lists state species of concern and sensitive species and we will gladly supply the document to you for inclusion in Appendix H [of the Draft PEIS] – Special Status Species List.

Response: The decision to designate a sensitive species is within the state director's discretionary authority and is mutually agreed upon with the affected state. The PEIS analyzes the merits and environmental impacts of adopting specific herbicides for use on public lands. The PEIS does not propose to commit state directors to any specific course of action. The use of "may" is appropriate in this case.

RMC-0205-018
Oregon Department of Agriculture

Comment: As a result of a lawsuit filed against the Environmental Protection Agency (EPA) by the Washington Toxics Coalition (2002), a federal judge ordered that "buffer zones" be placed around salmon bearing streams for the application of certain pesticides. The buffers include a 20 yard no application zone adjacent to salmon bearing waters when specific pesticides are being applied by ground methods, and a 100 yard buffer during aerial applications. Of the 26 pesticides still being investigated for their potential affects on threatened and endangered salmon species, diuron, 2,4-D, and triclopyr are the only 3 that are approved for use on BLM lands. DEQ asks that BLM keep these restrictions in mind during the potential application of these pesticides. More information and maps of the affected areas can be found at: http://www.epa.gov/espp/wtc/maps.htm.

Response: The Court issued this Order in response to the Plaintiffs' motion for injunctive relief to establish buffer zones as an interim measure to minimize the risk of jeopardy from pesticide use to 26 sub-groups of listed Pacific salmon and steelhead. These measures are intended to be in place until the USEPA and National Marine Fisheries Service (NMFS), where appropriate, complete consultation on the effects of these herbicides.

The General Exceptions section of the USEPA's website addressing the lawsuit (http://www.epa.gov/espp/wtc/maps.htm#wtc1) provides exceptions to the buffer strip requirement, including "programs authorized by the NMFS," which includes this BLM activity. The exceptions state that only a 1-yard buffer strip is required for "Use of a pesticide undertaken as part of a specific agency action (other than USEPA's authorization of a pesticide use under FIFRA)" where authorized through consultation with NMFS. A Biological Assessment (BA) has been prepared for the activities addressed in the PEIS, and consultation is underway. Herbicide-specific buffers for listed threatened, endangered, and sensitive fish species are established in the BA (see Table 5-6) and PEIS (see Table 4-21). Suggested conservation measures in the BA include a restriction on the use of triclopyr butoxyethyl ester (BEE) in areas where threatened, endangered, and sensitive aquatic species may occur, and restrictions on diuron and triclopyr BEE where off-site drift or surface runoff may occur into habitat that supports threatened, endangered, or aquatic species or species proposed for listing. These proposed restrictions are more stringent than those imposed by the Court. The BA prepared for this PEIS also states that local consultation with NMFS and/or U.S. Fish and Wildlife Service will be required for use of herbicides in riparian areas where threatened or endangered species, or species proposed for listing, are found. During

such consultation, the BLM would implement any new label guidelines or restrictions established by the USEPA, or include the buffers established by the Court if no new information exists.

RMC-0213-005
California Native Plant Society

Comment: The best available science indicates that many registered pesticides are likely to cause negative impacts to endangered species even when used lawfully. There is evidence that long-term impacts of herbicides can have dire effects on rare plants. CNPS [California Native Plant Society] is particularly concerned with the known reproductive effects of sulfonylurea herbicides. Many of the current scientific publications addressing the reproductive effects of the sulfonylurea herbicides are not included in the literature review for the BLM's assessment. Copes of these omitted references will be sent by U.S. mail and are summarized and cited below. We hope that your staff will review these important sources and reevaluate the PEIS to address these well-known impacts that have been documented by peer-reviewed scientific studies funded by the U.S. EPA.

Response: The BLM evaluated the risks to rare, threatened and endangered species in the ecological risk assessments, prepared a Biological Assessment for threatened and endangered species, and proposed mitigation measures and Standard Operating Procedures to reduce risks to these species. These assessments were based on scientific publications and USEPA registration documents. Although sulfonylurea herbicides pose low to high risks to plant species of concern, they would pose little risk to fish and wildlife species of concern, as discussed in the PEIS in Chapter 4 (Vegetation, Fish and Other Aquatic Resources, and Wildlife Resources sections).

RMC-0213-009, 010
California Native Plant Society

Comment: The following at-risk taxa are also known or likely to occur on BLM lands in California, Nevada, or both, and should be included in the Special Status Species List in Appendix H of the Draft PEIS:

Astragalus cimae var. *cimae; Astragalus inyoensis; Astragalus johannis-howellii; Atriplex argentea* var. *longitrichoma; Eriogonum beatleyae; Eriogonum microthecum* var. *schoolcraftii; Lathyrus hitchcockianus; Opuntia pulchella; Pediomelum castoreum; Salvia funerea;* and *Sclerocactus polyancistrus*

This does not include additional taxa in the Watch-list portion, which could number at least as many species that should be considered.

Response: Most of these species are classified as Watch-list species by the California and/or Nevada Natural Heritage Programs. Watch-list is not a special status species category used by the BLM. The list does include BLM sensitive species, which are designated by BLM State Directors, in cooperation with applicable state agencies and Natural Heritage programs to ensure their accuracy and completeness. As mandated in BLM Manual 6840, sensitive species lists are periodically reviewed and updated. A species-by-species response to this comment is provided below.

Astragalus cimae var. *cimae* does not occur on lands administered by the BLM in California. It does occur on BLM-administered lands in Nevada, but it is a Nevada Watch-list species.
Astragalus inyoensis is a California and Nevada Watch-list species.
Astragalus johannis-howellii is on the special status plant species list in Appendix H of the PEIS for its occurrence in California. It is a Nevada Watch-list species.
Atriplex argentea var. *longitrichoma* is not known to occur in California. It is a Nevada Watch-list species.

Eriogonum beatleyae occurs only in Nevada. It is has been delisted and dropped from consideration by the Nevada Native Plant Society.
Eriogonum microthecum var. *schoolcraftii* is not known to occur in California. It is a Nevada Watch-list species.
Lathyrus hitchcockianus has not been seen in California for over a century, and is not on BLM or California Native Plant Society lists. It is a Nevada Watch-list species.
Opuntia pulchella is considered by the California Native Plant Society to be "Rare, Threatened, or Endangered in California, but More Common Elsewhere." This is not a special status species category used by the BLM.
Pediomelum castoreum is a California and Nevada Watch-list species.
Salvia funereal is a California and Nevada Watch-list species.
Sclerocactus polyancistrus is a California and Nevada Watch-list species.

RMC-0214-040
Natural Resources Defense Council and National Wildlife Federation

Comment: BLM initiated informal consultation with the Fish and Wildlife Service and NOAA [National Oceanic and Atmospheric Administration] Fisheries in 2001. See D[raft] PEIS at 5-2. The proposed massive use of herbicides across federal lands in the west is likely to adversely affect dozens of listed species and their critical habitat. BLM must therefore initiate formal consultation with the Services to prevent jeopardy to threatened and endangered species. BLM's failure to do so violates the ESA [Endangered Species Act].

Response: The BLM initiated consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service (formerly NOAA Fisheries) in 2001. With the release of the Draft PEIS to the public in November 2005, the BLM initiated formal consultation with the Services as required under the ESA. The Services responded to the request for consultation and requested additional information and clarification of the proposed action. As part of the consultation process, a meeting and follow-up conference call transmitted this information. This coordination and discussion of additional information allowed the BLM to conclude the proposed action, at the scale of the programmatic consultation, resulted in a determination of "May Affect, Not Likely to Adversely Affect" (NLAA). The BLM subsequently transmitted this additional information and a request for concurrence to the Services. In September 2006, and again in May 2007, the BLM received a Letter of Concurrence from the USFWS. The NMFS has indicated that it will issue a formal biological opinion on June 14, 2007.

RMC-0218-016
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: There is a huge list of "Special Status" species that may be threatened to the point of uplisting under the Endangered Species Act or locally or regionally extirpated by the preferred action yet the DEIS [Draft PEIS] fails to analyze how each species would be affected or require needed mitigation.

Response: See response to Comment EMC-0338-007 under PEIS Alternatives, Special Status Species.

RMC-0218-059
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: The BLM has evidently not done wildlife population surveys for Management Indicator (or "Special Status") species as required by the National Forest Management Act. This prevents a Finding of No Significant Impact or "will not likely lead to a trend toward uplisting" finding for BLM Management Indicator, listed or special status species as population levels are not known and viability thresholds have not been established for these species, causing the PEIS or an ROD [Record of Decision] adopting one of the action alternatives (particularly any involving herbicide use) to be in violation of NFMA [National Forest Management Act) and the ESA [Endangered Species Act].

Response: The BLM is an agency in the Department of Interior with a management mandate outlined in the Federal Land Policy and Management Act (FLPMA) of 1976, and is not subject to the National Forest Management Act. However, under FLPMA, the BLM routinely inventories for special status wildlife habitat and populations. The PEIS/PER include Standard Operating Procedures (see Chapter 2) to survey for both threatened and endangered species as well as other special status species. BLM policy states that actions should not lead to the need to list special status species (BLM Manual 6840 – *Special Status Species Management*).

RMC-0221-012
Center for Biological Diversity

Comment: The BLM's proposed aerial spaying of herbicides over nearly one million acres of public lands annually would violate the Endangered Species Act ("ESA") because many, if not all, of the 18 herbicides that the BLM proposes to spray over public lands were approved for use by the Environmental Protection Agency ("EPA") in violation the ESA. As courts have found, the EPA has repeatedly granted approval for registration of many pesticides and other toxic chemicals without first consulting with the Fish and Wildlife Service ("FWS") and/or the National Marine Fisheries Service ("NMFS") as to the potential impacts to listed species. *See, e.g., Washington Toxics Coalition v. EPA*, 413 F.3d 1024 (9th Cir. 2005) (affirming the district court's order finding that EPA violated the ESA by failing to consult on the impacts of 54 pesticides before approving them for use and enjoining their use near streams in California, Oregon, and Washington that support listed species of salmon and steelhead until EPA completed the required consultation); *Center for Biological Diversity v. Leavitt,* No. C 02-01580 (N.D. Cal. September 19, 2005) Order Re Cross-Motions for Summary Judgment (finding that EPA failed to comply with Section 7(a)(2) of the ESA in its registration of 66 pesticides and failed to make the required determinations regarding effects of pesticide registrations on the threatened California red-legged frog).

Response: The BLM consults with the Services (U.S. Fish and Wildlife Service and National Marine Fisheries Service) on its vegetation treatment projects if there is a "May Affect" determination for an ESA-listed species. The BLM is consulting with the Services on the use of its approved herbicides through this PEIS, and is in full compliance with the requirements of the ESA. The BLM proposes to use the conservation measures outlined in the Biological Assessment to protect special status species and critical habitats. Consultation will also take place at the local level for any action that "May Affect" an ESA-listed species. Consultation at this scale will allow the BLM to implement any additional protective measures required by the Services for federally-listed species. The Federal Insecticide, Fungicide, and Rodenticide Act requires that the USEPA register herbicides. All of the herbicides that BLM proposed to use have been registered by the USEPA under this Act.

RMC-0221-013
Center for Biological Diversity

Comment: There is no evidence in the D[raft] PEIS or elsewhere in the record that the 18 herbicides that the BLM proposes to use in this project, including the 4 "new" herbicides, were properly approved by EPA in accordance with the ESA [Endangered Species Act]. Both active and inactive ingredients in the herbicide mixtures can have adverse impacts throughout the ecosystem. Pursuant to Section 7 of the ESA, the BLM has an independent duty to conserve and protect the threatened and endangered species that depend on the public lands it is charged with managing. Therefore, the BLM cannot ignore EPA's failure to comply with the ESA in this regard and to do so would also violate the ESA.

Response: See response to Comment RMC-0221-012 under PEIS Alternatives, Special Status Species.

RMC-0221-014
Center for Biological Diversity

Comment: Even if some or all of the herbicides that the BLM proposes to utilize in the proposed project were properly approved by the EPA in accordance with the ESA [Endangered Species Act], which the Center [for Biological Diversity] does not concede, the BLM has failed to ensure that the proposed project will not jeopardize listed species or destroy or adversely modify critical habitat. Although the BLM has initiated consultation with the FWS [U.S. Fish and Wildlife Service] and the NMFS [National Marine Fisheries Service], the BLM has failed to provide adequate information regarding the likely impacts to listed species and their habitats necessary to assess the extent of such impacts from the proposed wholesale aerial herbicide spraying. As discussed below in Section III.D., the information provided by the BLM in the Biological Assessment including the Ecological Risk Assessment is wholly inadequate. In order to comply with the ESA (as well as NEPA), the potential impacts that must be identified and analyzed to determine how and to what extent the proposed action may affect listed species or their habitats include, but are not limited to: direct impacts to plants (including seed banks), to wildlife, and to their habitats (including impacts to critical habitat); indirect impacts to listed species and their habitats through contamination of air, water, and soils; direct and indirect impacts to species due to bioaccumulation of these herbicides and/or their breakdown products throughout the ecosystem; direct and indirect synergistic effects from these herbicides, their breakdown products, and/or other chemicals found in the environment; and cumulative impacts to listed species and their habitats from this and other projects that impact air and water quality and soils.

Response: See response to Comment RMC-0221-012 under PEIS Alternatives, Special Status Species. The BLM has initiated consultation with the Services, which will determine the adequacy of the information contained in the Biological Assessment. Information on the impacts and effects to sensitive wildlife species and their habitat from herbicide use, appropriate for the programmatic scale of this analysis, is disclosed in the PEIS and PER. The BLM will follow all of the mandates of the ESA in its consultation with the Services to ensure that no listed species is jeopardized through the use of herbicides.

RMC-0221-015
Center for Biological Diversity

Comment: Because the herbicides that the BLM has proposed to use in this project were not approved for registration in accordance with the ESA [Endangered Species Act], and the BLM has independently failed to fulfill its obligations under the ESA, approval of the proposed project will violate the ESA.

Response: See responses to Comment RMC-0221-012 under PEIS Alternatives, Special Status Species, and Comment EMC-0338-007 under PEIS Alternatives, Special Status Species.

RMC-0221-023
Center for Biological Diversity

Comment: Inevitably, because the area of the proposed project is not clearly defined, the identification of potential environmental effects is fatally flawed. For example, the D[raft] PEIS fails to provide any meaningful information about the rare, threatened, and endangered species and their habitats that may be affected by the proposed project, indeed, even the list of species that may occur in the 17 western states encompassed by the project is incomplete. NEPA demands far more. Moreover, the BLM cannot fulfill its obligations to protect and conserve listed species under the Endangered Species Act ("ESA") without detailed information about the status of those species and their habitats on the public lands that may be impacted by the proposed action.

Response: As noted under each relevant resource section (Vegetation, Fish and other Aquatic Organisms, and Wildlife Resources) in Chapter 4 of the PEIS under Special Status Species, information on federally-listed species, and species proposed for listing, including habitats on public lands that could be affected by vegetation treatment actions, is given in detail in the Biological Assessment. The Biological Assessment also provides Standard Operating Procedures and mitigation to minimize and avoid impacts to these species from treatment actions. Also see response to Comment RMC-0006-036 under Alternatives, Special Status Species.

RMC-0221-026
Center for Biological Diversity

Comment: Accurate baseline data regarding rare, threatened, and endangered species on BLM managed public lands is also critical to identifying and analyzing the potential impacts of the proposed action under NEPA and the ESA [Endangered Species Act]. For example, in many areas of the arid west native plants may not emerge every year but only in years of high rainfall or when temperatures are favorable. The survival of these native plants depends on the survival of dormant seed in the soils. Without detailed, longitudinal surveys, the locations of these native plant seed banks remain unknown to the BLM. Responsible resource management is thus impossible. Without this necessary information, allowing aerial herbicide spraying in areas that may contain native seed banks critical to the survival of native plants is irresponsible.

Response: The BLM routinely inventories for special status plants. The PEIS and PER include Standard Operating Procedures to survey for federally-listed species, as well as other special status species. These detailed surveys should include gathering data on flowering and seed production of native plants. BLM policy states that actions should not lead to the need to list special status species (BLM Manual 6840 – *Special Status Species Management*). Standard Operating Procedures and Guidelines in the PEIS and PER (see Chapter 2) include minimizing damage to non-target species, which includes seedbank damage, through use of selective techniques or selective herbicides. Local interdisciplinary teams that include biologists consider survey data on the species populations, their productivity, and potential impacts to the seedbank when designing actions that may affect species, in order to ensure that site-specific mitigation is developed if necessary.

Alternatives, Wilderness Areas

EMC-0252-004
Levanti, Deanna

Comment: Furthermore, using herbicides in national and state parks and reserves is not acceptable. Destroying the wildfire ecosystem on lands that have been marked for the preservation of that very ecosystem is beyond counterproductive.

Response: The agencies that administer national and state parks, not the BLM, will make decisions about what land treatments are appropriate for the management and protection of lands under their jurisdiction. The BLM does not manage national parks or state parks, but it does manage the Headwaters Forest Reserve in northern California. Nothing in the enabling legislation for the Headwaters Forest Reserve prohibits the use of herbicides to meet the purposes for which the area was established. However, the Resource Management Plan for this area states, "Implementation Guidelines – Following completion of weed mapping and inventory, direct removal of weed infestations will occur using hand tools. Herbicides will not be used."

EMC-0513-004
The Wilderness Society

Comment: The focus of these comments is the need for the PEIS to include specific limits and requirements for use of herbicides in designated Wilderness, Wilderness Study Areas (WSAs) and other lands with wilderness characteristics. All of these areas

contain special natural character that can be compromised by the use of herbicides; protecting that special character requires special attention in the PEIS.

Response: Limits on the use of herbicides in designated wilderness and wilderness study areas are provided in BLM Manual 8560 – *Management of Designated Wilderness Areas* (8560.37A h. (2) Plant Control). For wilderness study areas the BLM Handbook 8550-1 – *Interim Management Policy for Lands Under Wilderness Review* (H8550-1 Chapter 3 C. Watershed Rehabilitation and Vegetative Manipulation) addresses the issues of herbicide use. Nothing in the PEIS would change this guidance. There is no specific guidance for herbicide use on other lands with wilderness characteristics; since they have no legislative designation, they would be subject to the same rules regarding herbicide use as other undesignated public lands.

EMC-0513-018
The Wilderness Society

Comment: Prior to permitting or even considering use of herbicides on lands with wilderness values, BLM should consider all other alternatives. Any such proposals should be required to meet a high burden of proof to determine if use of herbicides is really justified in light of their interference with the naturalness of these lands.

Response: This statement generally agrees with the guidance provided in the BLM Manual 8560 – *Management of Designated Wilderness Areas* and H8550-1 – *Interim Management Policy and Guidelines for Lands Under Wilderness Review*. Consideration of the use of herbicides in wilderness and wilderness study areas is required to meet the higher standards that are associated with these lands than other public lands.

EMC-0513-022
The Wilderness Society

Comment: A determination that there is "no effective alternative" and that the use of a herbicide is needed to maintain the natural ecosystem should be an explicit requirement before considering use of herbicides in WSA [wilderness study area]. Further, as recommended by the IMP [integrated management plan], a minimum tool assessment should be conducted. A similar approach is appropriate for lands with wilderness characteristics, which can and should be managed to preserve and enhance their wilderness characteristics.

Response: The BLM's interim management policy for WSAs allows the use of herbicides to maintain wilderness values as defined in the Wilderness Act. Use of the minimum tool for such applications is required.

EMC-0513-033
The Wilderness Society

Comment: The Preferred Alternative, including Tables 2-8 and 2-9, must be revised based on the corrected analysis of impacts of herbicides and the legal and policy requirements [regarding Wilderness Area] set out above.

Response: We have revised Table 2-8 in the Final PEIS to note that the BLM would follow the "minimum tool." The other issues discussed earlier are not Standard Operating Procedures, are referenced in management plans identified in Table 2-8, or are covered in Chapter 2 under Monitoring. Also see response to Comment EMC-0513-022 under PEIS Alternatives, Wilderness Areas.

RMC-0049-025
Wilson, Robert E. (University of Nevada Cooperative Extension)

Comment: Page 2-16 [of the Draft PEIS] Wilderness areas. The benign neglect of invasive species suggested in this section is inexcusable for a land management agency. Specifically because it is perceived by managers that motorized equipment cannot be used within wilderness areas then the agency has a responsibility to take a very aggressive stance toward control of invasive species before they have been allowed to dominate that "pristine" environment.

Response: The requirements of the Wilderness Act do include managing the naturalness of an area to protect it from invasive species. This requirement is reflected in BLM Manual 8560, *Management of Designated Wilderness Areas*, which applies to the areas addressed in this comment.

RMC-0057-014
California Wilderness Coalition

Comment: The Vegetation Treatment Method selection should include a consideration of the treatment area's wilderness values. The D[raft] PEIS currently states that managers will consider an area's land use before selecting a treatment method but the method selection does not direct managers to take special consideration for areas with wilderness characteristics.

Response: In Chapter 2 of the PEIS under Special Precautions – Wilderness Areas, it states, "management of vegetation must be directed toward retaining the natural character of the environment." It also states, "tools and equipment may be used for vegetation management when they are the minimum amount necessary for the protection of the wilderness resource." Table 2-6 (Standard Operating Procedures) in Chapter 2 of the PEIS states, "use chemicals only when they are the minimum method necessary to control weeds that are spreading within the wilderness or threaten lands outside the wilderness."

RMC-0218-017
EMC-0559-006
Blue Mountains Biodiversity Project, League of Wilderness Defenders
Daniel, Bill

Comment: There should be no herbicide use or vehicle use in Wilderness Areas as proposed.

Response: The Wilderness Act allows the use of vehicles or herbicides in wilderness for various administrative purposes. However, this use would be rare.

Alternatives, Monitoring

EMC-0130-001
McDorman, Bill

Comment: Please send me your 20, 30 and 40 year studies proving the long-term effectiveness of spraying herbicides on BLM lands to control weeds. Please include data about diversity of species. Pretty bold to try a million acre experiment. You must have some amazing data.

Response: See response to Comment EMC-0584-051 under PER Vegetation Treatment Programs, Policies, and Initiatives Influencing Vegetation Treatment Activities.

EMC-0238-009
California Partners in Flight

Comment: We recommend the final planning document include a more extensive discussion of post-treatment monitoring. We did not find that extensive discussion anywhere in the Biological Assessment. If the Preferred Alternative is selected and the acres treated annually are to triple over the current condition, how will effective monitoring be accomplished? Will the annual budget for monitoring be tripled? It is critical to know what the effect of such an extensive annual herbicide treatment program will have on fish and wildlife, both as a result of direct application on populations and their habitats, and indirectly through habitat modification and temporary losses of habitat and forage. CalPIF [California Partners in Flight] recommends that, at a minimum, an avian monitoring program be developed and undertaken as an integral part of the herbicide treatment plan. We recommend avian monitoring because birds are often the easiest category of wildlife to monitor in that they are easily detectable and often show high site fidelity.

Response: We have revised the Monitoring section in Chapter 2 of the PEIS and PER to include more information on post-treatment monitoring and BLM guidance on monitoring. As discussed, monitoring is primarily implemented at the local field office level. Monitoring is included as a specific task and component of each treatment project design. As projects are funded, monitoring is included in the funding allocation. In those cases where herbicide treatments are planned and potential impacts to avian species are identified, appropriate monitoring for these species and their habitat would be proposed as part of the monitoring plan.

EMC-0291-003
Maxwell, Bruce (Montana State University)

Comment: I prefer to keep that aspect separate. Regardless, the point is that the report should call for monitoring of weed populations prior to initiating management with herbicides or any other management. The report should identify methods and standards that allow populations to be site-specifically evaluated for their potential to be invasive and set thresholds for management given specific management objectives. Only, after substantial changes that would include these concepts should the PEIS receive approval.

Response: See responses to Comment EMC-0133-002 under PEIS Environmental Consequences, Human Health and Safety, and Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0340-005
Craig, Diane

Comment: I also wonder how the BLM intends to monitor such a program and what they have in mind when it eradicates vast populations that nature placed in these areas to live in harmony and balance. Is the BLM responsible for providing emergency healthcare to the wildlife and plant populations it intends to exterminate with this senseless act?

Response: See response to Comment RMC-0130-005 under PEIS Alternatives, Monitoring.

EMC-0340-006
Craig, Diane

Comment: The BLM as stated "monitoring ensures that vegetation management is an adaptive process that continually build upon past successes and learns from past mistakes" my question here is how can the BLM evaluate such successes and mistakes when it recognizes "that many sites treated in the past lack monitoring data. In many cases, project monitoring was not done, was done sporadically without consistent documentation, or was done but the records were lost or destroyed". A major concern to me resulting from the lack of administrative documents is one that few would think of, but due to the categorical and systematic assault on our lands resources by this administration I cannot help but wonder about the possibility of deliberate over-contamination of chemicals in certain areas so as to close them to public use and the public eye – thus allowing for the unseen logging, mining and continued rape of the land to occur.

Response: The BLM acknowledges gaps in monitoring information from past activities, as discussed in Chapter 2 of the PEIS under Monitoring. As identified in the PEIS, the reasons for these gaps are many and varied and span some 40 years or more. Standards and requirements for documentation in the past (e.g. dating from the 1960's) were less stringent than standards considered in subsequent decades and are not reflective of standards for documentation in use today. Record keeping likewise is not consistent from office to office over a multiple decade time frame. The BLM also acknowledges the importance of and need for monitoring; the two statements quoted in the comment are not inconsistent with one another. In general, monitoring records are

available at the field offices and are used in the design of vegetation treatment projects, as well as to support current and future vegetation allocation decisions in land use plans and appropriate permitted use. Although monitoring records are not complete, the BLM is guided by statutory and regulatory considerations pertaining to application of herbicides on public lands. Intentional over-contamination of public lands with herbicides without environmental consideration would violate a number of statutes, including, but not limited to the Federal Insecticide, Fungicide and Rodenticide Act, NEPA, and Federal Land Policy and Management Act. The BLM has not closed any public lands to public use as a result of herbicide treatments. All public land uses are authorized only after the appropriate NEPA analysis and public participation has occurred.

EMC-0405-012
Hoover, Victoria N.

Comment: Since this whole project, as outlined in the [P]EIS/PER, is basically one massive experiment, BLM should start small on these treatments, and monitor results carefully for several seasons before expanding the scope of the efforts. A wide range of ecoregions, with a large number of vegetation communities and habitats, is being considered. Yet, apparently no carefully, scientifically documented controls are planned. For each type of vegetation, BLM should design a control area to see objectively the difference between treated and untreated areas.

Response: This PEIS assesses the impacts of herbicide use on human health, ecological resources, vegetation, and other public land resources. The PEIS does not authorize any action to be taken on the ground, as stated under NEPA Requirements of the Program and in Figure 1-1 in Chapter 1 of the PEIS. The proposed action and analysis does not represent a massive experiment. The proposed action represents a need to provide additional tools to treat vegetation. These tools are well established practices in use by numerous federal, state, and county agencies. Treatments proposed at the local field level would have established monitoring requirements and timeframes. Controls for treated and untreated areas are developed at the local field level in collaboration with state, county, and local agencies, as well as university extension services. The PEIS allows local BLM field offices to utilize the analysis to prepare site-specific environmental documents. Also see responses to Comment EMC-0446-032 under PEIS Alternatives, Monitoring and Comment RMC-0049-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0411-007
Schroyer, Don L.

Comment: What is the rate-of-success of containment, control or eradication for chemical vs. mechanical means?

Response: The BLM utilizes an integrated pest management framework for vegetation treatment planning. Under an IPM framework, multiple tools or methods may be used alone or in combination effectiveness. The BLM cannot compare the "rate of success" between two specific treatment methods across the 17-state area for several reasons. In many cases, these types of data are incomplete. Furthermore, the BLM does not apply vegetation treatments through either chemical-only or mechanical-only methods. The benefits (success) and adverse effects of the different treatment methods are discussed in Chapter 4 of the PER. In general, treatment methods utilized meet the resource specific objectives identified for a specific project. Not all treatment methods are appropriate for all situations; thus, a comparison of relative success or "rate of success" between two methods is not ascertainable.

EMC-0446-012
The Nature

Comment: Monitoring results and effects at regional scales: The draft PEIS and PER do not provide adequate direction on the need to monitor ecological conditions,

Conservancy

treatment implementation and management effectiveness relative to project goals, or describe the tools available to do so. LANDFIRE is a wildland fire, ecosystem, and fuel assessment-mapping project designed to generate consistent, comprehensive, multi-scale maps of vegetation, fire, and fuel characteristics for the United States. Tools such as LANDFIRE will be especially useful not only for analyzing and documenting hazardous fuels conditions, identifying ecosystems at risk, conserving ecosystem function, and implementing Fire Program Analysis, but it also provides a framework and data for monitoring the success of treatments over time, including changes in Fire Regime Condition Class (FRCC). We recommend that the public investment and value of LANDFIRE be utilized to the greatest extent possible.

Response: The BLM agrees that the LANDFIRE tool is useful and will assist BLM in regional-scale monitoring and effects analysis as the tool is developed and refined. See Monitoring in Chapter 2 of the Final PEIS for additional information on available monitoring tools. The most recent LANDFIRE rapid assessment map is included in the Final PEIS (Map 3-10) in addition to the National FRCC map in the Draft PEIS.

EMC-0446-032
The Nature Conservancy

Comment: Mitigation/Monitoring: On page 2-21 of the [Draft] PEIS, monitoring for treatment effectiveness is mentioned. However, the only specific requirement listed is for water resources and there is no requirement to monitor impacts to non-target species or habitats. We strongly urge that the PEIS include guidelines and requirements for monitoring to assess potential off-target impacts as well as to assess treatment effectiveness.

Response: The Monitoring section of Chapter 2 of the PEIS is not exclusive to water resources. The section addresses monitoring requirements at the project level and uses an example of addressing monitoring for water resources to determine the effectiveness of buffer strips for water quality. See the Monitoring section of Chapter 2 of the PER for a description of the BLM's responsibility for monitoring vegetation treatments.

EMC-0446-063
The Nature Conservancy

Comment: No reference is made to the potential for invasive species encroachment post-disturbance, or the need for monitoring regarding this encroachment. Given the high disturbance associated with chaining this monitoring should be included as an SOP [Standard Operating Procedure] ([Draft] PER [page] 2-24).

Response: Specific monitoring requirements are established during project design at the time the project is proposed. The need to monitor for post-disturbance encroachment of invasive species following vegetation treatments applies to all treatment methods, including chaining. The BLM *Partners Against Weeds - An Action Plan for the BLM* (USDI BLM 1996) establishes a strategy goal (page 22) to ensure site-specific monitoring objectives that address infestation and control of noxious weed species are included in activity plans. Following this guidance, site-specific project plans for vegetation treatments are required to include a monitoring component. In addition, BLM Manual 9015, *Integrated Weed Management*, states that a noxious weed risk assessment, which considers post-disturbance encroachment, must be completed for each project. If the potential for post-disturbance encroachment is identified, specific actions to mitigate this risk are proposed during the site-specific project design and NEPA analysis.

EMC-0505-009
U.S. Environmental Protection Agency

Comment: EPA believes the Final PEIS should include additional information and assurances regarding adequate monitoring and evaluation to determine if application rates are effective, buffers are sufficient, drift is minimized and specific goals and

endpoints are being met. In particular, the Final PEIS should discuss in the detail appropriate for a national programmatic level document a commitment to using the best available techniques for monitoring, evaluating, and mitigating impacts from those herbicides that are known to be persistent and that migrate through soil into groundwater.

Response: The BLM is dependent on the USEPA's pesticide registration and labeling processes to release products that are effective and generally safe when used in the manner authorized by the label instructions. The BLM has neither the resources nor the legal mandate to independently make these determinations, nor is the BLM mandated to conduct herbicide efficacy or use research. When completing environmental evaluations for herbicide use, the BLM uses USEPA, industry, university, and other studies and risk assessments to help determine whether a pesticide can be used safely and effectively on public lands.

The BLM applies herbicides according to label directions. Because the label directions for some herbicides include mitigating measures or restrictions (for example, related to wind drift, persistence in the soil, movement through the soil, impacts to non-target vegetation, or impacts to aquatic species), the BLM assumes that the USEPA has based these mitigating measures and restrictions on research or scientific information. The BLM does monitor the effects of herbicide applications on the target species along with non-target vegetation occurring in and adjacent to a treated area.

The BLM pays careful attention to calibration and proper use of equipment, as well as applicator training, to ensure that the planned application rate is the actual application rate. The BLM monitors wind and temperature during application to maximize the effectiveness of the herbicide and to prevent herbicide movement off the target area. The BLM also observes soil moisture when using herbicides that are known to be mobile as a result of higher soil moisture. This type of monitoring tends to entail an observation of an indicator or a measurement, followed by a decision to treat or not treat at that time. It usually does not include periodic or systematic monitoring of soil moisture.

The BLM does not have the resources nor the technical expertise to monitor the fate and/or transport of herbicides through the soil or into groundwater. Setting up a research level project to track the movement of small amounts of a chemical or compound through the soil is very complex, even when the amount applied, location of application, and variable environmental factors are controlled or accounted for. Such research is done on very small areas. Trying to monitor small amounts of any substance moving through the soil on a long-term basis in an extensive management context is technically and financially prohibitive.

EMC-0505-018
U.S. Environmental Protection Agency

Comment: We encourage BLM to develop a formal set of criteria for routine demonstration or small scale testing. For example, it might not be practical to commit to a full scale project controlling a large expanse of weeds using insects for biological control or some other biologically based approach, but if this were tried on a limited acreage, the results of that test would inform, and perhaps improve, future efforts. Small investments in demonstration projects can pay off over time and improve or expand the understanding of how to manage vegetation and achieve the desired condition.

Response: The BLM seeks input from different groups prior to making the decision to apply a pesticide. The BLM participates in research and demonstration projects, even

funding many in order to better understand how to use the different management options available for a particular species, site, or environment.

EMC-0525-105
Western Watersheds Project

Comment: BLM typically has very little current information on ecological conditions and the health of native plant communities across the landscape. The last comprehensive ecological inventories (SVIM) were conducted primarily in the late 70s and early 1980s. When BLM conducts its limited and narrow Fundamentals of Rangeland Health assessments and allotment evaluations, it typically relies on old data, and never re-visits the sites where [P]EIS data had been collected. Key Area sites are located in only the most accessible areas, and are clustered in particular areas of the allotments, leaving vast land areas with no monitoring information at all collected. BLM also fails to collect necessary data on degradation caused by livestock facilities and management activities. Such information is critical to understanding sources of flammable cheatgrass or other weed invasion, causes of roading, the inter-relationship and cumulative impacts of grazing facilities and roading. Current, comprehensive data on condition of soils vegetation, and habitats must be systematically collected. Likewise, BLM relies heavily on wildlife species data in databases and not current inventories. We fear that unless compilation and assessment of this information is conducted at the level of the [P]EIS/PER, data and analysis necessary to understand all direct, indirect and cumulative impacts of the proposed actions will never be done.

Response: The BLM acknowledges there are gaps in inventory and monitoring data that can be summarized at the spatial scale of this PEIS/PER (17 states). The monitoring data deficiencies described in the comment are focused on livestock grazing and are outside of the scope of this programmatic analysis.

EMC-0525-107
Western Watersheds Project

Comment: As part of this process, BLM must revisit its limited monitoring sites (or at least a subset), and must also establish a series of new ESI [ecological site inventory] and monitoring sites that represent the ecological condition of the lands.

Response: Implementation of monitoring of vegetation treatments will be at the local field office level. The commenter is encouraged to participate in the specific NEPA analyses for future projects at that level with regard to establishing new ESI or monitoring sites. Monitoring is discussed in Chapter 2 of the PEIS and PER under Monitoring.

EMC-0525-132
Western Watersheds Project

Comment: BLM must Conduct Population Viability, Persistence, Extinction/Extirpation Models for species of Native Wildlife, Rare Plants, Special Status Species and T&E [threatened and endangered] Species Under all Alternatives.

Response: See response to Comment EMC-0525-111 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0561-006
Petroleum Association of Wyoming

Comment: PAW [Petroleum Association of Wyoming] believes it is important for BLM to do ongoing monitoring and then adaptively make changes as warranted during reclamation in order for effective management to occur. Execution of a project monitoring plan provides the feedback necessary for the ongoing stewardship activities that will ultimately bring about the desired goal set. Designating resources at project initiation to steward restoration activities through time is vital to project success. Our member's experience has shown the added expense is quickly cost justified by positive project results.

Response: The BLM agrees.

EMC-0584-010
Western Watersheds Project

Comment: Unfortunately, the Draft [P]EIS does not provide adequate information on vegetation communities in the affected lands and their surroundings. BLM must collect and analyze extensive baseline information on past fire and vegetation conversion or manipulation projects in the affected lands in each vegetation type identified in the D[raft] PEIS/PER, and the effects of these treatments on wildlife corridors, habitat fragmentation, likelihood of human-caused fires or disturbance, etc. Data and maps must be compiled and assessed that indicate where all past treatments have been conducted. Without understanding the past dispersion and impacts of treatments and disturbance across the landscape, BLM can not adequately assess the impacts of various alternatives related to treatment and land health. Information that needs to be acquired and assessed includes data and maps of:

Past disturbance events on these lands (fire- prescribed or wild, chemical treatment, mechanical treatment – chaining, cutting, etc.); Seedings or any other post-disturbance treatments that have occurred and their current condition; Condition of treatments and seedings, including cheatgrass and other fine fuels and weeds in interspaces; Impacts of all livestock facilities; Impacts of roading, and roading links to past treatments or livestock or other land uses. Assessment should include a valid study of the current ecological condition and health of soils, vegetation, important wildlife habitats and other important values of the affected lands, a comparison between these conditions and conditions at the time of the disturbance.

Response: See response to Comment EMC-0525111 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0584-011
Western Watersheds Project

Comment: For all lands where treatments have been identified by BLM Field offices, BLM must collect current information on: Vegetation species composition, its current ecological condition; livestock grazing regimen and standards of use; wildlife habitats and populations occurring here. Information on periods of rest, trespass, and other livestock factors must be included. Current information on ecological condition, presence of weeds and other exotic species, etc. on all lands within the project area must be collected as part of this effort. It must be the basis for decision making on "acres to be treated" for various purposes in the [P]EIS. For example, how many acres of salt desert shrub communities, Wyoming big sagebrush, or other communities have a significant component of cheatgrass in the understory? How many of these lands have already crossed thresholds, where succession is truncated? How many are at risk of crossing thresholds? How many acres, and what is the location, of each vegetation type is in good or better ecological condition? After solid, on-the-ground collection of new information, BLM must develop a rigorous protocol for determining all lands in need of "treatment", and explain in comprehensive detail, with supporting science, why these lands need treatment.

Response: See response to Comment EMC-0525-111 under PEIS Proposed Action and Purpose and Need, Scope of Analysis. Pre-treatment planning and inventory for treatment application is accomplished at the local field office level at the time the project is proposed.

EMC-0584-072
Western Watersheds Project

Comment: We are extremely concerned that monitoring and mitigation in the DEIS [Draft PEIS]/PER are not adequate and do not even begin to address the large-scale disturbance of plant and animal community composition, function and structure that undertaking the large-scale treatments will affect. Monitoring. The [P]EIS fails to provide necessary monitoring, and decisive actions that will occur post-treatment if

treatment protocols, livestock rest, etc. is violated. BLM should establish specific post-treatment criteria for monitoring for livestock trespass, sound studies of soil health, stability and recovery, etc.

Response: The Proposed Action is described in Chapter 1 of the PEIS under Proposed Action. The PEIS does not propose large-scale disturbance or large-scale treatments, nor are any treatments authorized through this PEIS (see Decisions to be Made and Scope of Analysis in Chapter 1 of the PEIS). Monitoring is discussed in Chapter 2 of the PEIS and PER under Monitoring. Mitigation measures are summarized in Table 2-9 in Chapter 2 of the Final PEIS. Standard Operating Procedures are discussed in Table 2-8 in Chapter 2 of the Final PEIS. Post-treatment violations in the form of trespass or other unauthorized uses would be addressed through the applicable regulatory process. In the case of livestock, action would be initiated under 43 CFR [Code of Federal Regulations] 4150, Unauthorized Grazing Use. Implementation of monitoring for any given treatment will be at the local field office level as part of the treatment project design and NEPA analysis, including development of post-treatment criteria for monitoring. Project funding, regardless of the program funding source (Emergency Stabilization and Rehabilitation, Healthy Forests Initiative, Range, Wildlife, Noxious Weeds), includes funding for the monitoring component.

EMC-0584-076
Western Watersheds Project

Comment: BLM must develop a comprehensive monitoring plan with specific schedules, with all monitoring to be funded as part of the original "treatment" cost. Otherwise, timely and necessary monitoring will never occur.

Response: Implementation of monitoring for any given treatment will be at the local field office level as part of the treatment project design and NEPA analysis, including development of post-treatment criteria for monitoring. Project funding, regardless of the program funding source (Emergency Stabilization and Rehabilitation, Healthy Forests Initiative, Range, Wildlife, Noxious Weeds), includes funding for the monitoring component.

EMC-0584-098
Western Watersheds Project

Comment: Livestock Trespass, Other Post-Fire Non-Compliance: As part of this NEPA process, BLM must review records of livestock trespass or non-compliance, and assess its frequency and impacts to treatment outcomes. What are the impacts of trespass on outcome of rehab efforts? BLM must also provide strict penalties for post-fire trespass by livestock on burned areas. As taxpayers often have spent hundreds of thousands of dollars on post-fire rehab and other ESR [Emergency Stabilization and Rehabilitation] activities, accountability and effectiveness of rehab is essential. Please describe how trespass may harm any site recovery. For example, trespass has been a tremendous problem in Burley BLM lands, and documented by Miriam Austin of WWP [Western Watersheds Project] and others over the years. The trespassed public lands at Rice Canyon and in the Goose Creek watershed of Burley BLM provide a perfect example of BLM Post-fire failures to control livestock.

Response: The PEIS identifies restricting livestock if necessary as a Standard Operating Procedure in Table 2-8 (Standard Operating Procedures for Applying Herbicides) of the PEIS. In many situations restricting livestock is necessary to allow either recovery or establishment of native perennial vegetation following treatment. If grazing occurs too soon, new seedlings and possibly existing plants that were stressed during the treatment may be damaged. As a result of this damage, the desirable vegetation may not be able to take advantage of the additional soil resources that were made available by removing the less desirable vegetation. In such a situation it is likely that "weeds" or other undesirable invasive vegetation will outcompete the native

vegetation and maintain a significant presence on the site. The outcome of grazing an area too early would occur regardless of whether the grazing is an authorized or unauthorized use. Therefore, the BLM believes that the PEIS adequately addresses this situation. The BLM did do some additional review of livestock trespass in general, as well as some specific situations. Although unauthorized grazing use occurs in some situations, it was not identified as a significant problem for most treatments or wildfires. Unauthorized use actions are taken if livestock are allowed to use a burn or treatment area. The settlement of an unauthorized use situation is dependent on the facts of the specific case, whether the unauthorized use is determined to be willful, or non-willful, and the number of animals and amount of time involved in the violation.

EMC-0584-116
Western Watersheds Project

Comment: Analysis of Past EFR [Emergency Fire Rehabilitation]/Rehab/Restoration Actions. As part of this NEPA process, BLM must assess all its post-fire rehab herbicide use efforts and seedings in the past 30-40 years, or however long records have been kept. For example, which cwg seedings in the Jarbidge were planted, when? With what species? What is their current condition? Following this, BLM must collect site-specific data on the current condition, health, wildlife, recreational and other values of these areas seeded post-fire. How many new fences, pipelines, troughs, etc. have been built using ESR funds, or federal fire funds? What impacts have they had? A complete analysis must be presented in this NEPA document.

Response: See responses to Comment EMC-0584-051 under PER Vegetation Treatment Programs, Policies, and Methods, Programs, Policies, and Initiatives Influencing Vegetation Treatment Activities, and Comment EMC-0525–111 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0585-008
Western Watersheds Project

Comment: Nowhere, in any scientific, systematic, baseline or comprehensive way, is effectiveness ever examined in the DEIS [Draft PEIS]/PER or associated documents When I inquired of the PEIS preparers ([Brian] Amme) where effectiveness is examined, the response was: "in the scientific literature, and by the Weed control districts and other levels", and suggested I go to state weed meetings. These state weed meetings do not scientifically or systematically I examine the effectiveness of treatment projects conducted across public lands. I have attended them. Small papers and reports, at times funded by chemical companies, are all they entail. If BLM is aware of current and accurate information compiled by any of these parties, it should have been presented in the DEIS [Draft PEIS], and has not been. Tremendous risk and uncertainty surrounds any BLM action under which BLM would claim that "effectiveness" was somehow examined at state weed meetings, and this information somehow magically incorporated into treatment of millions of acres of public lands.

Response: The BLM uses professional judgment and expertise in designing vegetation treatment projects. Knowledge of the effectiveness of methods and techniques of vegetation control that is applied to public lands is derived from many sources including, but not limited to: monitoring of past projects, scientific literature, participation in professional societies, society meetings, workshops, university research, university and agricultural extension services, and other federal agencies (e.g. Natural Resource Conservation Service, Agricultural Research Service, U.S. Department of Agriculture), as well as the local expertise available from state and county agencies. There is no single scientific comprehensive study of the effectiveness of all vegetation treatment methods over the 17-state area this PEIS addresses. Development and funding of a research design to scientifically and comprehensively address vegetation treatment effectiveness over a 17-state area is beyond the scope of this PEIS. The BLM will continue to rely on professional judgment and the available

extant literature and expertise, as described above, when designing vegetation treatment projects and selecting methods of treatments for effectiveness.

EMC-0585-024
Western Watersheds Project

Comment: BLM has conducted no effectiveness monitoring, and provides no science-based analysis that its drastic increase in just such activity as has harmed these habitats in the past, will result in positive or beneficial changes for natural communities. BLM has refused to address the causes of any "need" for treatments.

Response: See response to Comment EMC-0584-051 under PER Vegetation Treatment Programs, Policies, and Methods, Programs, Policies, and Initiatives Influencing Vegetation Treatment Activities. The broad adverse and beneficial effects of treatments are described in Chapter 4 of the PER. The need for an increase in acres treated to address hazardous fuels conditions has been established under direction from Congress and the Administration.

EMC-0585-028
Western Watersheds Project

Comment: If these previous treatments are now in poor condition, are infested with weeds, etc. it is critical to use this information in this [P]EIS. This is especially the case as the [P]EIS page after page makes sweeping and unsubstantiated assertions that disturbance or treatment actions under it Preferred or other alternatives would result in beneficial outcomes, and improvements in soils, watersheds, all components of the environment.

Response: See response to Comment EMC-0584-051 under PER Vegetation Treatment Programs, Policies, and Methods, Programs, Policies, and Initiatives Influencing Vegetation Treatment Activities. Site-specific conditions and successes or failures of previous treatments are taken into account during the design of proposed vegetation projects at the local field office level. The broad adverse and beneficial effects of treatments methods on vegetation and public lands resources are described in Chapter 4 of the PEIS.

EMC-0585-031
Western Watersheds Project

Comment: Instead of presenting any data or analysis of current conditions on these lands where it has conducted past treatment projects, BLM has used "existing environmental analyses in analyzing impacts of the proposed action and alternative". None of these "existing" documents ever examines the condition of the treated lands, or the effectiveness of treatments.

Response: The BLM often relies on existing environmental analyses when assessing impacts of new projects or proposals. The BLM has relied on independent and new scientific data and analyses for the herbicides evaluated in this PEIS. Information from existing environmental analyses has been incorporated by reference where appropriate. See responses to Comment EMC-0584-051 under PER Vegetation Treatment Programs, Policies, and Methods, Programs, Policies, and Initiatives Influencing Vegetation Treatment Activities, Comment EMC-0585-148 under PEIS Alternatives, Monitoring, and Comment RMC-0222-087 under PER Effects of Vegetation Treatments, Vegetation regarding effectiveness monitoring. Chapter 4 of the PEIS, and in particular Chapter 4 of the PER, provide examples of treatment successes and failures based on studies done by the BLM, other agencies, and research organizations.

EMC-0585-058
Western Watersheds Project

Comment: BLM must provide data and studies of the effects and effectiveness of its past use of the chemicals currently being used and carried forward in this [P]EIS in real-world, wild land settings, to understand the environmental and other effects of their use. BLM has not done this in the DEIS [Draft PEIS].

Response: See responses to Comment EMC-0238-009 and Comment EMC-0340-006 under PEIS Alternatives, Monitoring.

EMC-0585-061
Western Watersheds Project

Comment: What is the condition of the sage grouse habitats where treatments have occurred? Have these treatments been effective in achieving the outcomes predicted or claimed? This is critical to understand the effects of both herbicides and treatments on wild lands.

Response: See response to Comment EMC-0584-051 under PER Vegetation Treatment Programs, Policies, and Methods, Programs, Policies, and Initiatives Influencing Vegetation Treatment Activities. The condition of specific habitats, such as sage-grouse habitat, is assessed at more regional or local scales in land use or activity level plans. This PEIS and PER assess impacts and effects of vegetation treatments broadly across 17 western states and are organized by ecoregion rather than wildlife habitat. Adverse and beneficial effects of treatment methods on wildlife resources, by ecoregion, are described in the Wildlife Resources section of Chapter 4 of the PER.

EMC-0585-062
Western Watersheds Project

Comment: BLM claims "the use of the other non-herbicide techniques in an integrated pest management approach has been affirmed in all previous EIS, and the BLM is *not proposing to make any decisions relative to the use of non-herbicide vegetation treatment methods*" ([page] ES-2 [of the Draft PEIS]). Here BLM admits it has been using many of these techniques all along, yet refuses to examine their effectiveness, or ecological consequences, or to develop a decisionmaking framework to determine which treatments to use or how it will decide when to spray vs. when to mow, for example.

Response: The BLM includes effectiveness monitoring as a component of all approved vegetation treatment projects. The BLM examines the ecological and environmental consequences of proposed vegetation treatments at the project-specific level through the NEPA process. The framework for selecting treatment methods or techniques is described in Chapter 2 of the PER under Planning and Management at the Local Level. The BLM utilizes an integrated pest management approach when assessing the need for treatments and when selecting an appropriate treatment method.

EMC-0585-137
Western Watersheds Project

Comment: BLM provides no systematically collected monitoring data that gauges the success, costs, or environmental impacts of BLM vegetation actions that have occurred to date using IPM [Integrated Pest Management]. How many acres has BLM used IPM or IVM [Integrated Vegetation Management] on? Where? What has been the success in the short, mid and long terms? What actions have been taken to control livestock grazing pre or post-treatment, or to limit continued disturbance or spread of weeds at these areas where IPM/IVM is claimed to have been conducted?

Response: See responses to Comment EMC-0584-051 under PER Vegetation Treatment Programs, Policies, and Methods, Programs, Policies, and Initiatives Influencing Vegetation Treatment Activities and Comment EMC-0525-111 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0585-140
Western Watersheds Project

Comment: [Page] 2-2 [of the Draft PEIS] "rangeland management" further describes BLM treating 317,959 acres to prevent the spread of noxious weeds and invasive plants in 2004, and inventorying only 8.9 million acres. BLM also claims that funding and labor dictates a containment strategy. If BLM has only surveyed 8.9 million acres how can it possibly know how many acres need to be treated?

Response: BLM public lands are on a 3-year inventory cycle. Each field office assesses its public lands through various methods, including but not limited to: rapid assessment techniques, watershed inventories, statistical sampling, and remote sensing, as well as vehicle and pedestrian surveys and field observations. The 8.9 million acres inventoried for weeds was in Fiscal Year 2004 only. The total number of acres inventoried and re-inventoried for weeds is greater than 8.9 million acres. See Determination of Treatment Acreages in the Scope of Report section of Chapter 1 of the PER for a description on how acres were estimated for the PER and PEIS.

EMC-0585-143
Western Watersheds Project

Comment: [Page] 2-4 [of the Draft PEIS] summarizes the 1992 13 States EIS, and claims that BLM acts to minimize or prevent the need for veg controls, uses effective nonchemical control, uses herbicides only after considering effectiveness of other methods. Yet, the [P]EIS provides no current evaluation of herbicide or treatment effectiveness. So BLM has no current framework for identifying which herbicide or treatment, or combination, would be most effective to use in a wild land setting.

Response: The PEIS/PER does not provide a 17-state-wide summary of effectiveness of treatments applied in the past. The availability of effectiveness monitoring data for treatment applications varies greatly among field offices. In the PEIS, it is not possible to summarize specific projects and their results over a 17-state area spanning over 4 decades. Decisions on treatment(s) to apply are made at the local field office level and determined within an integrated pest management framework. Refer to the Proposed Action in the Introduction section of Chapter 1 of the PEIS. The PEIS assesses the impacts of four proposed herbicides on human health, ecologically sensitive species, and public lands resources.

EMC-0585-144
Western Watersheds Project

Comment: Nowhere in the current [Draft] [P]EIS which claims to base its actions and those of the PER on this old EIS does BLM provide information or facts that demonstrate where, how much acreage, and how successful actions under the old EIS have been, or how best to minimize herbicide use.

Response: See response to Comment EMC-0585-143 under PEIS Alternatives, Monitoring.

EMC-0585-148
Western Watersheds Project

Comment: This demonstrates the great risks with BLM's greatly expanded herbicide and other treatment acreages, and a great likelihood of unnecessary and undue degradation to lands and waters from BLM's actions. BLM cannot get off the hook by claiming it never bothered to monitor the projects, or lost the results. WWP [Western Watersheds Project] regularly receives information from BLM District or Field Offices in FOIAs [Freedom of Information Act], or reviews agency project and other files as part of IBLA [Interior Board of Land Appeals]/OHA [Office of Hearings and Appeals] or other litigation, and records of past treatments do exist. Example, Jarbidge office BLM FOIA, producing all documents of veg treatments, ESR [Emergency Stabilization and Rehabilitation], etc. As part of this EIS process, BLM must demonstrate some accountability to the American public. It could readily review past ESR [emergency stabilization and rehabilitation], chaining, prescribed fire, etc. project 36, files, and systematically monitor all, or a randomly selected subset of the sites to determine the effectiveness and risks of treatments. BLM must revisit treated sites in order to gauge the environmental effects, and to develop a valid baseline.

Response: See response to Comment EMC-0585-143 under PEIS Alternatives, Monitoring. The BLM agrees post-treatment monitoring should occur and the results used to establish baseline information at the local field office level. Individual project

and site-specific data are best utilized locally to be meaningful in understanding local vegetative conditions. The BLM Legacy Program provides a broad-level sample for effectiveness monitoring for treatments greater than 25 years old. The results of these field visits are incorporated into the PEIS and PER.

EMC-0585-149
Western Watersheds Project

Comment: Instead, BLM relies on unsubstantiated assertions and predictions of the beneficial nature and impacts of all actions it proposes. This is even more egregious, as BLM claims that "monitoring ensures that vegetation management is an adaptive process that continually builds on past mistakes". . . . "this ensures that vegetation treatment processes are effective, adaptive, and based on prior experience". Yet, BLMs [P]EIS provides no evidence that the agency can be trusted to monitor or learn anything – or be effective, adaptive or base anything on past experience.

Response: The BLM relies on the value of monitoring, particularly effectiveness monitoring, in its decision-making process to undertake specific vegetation treatments.

EMC-0585-150
Western Watersheds Project

Comment: If BLM plans to rely on adaptive management, or claim that it is learning from treatments, this [P]EIS must establish specific mandated short, mid and long term monitoring for specific parameters of vegetation, soil, habitat health and ecological integrity on all treatments.

Response: Monitoring by the BLM is implemented at the land use plan level and at smaller spatial scales, as funding and priority allow. See response to Comment EMC-0584-076 under PEIS Alternatives, Monitoring.

EMC-0628-002
Needs, Kelly

Comment: I also believe that adequate monitoring are required to determine whether existing treatments are effective, much less adding thousand of more acres to the budget. What budget has been allocated to cover monitoring the effects and results of the proposed treatment? No treatment should take place if no system is in place to evaluate whether that treatment was effective.

Response: See responses to Comment EMC-0585-150 and Comment EMC-0585-143 under PEIS Alternatives, Monitoring.

EMC-0640-009
Animal Welfare Institute

Comment: Furthermore, the BLM must employ comprehensive monitoring strategies both pre and post treatment (including immediately post treatment) to track herbicide impacts and to use such data to alter or terminate the area-specific herbicide application program.

Response: See response to Comment EMC-0584-051 under PER Vegetation Treatment Programs, Policies, and Methods, Programs, Policies, and Initiatives Influencing Vegetation Treatment Activities.

EMC-0640-032
Animal Welfare Institute

Comment: With regard to impacts, the PEIS and PER failed to comprehensively articulate the potential impacts of both herbicidal and non-herbicidal treatment programs and to include and describe a comprehensive monitoring program to assess the impact of such programs both pre and post-treatment. This failure is particularly egregious considering that the BLM has been using herbicidal and non-herbicidal treatment programs for years, yet the PEIS did not include any description of impact data collected, lessons learned, mistakes made, or adjustments implemented based on past practices. Though the BLM attempts to disregard this critical omission by claiming that past monitoring efforts (pre and post treatment) were not sufficient or sufficiently standardized, it is incomprehensible that data on the field application of

various herbicides, for example, and their impact on non-target vegetation, fish, wildlife, soil bacteria, and invertebrates are not available in a form that could have been incorporated into the PEIS. Even if the BLM could have only provided summaries of impacts previously encountered with the use of herbicidal or non-herbicidal vegetation treatments, such summaries would have provided the public with a better understanding of the potential impacts, or lack of impacts, expected under the proposed action.

Response: See responses to Comment EMC-0584-051 under PER Vegetation Treatment Programs, Policies, and Methods, Programs, Policies, and Initiatives Influencing Vegetation Treatment Activities and Comment EMC-0525-087 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0640-035
Animal Welfare Institute

Comment: Finally, if the BLM implements the proposed action, it is crucial that its plan be based on adaptive management and that it establish stringent criteria for pre and post treatment monitoring to assess the impact of its treatment options on wildlife, fish, amphibians, protected wildlife, invertebrates, air and water quality, soils, human safety, and other ecosystem components. The pre-monitoring effort must evaluate the condition of the proposed treatment area including species (flora and fauna) composition, abundance, and density data so that the impact of the treatment can be quantitatively measured. Post-treatment monitoring must be initiated immediately after treatment (not 1 to 2 years after treatment) to measure how the treatment affected various ecosystem components. Prior to treatment the BLM should establish treatment specific criteria, which, if exceeded as determined by post-treatment monitoring, would result in either a cessation or alteration to the treatment program to prevent any future violation of the criteria.

Response: See response to Comment EMC-0584-076 under PEIS Alternatives, Monitoring.

FXC-0074-007
Copper Country Alliance

Comment: Additionally, methods should be evaluated for their long-term effectiveness, including ability to remove or disable seeds and roots.

Response: The Final PEIS/PER has an expanded section on Monitoring in Chapter 2, although it is presented at a broad, programmatic level. Implementation planning is tied to goals and objectives (i.e., desired outcomes) set at the regional/local land use planning level. During implementation planning, detailed effectiveness monitoring is developed. Invasive plant treatment programs throughout the country managed by various entities (federal, state, county, university, etc.) are continually evaluating the long-term effectiveness of treatment methods; such information is used to build site-specific effectiveness monitoring.

RMC-0006-026
Central Sierra Environmental Resource Center

Comment: For the rare cases where herbicides may be determined to be necessary, project plans should include realistic exit strategy. Any chosen alternative should require that when herbicide treatments are used, follow-up monitoring, analysis, and rehabilitation are carried out until the desired stable native plant and animal communities are established.

Response: Follow-up monitoring of herbicide treatment projects to determine treatment success and follow-up rehabilitation to meet restoration objectives are considered and implemented in each herbicide treatment project proposal. In the case of emergency stabilization and rehabilitation projects following wildland fire, follow-

up monitoring, treatment, and rehabilitation are required for the first 3 years. Use closures for livestock and other animals are implemented for at least two growing seasons or until rehabilitation objectives are met. The only way to determine whether objectives have been met and reopen an area to use is through the necessary monitoring.

RMC-0006-030
Central Sierra Environmental Resource Center

Comment: Herbicide treatments don't provide beneficial results unless they are followed up closely until the desired native vegetation community is well established. Even after this, annual surveys should be conducted to catch re-growth from the seed bank or re-introduction of the same species or other invasive species. If exotic invasive plants do reappear, then it will be much easier to catch them with manual removal when their populations are small. It should be a requirement of any herbicide plan to guarantee that follow-up observation and rehabilitation is planned and success is achieved.

Response: See response to Comment EMC-0584-076 under PEIS Alternatives, Monitoring. Post-treatment monitoring is an essential component of any treatment proposal.

RMC-0069-009
Desert Survivors

Comment: Does the BLM have data from any recent controlled comprehensive studies of what happens to herbicides or herbicide residues after application? Do you have any data on the persistence of same in either groundwater, foliage or other plant materials, or in soil at the sites treated in the past? Such studies would have to go on for two, five, ten or twenty or fifty years, so we may see if the water, soil, plants or animals are contaminated, for how long, and in what way. Are you conducting such studies now? When will they be completed? Are any studies designed to test these subjects on BLM lands now? If so, Desert Survivors would like learn of such studies and see the results.

Response: A large number of studies have been reported in the literature and in the PEIS about the fate of herbicides in groundwater and soil (see Soil Resource and Water Resources and Quality sections in Chapter 4 of the PEIS, and Sections 3.2 and 3.3, and Appendix A of the ecological risk assessments). The herbicides that the BLM proposes to use are generally short-lived in soil and groundwater. The BLM is not funded as a research organization, and does not conduct studies on the fate of herbicides on BLM-administered lands; the agency relies on the research of others, such as the USEPA and U.S. Geological Survey.

RMC-0069-010
Desert Survivors

Comment: Without any data, the allegation that there is no danger from these substances remains exactly that, an allegation. And I am not referring to studies done by pesticide manufacturers, which have an obvious bias. I am referring to studies actually performed by public agencies on the ground. We need to see what happens to the land, its water, its plants and its animals, when these substances are applied. At a time when school districts, neighborhood groups and municipalities are challenging the California State Department of Transportation ("Caltrans") when it applies pesticides to every roadside, our citizens should expect no less of the BLM on our public lands.

Response: The potential risks to human health from the herbicides were carefully evaluated in the human health risk assessments and ecological risk assessments using scientific data and reasonable assumptions about how humans, plants, and animals may come in contact with the herbicides. Also see response to Comment RMC-0069-009 under PEIS Alternatives, Monitoring.

RMC-0070-006
California Regional Water Quality Control Board

Comment: All alternatives that include pesticide applications should contain a detailed monitoring plan to verify that the above Basin Plan pesticide objectives are not violated. Your [P]EIS should display clearly what type of monitoring is planned, including a detailed schedule for monitoring to be conducted.

Response: See response to Comment EMC-0584-076 under PEIS Alternatives, Monitoring.

RMC-0080-009
Idaho State Department of Agriculture

Comment: ISDA [Idaho State Department of Agriculture] is pleased to see BLM address monitoring and the adaptive nature of vegetation management. We are, however, concerned with how BLM is going to monitor and follow-up herbicide treatments. On page 2-21 the [Draft] PEIS states[:] The BLM recognizes that many sites treated in the past lack monitoring data. In many cases monitoring was not done, was done sporadically without consistent documentation, or was done but the records were lost or destroyed. The PEIS then goes on to say that to correct these problems "...monitoring must be designed to determine if the treatment was effective...and to ensure that the treatment did not adversely impact other resources." We have two concerns with these statements. One, this statement is extremely ambiguous and does not offer any real solutions. Too what degree is effectiveness to be monitored and impacts to be investigated? Two, how is BLM going to expect personnel to monitor three times the amount of vegetation treatments when resources are insufficient to monitor what they currently treat? ISDA suggests the BLM, in the PEIS, describe the components of an effective monitoring program (including identification of parameters for developing tangible objectives), or at least, require weed program supervisors to be trained in how to carry out an effective monitoring program. If BLM wants to make a change in the effectiveness of its monitoring, it must begin in the PEIS.

Response: See response to Comment EMC-0584-076 under PEIS Alternatives, Monitoring. See also the revised text pertaining to monitoring in Chapter 2 of the Final PEIS under Monitoring. The BLM would monitor for the effectiveness of the treatment and use any of the techniques recommended in BLM Technical Report TR 1730-1, Measuring and Monitoring. The BLM would also use the North America Weed Management Association standards in order to be consistent with data collection standards with other agencies.

RMC-0087-007
Central Valley California Regional Water Quality Control Board

Comment: In the "Monitoring" section, it states that, "Post-treatment monitoring generally occurs within 2 years after treatment and, where applicable, should include a water monitoring program to determine the effectiveness of buffer strips and impacts, if any, to water quality." If BLM applies aquatic pesticides, post-treatment monitoring 2 years after an application will not show if there was an impact or not. To make monitoring data more useful, surface water monitoring must occur at least prior to an application as well as immediately after an application in one or more sites downstream of the treatment area. Our office has on file available for your viewing examples of monitoring plans that may serve as models for the plans that would have to be developed for your project.

Response: The statement refers to monitoring of water quality impacts from terrestrial applications. This has been clarified in the Final PEIS. The BLM agrees that post-treatment monitoring for aquatic applications after 2 years would not be timely to determine impacts. Also see response to Comment RMC-0070-007 under PEIS Proposed Action and Purpose and Need, Interrelationships and Coordination with Agencies. BLM monitoring criteria and requirements for aquatic treatments within the jurisdiction of the California Regional Water Quality Control Board will be

coordinated through this agency at the time a project is proposed.

RMC-0106-004
Public Employees for Environmental Responsibility

Comment: The woeful lack of direct on-the-ground evidence of impacts from all previously-used herbicides is the result of 20 years of failure to implement a meaningful monitoring program. This is evident from the fact that virtually no evidence of adverse impact from 20 years of application of these herbicides to public lands is used, or cited, in the pages of impact analysis.

Response: The BLM disagrees with the commentor's statement. The BLM monitors herbicide treatments according to the monitoring requirements identified and developed for the specific project through site-specific NEPA analysis. The commenter presents no information that monitoring has not occurred in the past for herbicide projects. Herbicides have specific half-lives and degradation rates that do not result in accumulation or persistence in the environment for more than a few years for a few herbicides, and less time for most herbicides. Thus, herbicides applied several years in the past no longer exist in any tangible form or persist only in negligible or trace amounts in the present. Persistence in the environment, even for a few years, is dictated by a number of variables including rate of application, number of times applied in one area, soil clay content, ability of target vegetation to fully absorb the herbicide by its mode of action, and available moisture, among others. Over the last 20 years the BLM has seen no evidence of adverse effects to public lands from proper applications of herbicides, cumulatively or otherwise.

RMC-0106-005
Public Employees for Environmental Responsibility

Comment: PEER [Public Employees for Environmental Responsibility] recommends that instead of authorizing a new program of herbicidal treatment, a thorough inventory be made of all of the problem areas presently targeted to establish current conditions of pesticide contamination of land and water, including the occurrence and nature of degradates of both active and inert ingredients of the pesticides used to date by the BLM. Small test areas (less than 10 acres) should then be established to thoroughly examine the effects of all herbicides proposed to be used on vegetation, soils, and aquatic and terrestrial wildlife (target and non-target species). Data are especially deficient for soil biota and for the behavior of herbicides in the soil column above the water table (unsaturated zone), and should be emphasized in a rigorous study. No herbicidal treatment program should be implemented until this study is completed (probably requiring at least 5 years) and only if justified by this study. Herbicidal treatments to "improve" rangeland should be part of this study. In the interim carefully monitored non-herbicidal methods should be used to address the problems of invasive species.

Response: The PEIS is not authorizing a new program of herbicidal treatment. Vegetation treatments by the BLM using herbicides have been ongoing for several decades. In developing this PEIS, risk assessments for human health and ecological risk have been undertaken for the four herbicides proposed for use and for an additional nine herbicides already approved for use on public lands, based on extensive toxicological literature searches conducted in conjunction with the risk studies. The BLM has conducted these risk analyses in addition to the studies and research undertaken by USEPA to register the active ingredients under the Federal Insecticide, Fungicide, and Rodenticide Act. To the extent practicable, all active and inert ingredients of the herbicides considered in the PEIS have been addressed in this analysis. The BLM evaluated the nature of degradates in Appendix D of the Final PEIS. Incomplete and unavailable information is addressed in Chapter 4 under Incomplete and Unavailable Information.

RMC-0106-008
Public Employees for Environmental Responsibility

Comment: Even at that, to eliminate from discussion the environmental impacts of two decades of herbicidal treatments of public lands for range improvement is irresponsible. It is stated in the 1991 FEIS for vegetation treatment in 13 western states (p. 1-37) that "Many rangeland treatments would have studies established in them to monitor treatment effects on vegetation as well as on other resources such as wildlife or water quality…"

Response: All vegetation treatments completed since the 1991 FEIS would have completed site-specific level analysis and appropriate field office monitoring data to evaluate their level of effectiveness. These data are not summarized in this PEIS.

RMC-0106-009
Public Employees for Environmental Responsibility

Comment: All monitoring data from those years must be cited or incorporated by reference to accessible documents. If the BLM has no useful impact data from those 20 years to apply to the present analysis, it must say so. PEER [Public Employees for Environmental Responsibility] suspects this is the case as the BLM has failed to respond to repeated FOIAs [Freedom of Information Act's] and two appeals seeking monitoring results from the 199 1-2001 vegetation treatment program in 13 western states. The ROD [Record of Decision] for the 1991 EIS required monitoring to assess effectiveness of the herbicidal applications and their environmental impacts. So, where are the data?

Response: See response to Comment RMC-0106-008 under PEIS Alternatives, Monitoring. Monitoring data for specific projects resides at the field office where the project was proposed and implemented. The 1991 ROD established that monitoring would occur. The ROD did not establish that monitoring data would be summarized in a subsequent analysis of herbicide effects. The PEIS does not summarize these data. The cost to collate 20 years of complex monitoring data across 17 states would be exorbitant.

RMC-0106-016
Public Employees for Environmental Responsibility

Comment: [Page] 2-21 [of the Draft PEIS]. The requirement to establish intervals and standards for monitoring and evaluation has clearly not been implemented in the past. For example, the monitoring program for the Northwest Area FEIS, 1985, p. 184-185 and Western Oregon Program FEIS, 1989, p. 237-238 call for only extremely limited monitoring of surface water quality. Assessing the effects of herbicide applications requires full inventory of the state of the area to be treated before treatment. Ecosystem effects can only be assessed by comparison with a control area in which vegetation and ecosystem functions have not been degraded. The D[raft] PEIS should lay out a monitoring protocol that is scientifically and legally defensible, and tie it to actions required upon determination that specific thresholds of adverse effects have been reached. These procedures and findings should be mandatory, and they must include adequate monitoring of groundwater.

Response: Current monitoring standards are based upon relevant guidance in BLM manuals and handbooks, in addition to local, state, and federal regulatory standards applicable to the project or area to be treated (e.g., groundwater) and subsequently monitored. Monitoring activities outlined in previous EISs may no longer conform to current standards. In all cases, current standards and protocols for monitoring are followed.

RMC-0106-017
Public Employees for Environmental Responsibility

Comment: Past experience shows the inadequacy of the statement that monitoring results "...should be made available to interested parties." Make this mandatory and specify reporting interval. If the costs of an adequate program are prohibitive, only Alternative C is appropriate.

Response: The BLM already has legal mandates in the Federal Land Policy and Management Act (1976) and the Public Rangelands Improvement Act (1978) to inventory and report on a continuing basis the range condition and trend in that condition. The BLM also provides monitoring data and results to interested parties and the public through a number of venues, including the NEPA process for specific actions. Nothing in the PEIS analysis can make reporting monitoring results any more mandatory. In cases where information is not provided as requested by interested parties, the public has relief through Freedom of Information Act (FOIA) requests to obtain such data.

RMC-0106-059
Public Employees for Environmental Responsibility

Comment: [On] p. 4-199 [of the Draft PEIS]. "Determining the exact [or any!] status of soil conditions for any given area is difficult because of the lack of inventory and monitoring data." (emphasis added). This, sadly, is the unfortunate truth. 20 years of herbicidal treatment of public lands have been undertaken with no record of the status of the land and no monitoring of the impacts to soil resources. This record is hardly the basis for justifying open-ended continuation of the same procedures.

Response: Order 3 soil inventories and land health assessments have been conducted on millions of acres of federal lands. However, these inventory and monitoring activities are not generally intended to measure the impacts of herbicide use. Nevertheless, extensive studies have been conducted on the environmental and health risks associated with each of the herbicides proposed for use in the PEIS. There is no "open-ended" use of herbicides implied by the PEIS. Use is restricted to specific herbicides applied by qualified applicators according to strict use guidelines. No herbicide use will be conducted without further environmental analysis at the local project scale.

RMC-0130-005
Craig, Diane

Comment: I also wonder how the BLM intends to monitor such a program and what they have in mind when it eradicates vast populations that nature placed in these areas to live in harmony and balance. Is the BLM responsible for providing emergency healthcare to the wildlife populations it intends to exterminate with this senseless act? The BLM as states "monitoring ensures that vegetation management is an adaptive process that continually build upon past successes and learns from past mistakes" my question here is how can the BLM evaluate such successes and mistakes when it recognizes "that many sites treated in the past lack monitoring data. In many cases, project monitoring was not done, was done sporadically without consistent documentation, or was done but the records were lost or destroyed."

Response: The BLM acknowledges gaps in monitoring information from past activities, as discussed in the Monitoring section in Chapter 2 of the PEIS. As identified in the PEIS, the reasons for gaps are many and varied and span some 40 years or more. Standards and requirements for documentation in the past (e.g., dating from the 1960s) were less stringent than standards considered in subsequent decades, and are not reflective of standards for documentation in use today. Record keeping likewise is not consistent from office to office over a multiple decade time frame. The BLM also acknowledges the importance of and need for monitoring. In general, monitoring records are available at BLM field offices and are used in the design of vegetation treatment projects, as well as to support current and future vegetation allocation decisions in land use plans and appropriate permitted uses. When monitoring data are lacking, the BLM relies on professional judgment (field experience) for predicting the effects of treatment actions at the local level.

RMC-0144-010
Wyoming Game and Fish Department

Comment: Another item of great concern was an inadequate discussion, analysis and evaluation of post-treatment management. A great deal of time, effort and funds will be allocated to the treatment program. Post management practices and activities will be critical in maintaining the effectiveness and longevity of the treatments. We recommend that proper post management practices be made a requirement for all proposed treatments activities.

Response: See response to Comment EMC-0584-051 under PER Vegetation Treatment Programs, Policies, and Methods, Programs, Policies, and Initiatives Influencing Vegetation Treatment Activities. The BLM agrees that post-treatment practices should include actions to maintain the effectiveness and longevity of any particular treatment. In this regard, post-treatment monitoring plays an important role in determining the most appropriate post-treatment maintenance practices.

RMC-0208-004
California Oak Foundation

Comment: The Draft PEIS fails to consider the potential effects of increased herbicide use on oak woodland ecosystems. Because oak woodlands in California are home to numerous endangered, threatened, and protected species, the failure to adequately assess the impacts to oak woodlands constitutes a failure to assess the impacts on these special-status species.

Response: The PEIS did not focus on impacts to special status species based on habitat type, but looked at risks based on guild. It was assumed in the ecological risk assessments and Biological Assessment that risks to special status birds, for example, would be similar regardless of habitat type. These risks include impacts to the animals' welfare, in addition to risks associated with modification or loss of habitat.

RMC-0214-004
Natural Resources Defense Council and National Wildlife Federation

Comment: Prior to undertaking any programmatic or specific initiative, BLM must substantiate its predicted effects with a record of site-specific analysis and monitoring that ensures that the act of vegetative eradication does not bring about significant adverse impacts alone or together with similar projects—a standard that the current proposal woefully fails to achieve.

Response: Site-specific analyses and monitoring records are available at the BLM field office or district level, and these data and analyses are factored into the purpose and need for any future treatments. The BLM proposes to use various treatment methods to control and manipulate vegetation to meet desired goals and objectives as expressed in land use plans, not conduct a program of vegetative eradication. In situations where an invasive species or noxious weed is targeted over broad areas, the proposed project would include post-treatment revegetation and stabilization objectives. The premise that vegetation treatments designed to reduce hazardous fuels and the potential for catastrophic fire or to restore and benefit habitat would result in adverse significant impacts is unsubstantiated.

RMC-0214-033
Natural Resources Defense Council and National Wildlife Federation

Comment: The lack of monitoring ensures this proposal will not succeed. The current D[raft] PEIS does not even begin to analyze the crucial role that monitoring should and would play in the implementation of any sound and responsible vegetative management program. Past history has clearly revealed that the BLM does not have the institutional resources to properly manage and employ a monitoring program that can correctly assess what is actually occurring on the agency's rangelands. There is even noticeable agreement within BLM that the agency does not have the means to successfully monitor rangeland conditions. We again cite the suppressed analysis formulated by BLM scientists for BLM's proposed new grazing regulations in regards to monitoring efforts on the BLM lands.

Response: All pesticide use authorizations require reporting of applications and follow-up monitoring, as appropriate, to determine efficacy of the treatment. It is beyond the scope of this PEIS to examine the overall monitoring program requirements of the various BLM resource programs. See response to Comment RMC-0038-009 under PEIS Alternatives, Vegetation Treatment Planning and Management regarding institutional resources.

RMC-0214-036
Natural Resources Defense Council and National Wildlife Federation

Comment: This state of affairs is readily apparent from the D[raft] PEIS itself: it does not provide any statistical or quantitative information obtained over the past 20 years of BLM vegetative management. A 1991 BLM vegetation treatment FEIS [Final EIS] stated that "rangeland treatments would have studies established in them to monitor treatment effects on vegetation as well as on other resources such as wildlife or water quality ..." (p. 1-37). There is no evidence that BLM has followed up with any subsequent monitoring data from that EIS, nor is such data evident in the D[raft] PEIS. It is our contention that the lack of data in the D[raft] PEIS is proof that the BLM simply lacks the institutional capabilities to monitor long term effects on the range. Given that the BLM cannot comprehensively assess what is occurring in the present, proposing to expand the use of herbicides and vegetative treatments is simply inconsistent with the agency's obligation to monitor the effects of these treatments.

Response: The 1991 [Final] EIS statement quoted is found in the Implementation Section of the document under "Monitoring." In that document, the BLM identified the monitoring strategies it would follow after vegetation treatment projects were proposed and implemented. The current PEIS commits to similar monitoring strategies for projects proposed in the future. See the Monitoring section in Chapter 2 of the Final PEIS and PER. The 1991 EIS does not make a commitment to summarize all field data gathered during treatment monitoring for any disclosed future period of time. Vegetation treatment and use effects are typically monitored by the BLM on an allotment and watershed basis on public lands throughout the West. Data obtained during monitoring are then factored into current and future forage allocation decisions with full public involvement, for livestock, wildlife, and wild horses, at the local field office level. These vegetation allocations depend on the agency knowing and understanding the condition of the range based on the monitoring data it has collected.

On a broader scale, the BLM is increasingly using remote sensing for collection of inventory and monitoring data to supplement the collection of field data. As these remote sensing techniques are validated on the ground, increased reliability on broad and mid-scale assessments becomes possible, which provides a better context for regional and locally collected data.

RMC-0217-011
Sierra Club Utah Chapter

Comment: It appears the BLM merely plans to continue treatments that have failed in the past and undoubtedly continue to fail in the future. The BLM claims to have treated hundreds of thousands of acres annually but cannot even stem the increase of a single invasive and extremely undesirable plant. The PER states that treatments will be base on the success of past restoration treatments or treatments conducted under similar conditions or recommendations by local experts ([Draft] PER [page] 2-8). Yet there is not discussion of successful past restoration treatments. This is a huge failure in looking at treatment options.

Response: The claim that BLM vegetation treatments have failed in the past and are likely to fail in the future is unsubstantiated. Success of restoration treatments are documented at the level of the local field office. The BLM Legacy Program, as discussed in Chapter 2 of the PEIS and PER under Monitoring, is currently conducting

reviews of vegetation projects completed over 25 years ago, involving the original project designers, to compile lessons learned from these past efforts. Overall, the projects reviewed have demonstrated success in meeting the original objectives for which the projects were designed. Also see response to Comment RMC-0222-087 under PER Effects of Vegetation Treatments, Vegetation.

RMC-0217-012
Sierra Club Utah Chapter

Comment: The PEIS should be able to identify past treatments that have been effective in reducing non-native plants and noxious weeds. The PEIS does not identify the number of acres that have been returned to the potential natural community through the use of chemicals, mechanical, manual or biological treatment techniques. After decades of such efforts surely the BLM could identify such places that the public could visit. The BLM should be able to show on maps those acres which have been rehabilitated using chemical treatments.

Response: See response to Comment EMC-0584-051 under PER Vegetation Treatment Programs, Policies, and Methods, Programs, Policies, and Initiatives Influencing Vegetation Treatment Activities.

RMC-0218-036
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: Purpose and Need. No discussion of past experience w[ith] using these herbicides – were they effective in controlling invasive weeds? In improving riparian habitat quality? In reducing fire severity? How was effectiveness measured? What didn't work? What ecological human health impacts resulted from their use? What impacts could not be measured but could still have taken place? What monitoring was done? How long did herbicide residues stay in soils? Were herbicides detected in ground or surface water? Were there repeated herbicide applications? Cumulative effects?

Response: See response to Comment EMC-0584-051 under PER Vegetation Treatment Programs, Policies, and Methods, Programs, Policies, and Initiatives Influencing Vegetation Treatment Activities.

RMC-0221-025
Center for Biological Diversity

Comment: The BLM has consistently failed to undertake meaningful, detailed surveys of BLM managed lands and to provide comprehensive inventories the public resources it is charged with managing. Even in the areas where the BLM has some data, it has failed keep those data current. As a result, the BLM has insufficient, outdated, and inadequate inventory data of many of the resources on public lands in violation of FLPMA [Federal Land Policy and Management Act]. As a result, the BLM's management decisions are not based on a strong foundation of accurate, detailed information regarding these public lands as Congress intended.

Response: The BLM is in full compliance with the FLPMA regarding inventory of public lands resources. The BLM is currently midway through a 10-year congressionally-funded initiative begun in 2000 for revising its land use planning base, including resource allocations. In compliance with Section 201 of FLPMA, inventories and data are being systematically undertaken and updated to support the land use plan revisions and new planning decisions. Each Approved Resource Management Plan is supported by a foundation of accurate and detailed information on the public lands to which the land use plans pertain. The planning initiative is being conducted with full public involvement, and the public has the opportunity to review the supporting data during the planning process. It is beyond the scope of the PEIS to summarize all current and ongoing inventory and monitoring efforts across all BLM-administered public lands.

RMC-0221-072
Center for Biological Diversity

Comment: The D[raft] PEIS fails to outline any comprehensive monitoring strategy for determining the impacts of the proposed action. Monitoring is an integral part of determining the impacts of an activity on a resource. Objective, quantifiable monitoring is essential for effective management (Christensen et al. 1996). Monitoring must be done frequently and properly, and in the absence of consistent monitoring, management activities should not be permitted. If the BLM goes forward with the proposed project on any basis, monitoring must be conducted before, during, and after herbicide treatments. Resources including soils, plant communities, rare, threatened and endangered species, water quality, and management compliance should all be regularly and consistently checked by the BLM. All results should be publicly available, and reports summarizing those results should be prepared.

Response: Monitoring is discussed in Chapter 2 of the PEIS and PER under Monitoring. Individual monitoring plans are developed at the time a project is proposed and are based on the site-specific conditions present at the project area. Monitoring for herbicide use follows applicable label guidelines, standards set forth in the BLM Manual 9011 – *Chemical Pesticide Use*, and state and local requirements for air and water quality. In the case of threatened and endangered species, monitoring requirements would be established through the applicable biological opinion, under a determination of effect.

RMC-0222-021
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Importantly, the DEIS [Draft PEIS] fails to analyze the results, on its own lands, of where a combination of chemical and non-chemical methods, including passive restoration have been used (see Appendix H [provided as an attachment with the comment] for such an example on Jenny Creek in the Cascade-Siskiyou National Monument), compared to results of where herbicide use alone has been used. If the DEIS [Draft PEIS] had analyzed the Restoration Alternative, it would have been forced to use its own experiences in comparing herbicide use combined with passive restoration, seeding with native species, and/or other treatments.

Response: The types of studies and analysis referred to comprise specific research to determine the relative effectiveness of different techniques in site-specific controlled settings and are beyond the scope of the programmatic analysis. Also see response to Comment EMC-0584-051 under PER Vegetation Treatment Programs, Policies, and Methods, Programs, Policies, and Initiatives Influencing Vegetation Treatment Activities. In regard to analysis of the "Restoration Alternative," see response to Comment RMC-0222-013 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients.

RMC-0222-070
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The D[raft[] PEIS provides zero assurance that any particular monitoring will occur in the future and only says that the results of any monitoring that happens to be done "should" (not "shall") be made available to "interested parties" ([page] 2-11 [of the Draft PEIS]).

Response: See responses to Comment RMC-0106-017 and Comment EMC-0584-076 under PEIS Alternatives, Monitoring.

RMC-0228-008
Metropolitan Water District of Southern California

Comment: Monitoring to evaluate the impacts on water quality is briefly discussed in Chapter 2. The Draft PEIS states that water quality monitoring should be conducted within 2 years after herbicide treatment to determine the effectiveness of buffer strips and the impact on water quality. For moving bodies of surface water, such as the

Colorado River, anything less than immediate monitoring after the application would be inadequate to evaluate the effects on surface water sources. The monitoring plan should include sampling immediately after and at timed intervals after each application for surface water sources. Ground water sources should be monitored for an extended period to account for the time for water percolation and infiltration into the groundwater aquifer. Aquifer hydrology should be evaluated to determine the proper locations and depths for groundwater sampling. Metropolitan [Water District of Southern California] recommends that a more comprehensive water quality monitoring plan be developed.

Response: Monitoring the effectiveness of a buffer strip in protecting water quality is a difficult undertaking. A number of variables must first be understood. If the buffer is designed to keep herbicides from reaching a stream via a surface water pathway, then sampling must occur when there is an event that causes the pathway to function, like rainfall, snowmelt, etc. There have been many attempts to monitor actual event-driven processes, most of which do not work because of the instrumentation involved (e.g. continuous sampling) and the unpredictability of events. Groundwater sampling can provide reasonable results if the monitoring is well-designed. This kind of monitoring requires a high degree of planning, meticulous execution (i.e., well construction), and careful sampling and quality control procedures.

RMC-0233-004
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: We strongly recommend that pre-treatment surveys and monitoring also be emphasized in the final PEIS/PER, in addition to post-treatment surveys and monitoring, in order to adequately determine treatment effectiveness and impacts on other resources.

Response: The text in the Monitoring sections of Chapter 1 of the Final PEIS and PER has been revised to reflect the need for pre-treatment monitoring. We have also included this information under the Standard Operating Procedure and Guidelines table in Chapter 2 of the PEIS (Table 2-8) and PER (Table 2-5).

Alternatives, Coordination and Education

EMC-0011-003
Kiernan, Barbara

Comment: As it is, I had to discontinue my regular use of Crystal Cove State Park when I discovered – after years of ignorant bliss – that they apply pesticides, on a regular basis, to control "invasive" weeds. A practice that was not posted and that employees at the entrance booths were unaware of – when I inquired prior to entering the Park.

Response: The BLM is not responsible for the administration of Crystal Cove State Park. BLM coordination with the public is discussed in Chapter 2 of the PEIS under Coordination and Education. In addition, posting of treated areas is a Standard Operating Procedure for the BLM.

EMC-0092-003
Larson, Lyn

Comment: Educating the public is critical. Most of us don't even think about how our activities exacerbate this problem. Posting signs describing the problem and asking that people clean off their shoes, dust their clothes for seeds, don't bushwhack, drive their bloody off-road vehicles only in designated areas, etc., might help somewhat. (Waldo Lake in OR is doing a good job in this regard.)

Response: See response to Comment EMC-0220-006 under PEIS Alternatives, Coordination and Education. Posting of signs, observing strict reentry intervals, and other Standard Operating Procedures were identified in Table 2-8 of Chapter 2 of the

PEIS.

EMC-0096-004
White, Sally

Comment: Education of the public that uses these resources is very possible. There are more people than ever available for volunteer work. Students from middle school through high school and beyond find it very fulfilling to participate in the removal of invasive plant species in conjunction with a service project. Start them looking at the lands they so treasure as a stewardship on a personal level while they are young and it will pay off in the future. Check with the Park Service, particularly Zion National Park in Utah, to see how they have been handling similar problems.

Response: The BLM and other federal, state, and local agencies actively recruit and use schoolchildren and other volunteers to help with vegetation removal. Volunteer opportunities with the BLM can be found at: http://www.blm.gov/volunteer/, while information useful to teachers and students can be found at: http://www.blm.gov/education/LearningLandscapes/explorers/lifetime/invasive.html.

EMC-0142-002
Mintz, Mary

Comment: Do you even post everywhere when and how and what you are using so the unsuspecting visitor can decide whether or not they want to visit the park?

Response: See response to Comment EMC-0011-003 under PEIS Alternatives, Coordination and Education.

EMC-0214-013
Vollmer, Jennifer (BASF)

Comment: Social and Economic Values Bullet *"Provide public educational programs on the herbicides proposed for local use to minimize fears based on lack of information."* Along with education about the herbicide it is paramount to education the public on the need for the vegetation treatment and why the herbicide is a part of the best choice treatment.

Response: Comment noted. The bullet in Table 2-8 of Chapter 2 of the PEIS has been revised to read: "To minimize fears based on lack of information, provide public educational information on the need for vegetation treatments and the use of herbicides in an Integrated Pest Management program for projects proposing local use of herbicides."

EMC-0220-006
Friends of the Inyo

Comment: It is our understanding that under this current PEIS, site-specific analysis at the Field Office level will still be required until any on-the-ground activity takes places. We encourage the BLM to conduct aggressive outreach to communities potentially affected by any application of synthetic herbicide. Pets, children, livestock, endangered species, and non-target species will suffer unless the owners of public lands – especially those who inhabit the rural West – know what is being planned for their backyard. The negative impacts on local organic, conventional and subsistence agricultural must also be locally discussed, studied and disclosed.

Response: The BLM coordinates with the public on vegetation treatment projects and notifies potentially affected parties of treatment activities that occur on public lands.

EMC-0242-003
Boettcher, Robert

Comment: Most people are not aware of how weeds can be spread. A media campaign to make people aware of how they can help would be money well spent. I am sure you are aware of all the ways to transport weed seed so focus that in the media.

Response: The BLM works closely with the media to inform the public on the threat of weeds. Activities include national weed awareness week campaigns, production of

videos, newsletters, and other public information materials, meetings with the public, and volunteer activities. Additional information on how to make the public more aware of the weed problem can be found at: http://www.blm.gov/education/LearningLandscapes/explorers/lifetime/invasive.html.

EMC-0267-001
Medbery, Angela

Comment: No matter what scenario is adopted I would like to see the following items: A most important step in weed control must be a strong preventative approach. Signs at trailheads indicating the need to eliminate weed seeds from transportation, wheels, hooves, boots, propellers or whatever. Washing stations might also be provided. A place to shake down tents, sleeping gear and other baggage that may have come from prior trips in infested areas. A strong proactive education program should be instituted to educate the public to recognize weed species and report their occurrences.

Response: The BLM has a strong public education program that includes many of these suggestions, including, but not limited to, signs, brochures, weed identification booklets, weed occurrence reporting forms, public service announcements, quarantine areas, washing stations, weed-free hay stations for guides and outfitters, as well as K-12 educational materials for public schools, informational websites, and national, regional, and local weed campaigns.

EMC-0267-004
Medbery, Angela

Comment: Prompt response by land managers and applicators should be given to the concerns of citizens regularly visiting or touristing, living within or bordering the property designated for weed control

Response: See response to Comment EMC-0092-003 under PEIS Alternatives, Coordination and Education.

EMC-0267-008
Medbery, Angela

Comment: Entrances (both vehicular and walkways) need to be preposted before and posted after any use of chemicals in the contiguous property.

Response: The BLM agrees that posting before and after a spray project is important to neighboring land owners and the public in general. A discussion on posting is found under Coordination and Education in Chapter 2 of the PEIS and PER. Standard Operating Procedures related to posting are also found in Chapter 2 of the PEIS in Table 2-8 and in Table 2-5 in the PER. In addition, areas of high public use (i.e., recreation sites, campgrounds, etc.) are posted prior to treatments with re-entry times posted. In cases where BLM projects are far from local communities, the local BLM office would contact local landowners and interested parties. Information on BLM spray projects would also be available at the local BLM field office.

EMC-0306-019
Klamath River Keeper Program and Klamath Forest Alliance

Comment: To achieve effectiveness, all BLM Programs/Projects must include strong participation from all related stakeholders, emphasizing landowners, residents, businesses, managers, resource users, non government organizations, other community groups, schools/academia, and tribes. Strategies need include these stakeholders in planning, assessment, education, implementation, monitoring, and in gaining financial support. Treatments tools must be safe for the environment and humans.

Response: The BLM agrees. See Interrelationships and Coordination with Agencies and Consultation in Chapter 1, and Coordination and Education in Chapter 2 of the PEIS regarding BLM cooperation with local partners.

EMC-0533-019
EMC-0548-036
Colorado Farm Bureau
Utah Farm Bureau Federation

Comment: The [P]EIS should address coordination with adjacent landowners and other federal agencies. Noxious and invasive weeds do not respect land ownership or land management boundaries. Responses to controlling or eradicating these harmful weeds should likewise know no boundaries. Coordination with adjacent landowners is essential if noxious and invasive plants are to be effectively controlled.

Response: The BLM agrees with this comment. See response to Comment EMC-0295-002 under PEIS Proposed Action and Purpose and Need, Interrelationships and Coordination with Agencies. Chapter 1 of the PEIS, under Interrelationships and Coordination with Agencies, discusses BLM relationships with adjacent landowners. Coordination and collaboration is required at the local level for any vegetation management project, including weed management, to be effective, as discussed under Coordination and Education in Chapter 2 of the PEIS.

EMC-0584-111
Western Watersheds Project

Comment: If BLM chooses to use chemicals, the treated lands, and surrounding areas, must be posted with signs in advance that warn the recreational public of chemical use and possible exposure. BLM's disastrous use of Oust demonstrates the uncertainty associated with use of chemicals in wild land settings, where wind erosion or water runoff may transport chemicals to unintended areas with unintended consequences.

Response: See response to Comment EMC-0267-008 under PEIS Alternatives, Coordination and Education.

EMC-0585-180
Western Watersheds Project

Comment: BLM falsely claims that "signage" is used. This is simply not the case in wild land settings. We have never encountered a sign, despite dozens of encounters with sprayed vegetation on BLM lands. WWP [Western Watersheds Project] has never observed BLM signing sprayed areas. [Page] B-25 [of Appendix B of the Draft PEIS] claims that it is used on areas "directly sprayed".

Response: See the Coordination and Education section in Chapter 2 of the Final PEIS and PER for information on signage provided for treatment projects.

RMC-0049-004
Wilson, Robert E. (University of Nevada Cooperative Extension)

Comment: Another area not well addressed within this document is the need for collaboration between landowners. In my experience, this is the major effort that most managers miss, and is the most essential for a successful vegetation management effort. CWMA's (Cooperative Weed Management Areas) and the documented success of the demonstration weed management program that I initiated in east/central Nevada both show the difference from the status quo of most invasive weed programs. That collaboration needs to be an emphasis of this EIS.

Response: See response to Comment EMC-0295-002 under PEIS Proposed Action and Purpose and Need, Interrelationships and Coordination with Agencies.

RMC-0049-027
Wilson, Robert E. (University of Nevada Cooperative Extension)

Comment: Page 2-21 [of the Draft PEIS] The section of Coordination and Education needs to be strengthened substantially. As it currently is written, it will not accomplish the goal of proactive invasive plant management.

Response: See responses to Comment EMC-0533-019 under PEIS Alternatives, Coordination and Education, and Comment EMC-0295-002 under PEIS Proposed Action and Purpose and Need, Interrelationships and Coordination with Agencies.

RMC-0129-001
Noble, E.A.

Comment: Thousands of people with sensitivity to herbicides-pesticides life in rural areas to escape private spraying in urban areas. How do you expect to notify these

people who often have fewer contacts with radio-TV-newspaper-phone than the average person?

Response: See response to Comment EMC-0267-008 under PEIS Alternatives, Coordination and Education.

RMC-0210-048
MCS Task Force of New Mexico

Comment: If herbicides are applied, the public must be notified in advance through newspaper articles, public service announcements, meetings, websites, and other means. A list of people wanting to be individually notified of herbicide use should be maintained by the BLM and these individuals contacted by letter, phone, or email (their choice) of proposed applications. The BLM should inform the public of the opportunity to be added to the notification list.

Response: See response to Comment EMC-0267-008 under PEIS Alternatives, Coordination and Education.

RMC-0210-049
MCS Task Force of New Mexico

Comment: The PEIS acknowledges that it is critical for BLM to notify potentially affected parties of treatment activities that occur on public lands ([Draft] PEIS [page] 2-22), but it is likely the number of potentially affected parties is much greater than what is assumed. Chemically sensitive individuals, for example, can react adversely to drift or volatilization of pesticides applied miles away. Thus, the BLM needs to expand the range and number of people it notifies of herbicide applications.

Response: See response to Comment EMC-0267-008 under PEIS Alternatives, Coordination and Education. Also see the section on Herbicide Treatment Standard Operating Procedures and Guidelines in Chapter 2 of the PEIS for a discussion of procedures and mitigation to manage and reduce herbicide drift.

RMC-0210-050
MCS Task Force of New Mexico

Comment: If herbicides are applied, signs should be posted at trailheads, along roadways or other right-of-ways, access points, and any other places that are needed to sufficiently warn members of the public of the presence of herbicides before entering an area. Signs should remain in place for at least 2 months after an application.

Response: See response to Comment EMC-0267-008 under PEIS Alternatives, Coordination and Education. The BLM will follow the label for the appropriate re-entry times after applying any herbicide. The length of time for signs to remain posted is based on the labeled re-entry time and appropriate mitigation for public safety, as identified through the project NEPA analysis at the local field office level.

RMC-0210-051
MCS Task Force of New Mexico

Comment: BLM should not presume to know when re-entry into an area that has been applied with herbicides is safe ("BLM takes care ... to post the area with warnings about when re-entry con occur safely," [Draft] PEIS [Appendix B page] B-35). Even dried herbicides vaporize into the air for long periods after applications, and what is a safe re-entry time for one person may not be safe for another. Signs should just provide objective information and allow individuals to make their own informed choice about whether to enter an area.

Response: Re-entry periods are established by the USEPA-approved label for workers. In the human health risk assessments (HHRAs) and Appendix B of the PEIS, the "worst-case" accidental spray scenario evaluated was an accidental direct exposure of a person to herbicide spray at the maximum application rate.

RMC-0210-052
MCS Task Force of New Mexico

Comment: Signs and other forms of notification should at a minimum contain the following information:

Time and date(s) of application (or anticipated application)
Site of application
Name of pesticide product, active ingredient and EPA registration number
Application method.
Name and phone number of whom to contact for additional information and to report adverse effects resulting from the application.

Response: See response to Comment EMC-0585-180 under Alternatives, Coordination and Education. We have provided additional information in Chapter 2 of the PEIS under Coordination and Education that discusses information that will be posted at treatment sites.

RMC-0210-053
MCS Task Force of New Mexico

Comment: The BLM should also designate a permanent staff person whom the public can contact about the agency's pesticide and herbicide use, including past, present, or contemplated applications. The phone number and email address of the contact person should be widely publicized.

Response: Each BLM State Office has a designated staff person that acts as the State Office Weed Coordinator and/or State Office Pesticide Coordinator. In addition, each BLM field office has a designated Field Office Weed Coordinator who coordinates all pesticide applications with the BLM state office. A listing of all state and Washington, D.C., weed coordinators is available on www.blm.gov/weeds. In addition, individual BLM state and field office web pages are linked from the BLM's main website.

RMC-0210-054
MCS Task Force of New Mexico

Comment: If herbicides are used, the BLM should establish an Adverse Event Reporting System to collect reports of adverse effects resulting from herbicide use. This would include damage to property, wildlife, wanted vegetation, and human health. The existence of this system should be widely advertised, along with instructions for reporting adverse events. The data collected should be regularly reviewed and used to guide future decisions regarding vegetation management.

Response: Under Section 682 of the Federal Insecticide, Fungicide, and Rodenticide Act, pesticide registrants are required to report any adverse incidents involving their pesticide (other than human health) to the USEPA's Ecological Incident Information System (EIIS). Other adverse incidents are reported to EIIS by state and/or federal agencies. USEPA's Enforcement and Compliance History Online is a web-based tool that provides public access to compliance and enforcement information for approximately 800,000 USEPA-regulated facilities. Anyone with access to the Internet can use this tool. In addition, the BLM tracks other incidents internally through its hazardous materials program and records the effects of vegetation treatments through monitoring, as outlined under Monitoring in Chapter 2 of the PEIS.

Alternatives, Mitigation

EMC-0584-073
Western Watersheds Project

Comment: Mitigation. Large blocks of land (>10,000 acres) should be established within watersheds where no grazing or treatments are conducted, as reference areas for the outcomes/effectiveness/damage of the treatments that are proposed. Other mitigation includes termination of grazing disturbance on reference areas.

Response: Set-asides of specific large blocks of land for reference areas in relation to vegetation treatments would need to be accomplished through applicable regulatory processes in conformance with applicable land use and implementation plans, (e.g., watershed management plan or habitat management plan). Establishing closures to grazing is a land use allocation determined through land use planning and implemented through regulations at 43 CFR [Code of Federal Regulations] 4100. See Scope of Analysis in Chapter 1 of the PEIS. This PEIS does not make nor propose land use allocations.

EMC-0584-075
Western Watersheds Project

Comment: BLM must develop adequate mitigation for activities carried out under this [P]EIS. For example, if BLM wants to burn or thin 10,000 acres of sage grouse habitat, it should be removing livestock use from 10,000 acres of suitable habitat in order to provide better quality nesting and wintering habitat, not allowing livestock use to continue on neighboring lands.

Response: The BLM would very rarely develop a treatment project that would disturb a solid block of 10,000 acres. Most projects are designed to treat smaller areas and provide intermingled areas of untreated land to provide habitat for species that could temporarily be adversely affected by the vegetation treatments. Removing livestock from the surrounding or nearby unaffected areas would not automatically result in improved habitat for sage-grouse, and there is no assurance that the birds displaced or affected by the treatment would use the areas from which livestock were removed. Since the BLM would be unable to guarantee any direct benefit to the sage-grouse potentially impacted by the vegetation treatment, a decision of that kind would appear to be unreasonable and arbitrary.

EMC-0585-152
Western Watersheds Project

Comment: Table 2-7 [of the Draft PEIS] presents weak, non-mandatory and often nebulous mitigation measures. There is no guarantee that any will be applied. Example "where feasible" BLM will implement mitigation measures for plants described in the 17 states EIS, or will "consider" manual spot applications. No decisionmaking scenario or flowchart is provided to ensure minimal use of herbicides or treatments. Despite the large number and many types of treatments covered in the PER – there is no decisionmaking framework or specific mandated mitigation measures for any treatment scenario. This all maximizes ecological/environmental risk and uncertainty of treatment outcomes in the short, mid and long term.

Response: As discussed in Chapter 2 of the PEIS under Mitigation, mitigation measures are not mandated, because local offices have the site-specific knowledge and therefore need the flexibility to develop measures that could be more or less stringent based on local information. Additional decision-making guidance is provided in the final PEIS/PER in Chapter 2, but is still at a broad, programmatic level. During implementation planning tied to goals and objectives (i.e. desired outcomes) set at the regional/local land use planning level, detailed prioritization will be developed in order to effectively restore ecosystem processes specific to the plant communities in which the actual implementation will take place.

EMC-0585-153
Western Watersheds Project

Comment: Other examples: BLM claims it will "regulate' the use of diquat, "regulate" the use of terrestrial herbicides in watersheds, which have characteristics suitable for potential surface runoff" (but only in watersheds "with fish-bearing streams during periods when fish are in life stages most sensitive to the herbicide(s) use"!). What does regulate mean? Why in the world would BLM not regulate toxic diquat and other herbicide use in all watersheds?

Response: An Environmental Assessment is prepared for each proposed action in the field. For projects involving the use of herbicides, a Pesticide Use Proposal is prepared that identifies how the pesticide will be applied. The BLM regulates the use of herbicides by complying with label requirements and other Standard Operating Procedures and mitigation identified in this PEIS, by complying with federal, state, and local laws pertaining to the use of herbicides, and by following BLM handbooks, manuals, and directives on herbicide use.

EMC-0585-155
Western Watersheds Project

Comment: Wildlife "mitigation" is even worse: BLM will: "Minimize" risks by applying chemicals "at the typical application rate where feasible". When and where is "feasible'? What limits, or triggers, or decisionmaking framework are used to determine 'feasibility"? Why is there no specific prohibition on using chemicals during critical periods of the year, such as when nests, eggs, nestlings, young, are present? What happens if BLM exceeds the "typical" application rate?

Response: Measures to protect wildlife from herbicide treatments are discussed in Tables 2-8 and 2-9 and in Chapter 4 of the PEIS under Wildlife Resources, Mitigation for Herbicide Treatment Impacts. These measures give specific guidance on application rates and methods for specific chemicals, using timing restrictions, and avoiding applications during critical periods. To be effective, herbicide treatments must be applied when the likelihood of success is greatest to achieve long-term benefits for wildlife and their habitats. Since the young of most species of vertebrates may not mature for 1 or more years, avoiding applications during periods when young are present may preclude herbicide treatments on most, if not all, public lands. An assessment of the risks to wildlife from use of herbicides would be identified for projects at the local level, and specific Standard Operating Procedures and mitigation to reduce effects to wildlife (e.g., size of treatment area, type and amount of herbicide use, time of year of application, presence of threatened, endangered, and sensitive species) could be developed at that time based on public input.

EMC-0585-156
Western Watersheds Project

Comment: "Minimize the size of application areas where practical" … "where practical, limit" … to avoid contamination of food items. What determines practicality? Again here, there is no certainty that any safeguards will be applied, and BLM is free to deviate from claimed protections/mitigations.

Response: See response to Comment EMC-0585-155 under PEIS Alternatives, Mitigation.

EMC-0585-157
Western Watersheds Project

Comment: Why is there no mitigation or mechanism to prohibit use of these chemicals in sensitive habitats, or during sensitive times of the year? Why is there no protocol to use chemicals of lesser impacts.

Response: See response to Comment EMC-0585-155 under PEIS Alternatives, Mitigation. As noted in Table 2-8 of the PEIS, Standard Operating Procedures (SOPs) for Applying Herbicides, the BLM will select the chemical that is least damaging to the environment while providing the desired results. SOPs and mitigation for use of herbicides in sensitive habitats are discussed in Chapter 4 of the PEIS for several resource areas, and in the Biological Assessment prepared in support of the PEIS.

EMC-0585-158
Western Watersheds Project

Comment: Nowhere does BLM mandate that any particular action occur, such as mandatory "no treatment" during nesting periods for migratory birds. Why is there no prohibition on method of application (such as aerial application) during sensitive periods of the year, such as migratory bird nesting?

Response: See response to Comment EMC-0585-155 under PEIS Alternatives, Mitigation. In some situations, long-term benefits of treating vegetation and perpetuating nesting or other critical habitat may outweigh the costs of not treating vegetation during the nesting period. Although nesting habitat might be saved for a few seasons, it could be lost over the long term if treatments outside of the nesting period were ineffective.

EMC-0585-159
Western Watersheds Project

Comment: The [Draft] [P]EIS states "where feasible" would implement mitigation for non-TES [threatened, endangered, and sensitive] species "unless treatments are specifically designed to improve habitats for these species". BLM will always have an out –just claim that some nebulous benefit of some kind will result decades down the road – and Boom – the action can go ahead and kill or destroy nests, intact habitats, etc.

Response: Besides the Standard Operating Procedures and the mitigating measures listed in Chapter 2 of the PEIS/PER, the BLM will follow the conservation measures outlined in the Biological Assessment for projects involving all special status species. In addition, site-specific mitigation will be developed at the local level through the NEPA process as interdisciplinary teams, including biologists, work together to design projects which will not lead to the listing of special status species. These steps are required by BLM policy in Manual 6840 (Special Status Species Management). Thus, no habitat improvement actions would move forward without consideration for effects on special status species.

EMC-0585-160
Western Watersheds Project

Comment: This provides no reassurance whatsoever, as BLM loosely applies claims of habitat improvement for many projects it undertakes – with no science or data used to demonstrate positive improvement. Why can't BLM simply avoid chemical treatment during times of maximum sensitivity of native species? Why are non-TES [threatened, endangered, and sensitive] species given lesser uncertain protections? Why are buffer zones not specifically described and made mandatory?

Response: See responses to Comment EMC-0585-154 under PEIS Alternatives, Herbicide Treatment Standard Operating Procedures, and Comment EMC-0585-155 under PEIS Alternatives, Mitigation. Standard Operating Procedures and mitigation are designed to minimize, and hopefully avoid adverse impacts to wildlife, regardless of their status (TES or non-TES). Additional mitigation is identified to provide additional protection to TES species since the loss of only a few individuals could have an adverse effect on the welfare of the population.

EMC-0585-163
Western Watersheds Project

Comment: It is shocking that BLM proposes no adequate mitigation measures for visual resources. Recreational visitors to specific areas may visit them to view vibrant spring wildflower displays, or fall aspen leaf color, or for other purposes. Herbiciding, burning or otherwise treating scenic or wilderness areas using methods, or during periods of the year when recreational uses are maximized, and creating ugly brown or dead zones, should not be given blanket coverage. BLM has ACECs [Areas of Critical Environmental Concern, SMAs [Surface Management Areas], WSAs [Wilderness Study Areas], Wilderness areas, and many other special use areas that require special management attention, and BLM's herbicide and other treatments must comply with protection of scenic and aesthetic values, too.

Response: Visual mitigation will be applied when a proposed action has been received and the specific details of the project have been identified. Visual Standard Operating Procedures will be used to reduce visual impacts. Any proposed action that would

exceed the degree of contrast for the project area will be mitigated in compliance with BLM Manual Handbook 8431-1. In the case of dead zones or prescribed fire, a short term contrast may exist. This impact would be allowed if the long term visual quality would be improved by the regrowth of desirable vegetation on the site.

EMC-0585-164
Western Watersheds Project

Comment: The mitigation table provides no specific measures for Wilderness areas, instead referring a reader to various sections of Chapter 4. Thus, there is no assurance that any mitigation/SOP [Standard Operating Procedure] will be applied.

Response: Mitigation requirements are addressed in existing BLM guidance: BLM Manual 8560.

EMC-0585-166
Western Watersheds Project

Comment: Human health and safety mitigations are grossly inadequate. "Use the typical application rate". Instead, most harmful chemicals must be prohibited in areas with high recreational use, abundant neighboring habitations, areas where forest products – especially non-traditional forest products are sought, etc.

Response: The risk assessments show generally no risk to low risk if applied at the typical rate. Use of mitigation measures and label precautions along with notification to the public are adequate to minimize risk.

EMC-0585-167
Western Watersheds Project

Comment: BLM must forbid use of diuron, instead of the nebulous, uncertain "evaluate … on a site by site basis'. There is no clear and specific framework for any evaluation provided.

Response: The application of diuron should be evaluated on a site-by-site basis because the exposure potential could be different for different sites. Some sites may be sparsely populated and have minimal exposure pathways through which people could be exposed to diuron. At more heavily populated sites it may be inadvisable to use diuron.

EMC-0643-044
California Indian Basketweavers Association

Comment: NEPA requires analysis and mitigation of effects including those which are aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. (40 CFR [Code of Federal Regulations] § 1508.8 (b)). Indian tribes throughout the BLM analysis area continue to suffer adverse impacts to their health and culture, resulting from impacts that may be social, economic, and environmental, due to BLM's land management practices. The current proposal adds additional cumulative impacts that are not been mitigated by this DEIS [Draft PEIS]. The mitigation measures found on page 2-24 (Table 2-7) [of the Draft PEIS] are wholly inadequate to protect Native American health and cultural practices. The mitigation promises nothing but grants BLM full latitude to implement mitigation measures at the agency's discretion. Mitigations are mere suggestions without any accountability.

Response: As noted in Chapter 2 of the PEIS under Special Precautions (Cultural Resources), the BLM is required to take actions to notify tribes of proposed actions and minimize or avoid impacts to tribal members and their resources. As discussed in the same chapter under Coordination and Education, the BLM would notify tribes before any actions occur that could affect tribal members or their resources. Mitigation measures proposed in the PEIS are standards that may be used in any project, but do not preclude other measures once specific actions and effects are identified.

RMC-0163-005
Skrine, Eugene

Comment: CEQ [Council on Environmental Quality] requires consideration of mitigation measures, i.e., has the agency considered everything reasonably to mitigate

the unavoidable impacts of their action. Invasive plant prevention, the use of some non-herbicide treatment methods, and site restoration can reduce the environmental impacts of the BLM's herbicide proposal. These practices and methods need to be addressed in this EIS.

Response: The BLM has identified mitigation measures in the PEIS and Biological Assessment that it feels are appropriate to avoid, reduce, or compensate for significant impacts to resources. It anticipates that additional measures will be identified during public review and comment on the Draft PEIS and PER. Prevention of weeds and early detection and rapid response, and revegetation are discussed in Chapter 2 of the PEIS and PER. This information will also be included in the Final PEIS to ensure that the public is aware that these activities are an important component of integrated vegetation management.

RMC-0218-035
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: Mitigation measures are inadequate to avoid significant impacts from herbicide use. There is lots of vague direction, open to widely varying interpretation, such as: "Minimize the use of terrestrial herbicides, in watersheds with down-gradient ponds and streams if potential impacts to aquatic plants exist." (DEIS [Draft PEIS] p2-23) What does "minimize" mean? Minimize to what level? Mitigation measures presented in Table 2-7 [of the Draft PEIS] are generally lacking compulsory requirements or specific detailed instructions. There is a lot of loophole language such as "where feasible," "consider," "minimize," "limit" and "regulate" rather the defining or requirement language such as "avoid," "Don't use more than X amount," "only use manual spot applications," "establish buffer zones as required by the herbicide label," etc. Language such as "where feasible" and "where practical" allows managers to disregard those mitigations if they are not convenient. Yet this weasel-word language is pervasive throughout the proposed mitigations. E.g.: "minimize the size of applications areas, where practical, when applying 2, 4-D, bromacil, diuron, and Overdrive to limit impacts to wildlife..." (p 2-23, Table 2-7 [of the Draft PEIS]) And what does "regulate" mean in this context? – "Regulate the use of diquat in waterbodies that have native fish and aquatic resources."(ibid) Clearly any Finding of No Significant Impact for water quality, fish, aquatic organisms, wildlife, livestock, wild horse and burros, wilderness values, human health, etc. cannot rely on such weak and vaguely-defined mitigation measures, which may not even be applied at all in many cases where loophole language such as "where feasible," "where practical" or "evaluate," "consider" or regulate" is used. (See all of Table 2-7, pp 2-23-25 [of the Draft PEIS].)

Response: The PEIS serves to identify the project purpose and need (Chapter 1 of the PEIS), project alternatives (Chapter 2), baseline conditions (Chapter 3), and the environmental and social consequences of implementing the alternatives. Mitigation measures are proposed to reduce the potential impacts that could occur under the Preferred Alternative or other alternatives. However, required mitigation measures cannot be identified until the Preferred Alternative is identified in the Record of Decision. Some mitigation measures are broadly worded because they must apply to actions that could occur anywhere on public lands in the western U.S. Thus, it may be possible to state that only "x" amount of herbicide can be used, but if doing so results in the invasive species continuing to spread, it may be better in the long run, to use more than "x" amount of herbicide, assuming the benefits outweigh the social and environmental costs. These types of decisions are best made at the local level when developing the project and conducting the environmental analysis. In addition, an EIS does not have to result in a Finding of No Significant Impact. The purpose of an EIS is to disclose direct and indirect adverse environmental impacts associated with the

proposed action and alternatives and the significance of those impacts (40 CFR 1802.16(a,b)). The EIS must include a discussion of the "means to mitigate adverse environmental impacts" (40 CFR 1502.16(h)). However, NEPA does not require federal agencies to carry out mitigation measures that would reduce or eliminate significant environmental impacts. Thus, an agency need not adopt mitigation measures contained in an EIS unless agency-specific NEPA procedures require their adoption or the agency commits to implementing them in the Record of Decision.

Alternatives, Summary of Impacts by Alternatives

EMC-0214-014
Vollmer, Jennifer
(BASF)

Comment: This Table [2-8 of the Draft PEIS] is misleading in adequately depicting comparative risks. Effects appeared to be solely based on: greater treated acres = greater adverse effects. There is no description of greater or lesser magnitude of the actual effects. Example: Effects for Alternative D appear to assume all aerial application will result in negative impact drift. In reality, drift from aerial application can be negligible or have no adverse effects, dependent on the herbicide applied and the area impacted by the few feet of drift, if it occurs.

Response: It is not possible to portray all possible risk scenarios at the programmatic level, qualitatively or quantitatively. It is true that not all aerial applications would result in adverse effects from drift. However, under similar conditions (e.g., wind, temperature, topography, herbicide type, application equipment and method), it is more likely that drift would cause adverse effects under an aerial application than under ground-based methods, since the material would be able to travel farther before reaching the ground. The BLM has attempted to assume that conditions would be similar for applications under each alternative for comparisons given in Table 2-10 of Chapter 2 of the Final PEIS.

RMC-0080-007
Idaho State Department
of Agriculture

Comment: On page 2-33 [of the Draft PEIS] under the summary of cumulative effects on livestock the PEIS states, "Treatments would restore native vegetation favored by livestock and make rangelands more resilient to disturbance." ISDA [Idaho State Department of Agriculture] suggests that this sentence be changed to read, "Treatments would restore native and desirable non-native vegetation favored by livestock and make rangelands more resilient to disturbance." We also ask that any similar phrasing in the PEIS be changed to read the same. The objective should be to establish desirable vegetative communities that will stabilize soils, resist invasive species, as well as meet multiple-use objectives (livestock, wildlife, watershed values). Native plant communities are certainly the most desirable but we cannot discount the value of certain non-native species in meeting these objectives.

Response: The BLM agrees. We have revised Chapter 2 (Table 2-10 of the Final PEIS) and Chapter 4 (Livestock) of the Final EIS to reflect this distinction.

RMC-0218-032
\ Blue Mountains
Biodiversity Project,
League of Wilderness
Defenders

Comment: Reassuring statements in the "Summary and Comparison of Effects on Resources by Alternatives" Table 2-8 [of the Draft PEIS] such as "There would be risks to human health from vegetation treatments, but...use of less toxic herbicides have the potential to reduce these risks" (p[age] 2-39 DEIS [Draft PEIS]) and: "New herbicides are proposed for use should improve treatment success while having minimal impacts to aquatic organisms" (p. 2-31 DEIS [Draft PEIS]) ignore admissions buried in the text that only "[a]pproximately 10% of all treatment areas would be treated with the new herbicides." (DEIS [Draft PEIS] p. 4-20)

Response: Both herbicides currently available to the BLM and herbicides proposed for use have risks to humans. Although only about 10% of acres would be treated using herbicides proposed for use, based on projections from BLM field offices, their use would help to reduce overall risks to humans associated with use of herbicides. More importantly, the PEIS identifies Standard Operating Procedures and mitigation to help reduce or avoid situations in which humans are most likely to be adversely impacted by an herbicide.

Affected Environment, General Issues

EMC-0525-003
Western Watersheds Project

Comment: Unless the environmental setting in which the herbicide use and treatments would occur are fully revealed and assessed based on sound ecological and Best [Available] Science (please see Annotated Bibliography submitted with RNEA [Restore Native Ecosystems Alliance] and Bibliography Attached to comments), BLM can not develop a reasonable range of alternatives, nor apply adequate analysis of impacts of the proposed action under any alternative. Nor can it ensure that the public lands, waters and native biota will de protected from unnecessary and undue degradation.

Response: The BLM has provided a description of the environmental setting in Chapter 3 of the PEIS and PER appropriate for a programmatic document. A range of alternatives was developed based on public scoping comments, as discussed in Chapter 1 of the PEIS under Development of the Alternatives. The analysis of effects from using herbicides was based on information in Chapter 3, and use of Best available science, as discussed in Chapter 4 of the PEIS under How the Effects of the Alternatives Were Estimated. The Standard Operating Procedures and mitigation identified in Chapters 2 and 4 of the PEIS identify measures to protect resources from unnecessary and undue degradation. This section also notes that site-specific analyses would be required before implementation of a local project.

EMC-0585-233
Western Watersheds Project

Comment: Further, to conduct an adequate assessment, BLM needs to provide adequate baseline data on the conditions of the lands in the areas slated for treatment, as ecological conditions will have great impacts on the risks, outcomes and environmental effects of treatments.

Response: The BLM has provided an overview of conditions on public lands in Chapter 3 of the PEIS and PER that is appropriate at the programmatic level of analysis. A more detailed assessment of land conditions would be developed for each project at the field office level and would be used to determine risks, outcomes, and environmental effects.

RMC-0144-020
Wyoming Game and Fish Department

Comment: [Pages] 3-26 and 3-27 and 3-65 [of the Draft PEIS]: There are differences in the estimates of downy brome acreages. For example, there are estimates of 10 million acres, 11.4 million acres and infesting 56 million acres and growing at 14% a year. This should be clarified.

Response: You are correct. The acre figures for downy brome from different cited sources are not consistent. The coverage of downy brome is difficult to estimate, as reflected in the extant literature. In addition, some of the figures cited include several bromus species, while others reflect only downy brome. Table 3-5 in the Final PEIS provides BLM estimates for all bromus species by state.

Affected Environment, Water Resources and Quality

RMC-0144-019
Wyoming Game and Fish Department

Comment: [Page] 3-14 [of the Draft PEIS] statement under the Missouri Hydrologic Region says: "Most of the streams in western Montana flow year-around, while in Wyoming only the larger rivers, such as the North Platte, flow year-around." This statement is incorrect. Our Department's Fish Division can supply pertinent information relative to streams that flow year-around in Wyoming.

Response: The text of the PEIS has been changed in response to this comment. See the Water Resources and Water Quality section of Chapter 3.

Affected Environment, Vegetation

EMC-0411-003
Schroyer, Don L.

Comment: How many invasive / noxious weed species have been identified on lands being managed by BLM?

Response: The total number of invasive and noxious weed species that have been identified on BLM lands is approximately 110 species.

EMC-0411-005
Schroyer, Don L.

Comment: How many acres are infested with invasive / noxious weed species on lands being managed by BLM?

Response: The PEIS in Chapter 3 under Noxious Weeds and Other Invasive Vegetation states that an estimated 36 million acres of public lands are infested with noxious and invasive weeds.

EMC-0585-034
Western Watersheds Project

Comment: [The BLM failed to] compile current data (through 2005) on weeds and invasive species [in Table 3-5], including a much broader range of invasive species (all noxious weeds in project area, and all major invasive species in project area). The 2000 data is already 5 or more years old.

Response: The information in Table 3-5 of the Final PEIS and PER has been updated through 2005. However, these are only estimates of weed populations on public lands. We included the most common weed species/groups in the table.

EMC-0585-036
Western Watersheds Project

Comment: [The BLM failed to] provide any information for lands critical to the actions in the EIS and PER. The Table presents "0"/Zero acres of weed infestations of *Bromus* or halogeton in Nevada, despite millions of acres containing significant infestations of these invasive species (likely 10-20 million acres), Fite, recent field observations over extensive areas of northern and central Nevada. As the public lands of Nevada are slated for large-scale treatment under the EIS and PER, such gross omissions are unforgiveable and render an analysis scientifically untenable. Thus, no basis for any legitimate analysis is provided.

Response: Information for several species in Nevada was inadvertently not included in Table 3-5. The information in Table 3-5 of the Final PEIS and PER has been updated through 2005.

RMC-0042-081
Asher, Jerry

Comment: If the effect was negative, a profound effect of weeds usually means devastating or seriously damaging on vast scale. Suggest instead of "profound effect" using devastating, seriously damaging or irreversible degrading. Those kind of words more accurately reflect what has and will continue to happen on the ground.

Response: The text of the PEIS and PER has been changed in response to this comment. See the Vegetation section of Chapters 3 and 4 in both documents.

RMC-0042-082
Asher, Jerry

Comment: "Noxious weeds are undesirable plants that infest either land or water resources, and may cause physical and economic damage…" (last para pg. 3-25 [of the Draft PEIS]) "Weed infestations are capable of destroying wildlife habitat; reducing opportunities for hunting, fishing…". ([Draft] [P]EIS first para, pg. 3-26, [Draft] PER 4th para. pg. 3-39) The words are capable leaves the reader wondering: "Does it happen? If so, is it a rare occurrence?"

Response: Although weed infestations can and do destroy wildlife habitat, small weed infestations may not harm habitat, and may even provide some habitat diversity. Thus, it is probably best to leave the document wording as is.

RMC-0049-011
Wilson, Robert E.
(University of Nevada Cooperative Extension)

Comment: Page 3-40 Table 3-5 [of the Draft PER]. Where did these numbers originate from? Nevada has more that 3 million acres of land occupied by pure bromus species. The figure for halogeton and medusahead are equally inaccurate. I could not find the source in the references at the end of the book.

Response: See responses to Comment RMC-0144-020 under PEIS Affected Environments, and Comments EMC-0585-036 and EMC-0585-034 under PEIS Affected Environments, Vegetation.

RMC-0042-080
Asher, Jerry

Comment: "…competition with other species, influenced by the introduction on non-native invasive plant species, has had a profound effect on native vegetation" (BLM [Draft] [P]EIS 3rd para. Pg. 3-19, and first para. Pg 4-42, and [Draft] PER 7th para, pg. 4-31). Was the effect positive or negative?

Response: The text of the PEIS and PER has been changed in response to this comment. See the Vegetation section of Chapters 3 and 4 in both documents.

EMC-0630-004
Porter, Mark C.
(Wallowa Resources)

Comment: There is growing body of literature and many all too true stories across the west about the ability of these invaders to cause harm to our environment and the local economies that rely on them. These impacts must be addressed so that the general public can grasp the gravity of the situation and justify the use of herbicides, millions of dollars, and countless hours invested in managing them.

Response: We have included additional information in Chapter 3 under Vegetation (Noxious Weeds and other Invasive Vegetation) of the Final EIS on how invasive species harm the environment. Although the focus of the PEIS is on how herbicides could harm the environment, there is discussion in Chapters 3 and 4 on the effects of weeds and other invasive vegetation on natural and human resources.

EMC-0646-236
Californians for Alternatives to Toxics

Comment: Because the surveys and evaluations for the presence of invasive plants on BLM lands in the western US provided for the current analysis varies from district to district -- with some doing a good or even exemplary job, some barely getting by and others in-between -- no adequate determination of a range of values for presence of invasive plants can be made. Indeed, it isn't made, with only lists of invasive plants provided to guide the decision maker and no informative description of where and particularly how much of the plants are currently present and how they are expected to spread given current knowledge. By not taking on the challenge of giving broad brush descriptions of this status, the DEIS [Draft PEIS] leaves the future under any of the alternatives subject to uninformed speculation.

Response: The BLM acknowledges there are spatial gaps in pre-treatment inventory and monitoring data for invasive plants. The baseline description of invasive plants in the 17-state area of the western U.S. that this PEIS addresses is given in Chapter 3 under Noxious Weeds and other Invasive Vegetation in the Vegetation section.

RMC-0042-089
Asher, Jerry

Comment: Hopefully you can insert considerable information, like a few pages or a section, in the [P]EIS and PER about the impacts, i.e. what is the problem with weeds? Otherwise, how will the reader even begin to grasp why we want to use herbicides and treat so many acres of weeds? If lots of detail about the problem with weeds is not possible in the [P]EIS and PER, then perhaps a companion document could prepared and referenced in the [P]EIS, that would comprehensively describe the problem/challenges, since the [P]EIS and PER comprehensively describe the solution.

Response: See response to Comment RMC-0049-028 under Affected Environment, Vegetation.

RMC-0049-028
Wilson, Robert E.
(University of Nevada Cooperative Extension)

Comment: Page 3-1 [of the Draft PEIS and PER] This section needs to focus on the effect of invasive weed expansion and domination over native plant communities. As it currently is written it only talks in a very general way about what are the current estimated acreages. This is only a very small part of the picture. It does not address the very rapid expansion of dominated acres and the wholesale environmental changes and consequences as a result of the domination by a very few species of plants that are forming expansive monocultures.

Response: See response to Comment RMC-0042-054 under PEIS Proposed Action and Purpose and Need, Purpose and Need for the Proposed Action. Additional information on noxious weeds and other invasive vegetation has been provided in Chapter 3 of the Final PEIS under Noxious Weeds and other Invasive Vegetation in the Vegetation section.

Affected Environment, Livestock

RMC-0049-012
Wilson, Robert E.
(University of Nevada Cooperative Extension)

Comment: Page 3-55 Table 3-6 [of the PER] is not really relevant unless the grazing AUM's [Animal Unit Months] are compared over time. Changes happen slowly on much of the land managed by the BLM. What is the change in grazing pressure that has occurred?

Response: Table 3-6 in Chapter 3 of the PER under Livestock identifies the number of grazing permits and leases, and the amount of grazing use in AUMs by state, and is used in this chapter of the PER to identify how much grazing use occurs on public lands. This table was never intended to reflect a trend over time. To respond to the comment, there has been a gradual decrease in the amount of grazing use since the Taylor Grazing Act was passed in the mid 1930s. This decrease is reflected in both the number of AUMs permitted and available for use, and the number of AUMs actually used, and the trend continues today. The number of AUMs actually used may reflect greater fluctuations in response to annual growing conditions, such as drought periods when the amount of use is reduced. Following a drought the use temporarily increases with the return of more normal precipitation; however, when measured over longer periods of time the overall trend still reflects a gradual reduction in grazing use.

Affected Environment, Human Health and Safety

FXC-0071-015
Campbell, Bruce

Comment: I also object that a comparison of some cancer rates on pages 3-70 mentions African-American and Caucasian rates, but does not mention the burgeoning Latino population which is the main demographic group coming into contact with toxic materials such as herbicides.

Response: The source document for cancer rates did not break out Latinos from other races. However, the National Cancer Institute reports that cancer rates are lower for Hispanics than for Caucasians and African-Americans (see http://surveillance.cancer.gov/statistics/types/lifetime_risk.html).

Environmental Consequences, How the Effects of the Alternatives were Estimated, General Issues

EMC-0018-004
Shaw, T. Gray

Comment: As a California resident and user of public lands I am concerned about irreparable damage from exposure to these chemicals, both to myself and to the public lands I enjoy. Non-target exposure negatively impacts water quality, soil productivity, native vegetation and wildlife (terrestrial and aquatic), native peoples (during plant gathering), and workers (handlers), not to mention recreationalists and members of the public who use and live near these lands.

Response: The risk assessment specifically evaluated exposures to Native People, workers, and recreational users of the land, and considered a variety of exposure pathways. The risk assessment helped to identify which herbicides could pose potential health risks under these circumstances, and therefore should be restricted.

EMC-0026-003
Salmon, De Anne

Comment: The herbicides that are proposed have negative impacts to the environment and human health. This is a non-disputable fact despite the statement by the BLM that the risks are worth the benefits. Our water quality and soil productivity may be reduced to unsafe levels.

Response: As discussed in Chapter 4 of the PEIS, herbicide use could adversely impact natural resources and human health. However, that BLM conducted extensive ecological and human health risk assessments to evaluate these risks and identify Standard Operating Procedures and mitigation measures to reduce the risk of adverse effects from the use of herbicides. In addition, it should be noted that ecosystem degradation from wildfires and the spread of invasive vegetation also adversely impact natural resources and human health and that without vegetation management these adverse affects would only increase.

EMC-0056-002
Cole, Brian

Comment: Tripling the amount of herbicide used may not solve some of the problems, and it would be harmful for people using the land. The BLM should be trying to protect the land, and keep it safe and usable for the public. By using more toxic herbicides, the health of BLM land users is compromised. As well, the health of the environment would decline as well. The herbicides would wash into streams and kill fish. Vegetation not meant to be sprayed could be killed. Please consider and understand that increasing the amount of herbicide applied would not only cause health problems, and damage to the environment, but it may not necessary prevent fires, or kill invasive weeds.

Response: See responses to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation and Comment EMC-0026-003 under PEIS Environmental Consequences, How the Effects of the Alternatives

Were Estimated.

EMC-0066-004
Conrick, Teresa

Comment: As a California resident and user of public lands I worry about the irreparable damage these chemicals will do to the natural surroundings and public lands I enjoy, as well as the health hazards these chemicals pose to my family. These ill-conceived spray plans will negatively impact water quality, soils productivity, native vegetation and wildlife (terrestrial and aquatic), native peoples (during cultural plant gathering practices), workers (those applying these hazardous chemicals), not to mention recreationalists and members of the public who use and live near these lands.

Response: See responses to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation, and Comment EMC-0026-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0066-005
EMC-0069-007
Conrick, Teresa
Murphy, Jennifer

Comment: Public land management should be based on long-term ecological health, the best science available, and should err on the side of safety and conservation. I am troubled that massive amounts of extremely toxic poisons are being justified using peoples fear of catastrophic wildfires and invasion of invasive species. Non-herbicide vegetation treatment options are available! The proposed actions appear to meet financial needs of chemical companies and other large corporate interests, rather than for support ecological integrity and public interests. I worry about the long-term costs of all these pesticide applications, particularly those to the environment, the natural area, and the people who live near and use BLM public lands and natural areas.

Response: See responses to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation, and Comment EMC-0026-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0069-004
Murphy, Jennifer

Comment: These chemicals will do irreparable damage to the natural surroundings and public lands I enjoy. These ill-conceived spray plans will negatively impact water quality, soils productivity, native vegetation and wildlife (terrestrial and aquatic), native peoples (during cultural plant gathering practices), workers (those applying these hazardous chemicals), not to mention members of the public who use and live near these lands. These plans are unnecessary and unsafe for both human and environmental health.

Response: See responses to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation, and Comment EMC-0026-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0115-005
Steele , Mark

Comment: One million acres of herbicide spraying is tremendous. I will agree that 2-4, D and its sisters are pretty benign as far as herbicides go, but the large amount of lands and the sheer volume of 500,000 to 2 million gallons of herbicide being used in land treatment is an issue unto itself. How such widespread spraying affects insects, birds, wildlife, groundwater, permittees who will lose their grazing areas for a period of years afterwards, and the list goes on, will most likely be addressed by those with more authority than I, but I only point out the sheer volume of everything involved in this pushes it to the top.

Response: The use of herbicides on public lands requires that the BLM utilize only those herbicides that have been evaluated, analyzed, and approved by the USEPA. These procedures include both human health and ecological risk analysis, which consider potential impacts on insects, birds, livestock and wildlife. For those herbicides being considered for rangeland applications, tests are run to determine potential impacts on the grazing livestock, and if necessary, grazing restrictions are implemented on the final label. These grazing restrictions typically last less than 4 weeks, and only occur under the specific conditions identified on the herbicide label. Those herbicides registered for general applications on rangeland would be selective for the management of broadleaved species, with little or no impact on the desirable grass community at the proposed use rates. In situations where the undesirable vegetation is a broadleaved species, the application of these herbicides would typically reduce the competition of the target species, both for nutrients and space, allowing the desirable vegetation—grasses—to have a greater chance to grow.

EMC-0140-011
Small, Jack W. and Joyce C.

Comment: In this day of on-line access to all manner of scientific information, it should not be a problem to spend a few hours on Google checking out what is known of the effects of chemicals you plan to use. It would be helpful to down load some of it and make it available to those who don't yet have a computer.

Response: See responses to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation, and Comment EMC-0026-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0161-007
EMC-0271-005
Richards, Vivien
Takemori, Claire

Comment: These ill-conceived spray plans will negatively impact water quality, soils productivity, native vegetation and wildlife (terrestrial and aquatic), native peoples (during cultural plant gathering practices), workers (those applying these hazardous chemicals), not to mention recreationalists and members of the public who use and live near these lands.

Response: See responses to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation, and Comment EMC-0026-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0181-003
Artley, Richard

Comment: Has the BLM not received the word yet that manufactured herbicides and pesticides are extremely toxic and dangerous? In addition, these toxic chemicals retain their toxicity for long periods. If you would like a more scientific view of this dangerous stuff, I have at least a dozen scientific articles on it that I could send you. One of my articles even proves that the increases in cancer and birth defects in America is due to manmade chemical application... primarily pesticides.

Response: See responses to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation, and Comment EMC-0026-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0246-001
Abe, Jane

Comment: I am shocked at the proposed use of pesticides on government lands for weed control. These substances are poisons. Has no one thought about their potential effects on soil organisms and wild life, to say nothing of the other flora in the area? It is naive to think that chemicals that are powerful enough to kill "noxious" species would do no harm to the "preferred." It is time to take another look at these ideas.

There will be no going back, after such action is taken.

Response: See responses to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation, and Comment EMC-0026-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0266-003
Toro, Ida

Comment: How detrimental will these applications be to the populace in the areas sprayed? Does anyone at BLM really know or care. Generally, these facts are usually found out after the fact when the damage has already been done. What about the water, i.e., creeks, streams, rivers, lakes, etc. - Poisoned. What of the wildlife that live within those waters? What of the birds? How will this affect them?

Response: See responses to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation, and Comment EMC-0026-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0306-007
Klamath RiverKeeper Program and Klamath Forest Alliance

Comment: Negative impacts from toxic spray plan will include direct, indirect and cumulative effects to the environment and human health. Water quality and soil productivity will be reduced to unsafe levels. Non-targeted vegetation, and wildlife (terrestrial and aquatic) will all suffer greatly from the proposed toxic dousing. Native peoples would be specifically exposed to risk during cultural plant gathering practices. Workers applying these hazardous chemicals would be particularly at risk. Recreationalists and other members of the public could also be subject to exposure. The BLM inappropriately states that the risks are worth the benefits.

Response: See responses to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation, and Comment EMC-0026-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0314-004
Alliance for the Wild Rockies

Comment: Under several laws and regulations the BLM must use objective science in evaluating the effects of herbicide use:

* The Endangered Species Act at 16 USC [United States Code] 1536(a)(2) requires you use the best available scientific and commercial data in assessing the impacts on species;
* NEPA regulation 40 CFR [Code of Federal Regulations] 1502.22 delineates various actions you must take when you find data gaps while evaluating the impacts of actions;
* The Data Quality Act (DQA) requires you to use objective (e.g. peer reviewed, no financial CoI [conflict of interest]) data in any document that you disseminate to the public (e.g., EIS');
* When evaluating impacts, in the 9th Circuit at least, the Cuddy Mountain decision (137 F 3d at 1207) requires that you be more specific than the use of generalized claims without specifics and cite to authority.

Response: See responses to Comments RMC-0221-061 and Comment RMC-0211-013 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0324-003
Rachel Carson Council

Comment: We question whether the specific conditions in Alaska have been given sufficient consideration. These include reduced numbers of organisms to metabolize the chemicals and the greater fragility of the ecosystems there -- that could lead to

longer persistence of the chemicals and more profound impacts on non-target populations.

Response: The resource conditions in Alaska were identified in Chapter 3 of the PEIS and PER, and effects of treatments on Alaska resources were discussed in Chapter 4 of the PEIS and PER. As noted for Comment EMC-0108-002 under PEIS Appendix G, Tribal and Agency Consultation, the BLM would only use small amounts of herbicides in Alaska, if at all, and would mainly limit treatments to small areas, along ROWs, and disturbed sites.

EMC-0324-019
Rachel Carson Council

Comment: The chemicals tebuthiuron, picloram, glyphosate are all broad-spectrum herbicides capable of killing many different types of vegetation. Such actions can be harmful to insects, birds, fish and of course to people. Birds depend on vegetation for food and habitat and on insects for food. Fish depend on vegetation for food, habitat and for temperature regulation in the form of shading of riparian areas. Where beneficial insects, butterflies, and migratory birds feed, and or establish populations, these chemicals should not be routinely used. Fish can be harmed when temperature increases follow loss of shade-producing vegetation. Additional research needs to take place on the effect of these chemicals on bacteria, fungi, aquatic algae and grasses.

Response: The BLM evaluated exposure and risk to birds, fish, invertebrates and other ecological receptors, and discussed indirect effects to salmonids. See Chapter 4 of the PEIS under the relevant resource sections.

EMC-0336-002
Tipps, Betsy L.

Comment: While studies to date may indicate that these products are "safe", Google searches of bromacil, chlorsulfuron, diquat, diuron, fluridone, hexazinone, tebuthiuron, picloram, and triclopyr did not produce unequivocal scientific evidence that these chemicals are perpetually safe at any amount, much less the amounts you propose; are perpetually safe when used once, much less year after year; and that they will not have long-term, cumulative negative effects on human health, the development of children's neurological and immune systems, air quality, water quality, soil quality, and wildlife health and abundance. Some of these chemicals have already been shown to cause reproductive and developmental harm, and it is likely that among the group currently proposed or those that may be added under the provisions of the agreement are known to be or will be discovered as carcinogens and/or neurotoxins.

Response: All chemicals can cause harm. It is the exposure/dose that determines their risk to humans, plants, and animals. The purpose of the BLM risk assessments was to use application-specific and environmental fate and transport properties to determine exposure/dose and risk. The large majority of the exposure scenarios show no risk or low risk to human and ecological receptors at typical application rates. Most of the herbicides proposed for use by the BLM degrade relatively rapidly (days to weeks) and thus are unlikely to persist in the environment.

EMC-0338-004
Dow AgroSciences

Comment: It is important to note the exclusion of risks associate with non-chemical alternatives mentioned. There is no mention of the risks to workers using mechanical, fire or other methods to control invasive plants particularly in Alternative C: No Use of Herbicides. This ignores the dangers to workers using these methods such as the inhalation of vehicle exhaust or smoke from prescribed fires, risks associated with fire escape, physical injuries from over-exertion or injuries as a resulting from operation of heavy equipment.

Response: See response to Comment EMC-0566-004 under PEIS Environmental Consequences, Non-herbicide Effects Analysis.

EMC-0354-002
Huls, Mark

Comment: Although new chemical technology has obviously produced herbicides less toxic than those of the past, there can be no argument that those proposed and in use in many places today are still lethal to the biochemical processes of man, nature and beast. It surprises me that there would be any support for such an action among ranchers who run the risk of birth deformities and cancer in their livestock from such an exposure. The problem with genetic mutation and cancers is that these results from chemical exposures, which have been proven in several studies, are long term effects and therefore are without the immediate reaction and blame of something that produces side effects immediately.

Response: The large majority of the exposure scenarios indicate that there is no risk or low risk to livestock associated with using the herbicides evaluated in the PEIS at typical application rates; see Tables 4-25 and 4-26 in Chapter 4 of the PEIS. See responses to Comment EMC-0336-002 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated and Comment EMC-0197-003 under PEIS Environmental Consequences, Human Health and Safety.

EMC-0386-003
Varvares, Chris

Comment: Recognize the cost, both of applying the herbicides directly, and their short- and long-term effects on the environment.

Response: The short- and long-term costs and benefits of applying herbicides are discussed in Chapter 4 of the PEIS. More detailed information on the costs to humans, plants, and animals, is given in Appendixes B and C of the PEIS.

EMC-0446-024
The Nature Conservancy

Comment: Some of the background information used in the Draft EIS on the environmental fates of the herbicides imazapic, 2,4-D, glyphosate, imazapyr, triclopyr, clopyralid, hexazinone, picloram and fosamine ammonium is cited from the Conservancy's Weed Methods Control Handbook ([Draft] PEIS pages 4-8, 15, 16, 17, 18, 19, 27, 28, 29, 30, 31, 32, 39, 46). While we appreciate the reference to our work, this Conservancy handbook is not a report of original research and study results, but is instead a compilation and review of available scientific literature. Therefore, we strongly recommend that BLM PEIS' authors find and cite from those original scientific sources instead of referencing our handbook.

Response: The references to the Weed Control Handbook were reviewed and changed in response to this comment, as appropriate. Where the original article was not obtained, a "cited in" citation is used. Where the handbook did not have an internal reference, the handbook was used as the citation.

EMC-0505-019
John Day-Snake Resource Advisory Council

Comment: While the risk assessments discussed in the Appendixes A, B, and C include information on background, methodologies, analysis, use and predicted impacts and outcomes, they do not address incidents. Applicants are required to report such occurrences. For example, in Appendix C the risk assessment for sulfometuron-methyl, with respect to non-target plants, indicates that risk quotients for typical and rare, threatened or endangered (RTE) terrestrial plants were all well below the plant Level of Concern (LOC), indicating that wind erosion is not likely to pose a risk to non-target terrestrial plants (appendix C [of the Draft PEIS], page C-74). However, a few years ago, BLM's application of this herbicide to control cheat grass in a burned area of south central Idaho resulted in off-target movement by wind blown dust and farmers in the area reported a high degree of crop loss that they attributed to this

herbicide. Investigations by the Idaho Department of Agriculture support this contention. It is clearly desirable to avoid off-target effects and the [P]EIS should include a discussion of risks from incidents for this and other herbicides.

Response: The ecological risk assessments (ERAs) provide information reported to USEPA on accidents and spills, including reports of spills and their effects on the environment (see Section 2.3, Herbicide Incident Reports, in the ERAs, which are found on the CD that accompanies the PEIS). Additional information on the risks associated with spills is provided in Chapter 4 and Appendixes B and C of the PEIS. The BLM also modeled for the effects of herbicide drift on non-target vegetation and other resources, including humans, fish, and wildlife, and provided the results in the PEIS and ERAs.

EMC-0512-002
Hells Canyon
Preservation Council

Comment: We are very concerned about this proposal to use herbicides on such a broad scale which will affect large areas in the West. The "one size fits all" approach is inappropriate considering the diversity of the habitat you intend to treat. The EIS fails to disclose the impacts of herbicide use on amphibians, fish populations or sage grouse. Other "special status" species may be negatively impacted from this large scale use of herbicides. HCPC [Hells Canyon Preservation Council] strongly suggests you redo EIS's for each different ecosystem and address each individual impact on specific resources in each habitat type.

Response: The PEIS and PER used several different approaches for analyzing impacts, depending on the types of data that were available and appropriate method of analysis. Thus, some effects were assessed based on state boundaries, while others, such as wildlife habitat, were assessed based on ecoregions. As defined in Webster's Dictionary, "an ecosystem is the complex of a community and its environment functioning as an ecological unit in nature." Thus, there are thousands of ecosystems in the West, and it would be impossible to analyze all ecosystems in a programmatic document, if at all. The PEIS does disclose impacts to fish, amphibians, and sage-grouse in the Fish and Other Aquatic Organisms and Wildlife Resources sections of Chapter 4.

EMC-0512-003
Hells Canyon
Preservation Council

Comment: The toxicity of the herbicides proposed for use are not well understood or fully disclosed in the [P]EIS. There are significant data gaps and lack of adequate risk assessment for several herbicides proposed for use. Without clear and complete knowledge of the impacts to amphibians, insects, native plants, fish, and other wildlife this action is not acceptable to the public. Non-target species should not be put in danger by BLM's use of herbicides.

Response: See response to Comment EMC-0640-036 under PEIS Environmental Consequences, Wildlife Resources. Data collected and analyzed during the risk assessment are provided for each herbicide in ecological risk assessments (ERAs) prepared by the BLM (and available on the CD included with the PEIS) and by the Forest Service (http://www.fs.fed.us/foresthealth/pesticide/risk.shtml). The risks to amphibians, insects, native plants, fish, and other wildlife is discussed in the ERAs, and also in Chapter 4 and Appendixes B and C of the PEIS.

EMC-0525-023
Western Watersheds
Project

Comment: Some of this information is already assembled, but the Weed [P]EIS/PER preparers have ignored it. In fact, the recent Conservation Assessment for Greater Sage Grouse (Connelly et al. 2004) provided GIS maps and information on BLM lands and landscape-level fragmentation factors that could be readily built upon by BLM in a Supplemental Weed [P]EIS. The data used in this mapping included information, for

example, cheatgrass presence in understories, livestock facilities, and many other factors fragmenting species habitats. Instead of providing necessary information and mapping based on the information provided by the individual field offices, which BLM claims is driving this process, the [P]EIS provides limited and near-meaningless mapping at such a scale that it can not be properly related to the proposed actions.

Response: The level of mapping provided in the PEIS and PER is appropriate for a programmatic-level document. Mapping elements used to describe sage-grouse habitat conditions may not be appropriate for other resource areas discussed in the PEIS and PER. In addition, the focus of the PEIS and PER is not on factors causing fragmentation and invasive species issues, but on the methods used to control invasive species. Also see response to Comment EMC-0585-051 under PEIS Alternatives, Determination of Treatment Acreages.

EMC-0525-076
Western Watersheds Project

Comment: The [Draft] [P]EIS/PER fails to examine such current population attributes in relation to areas slated for Treatment, and assess outcomes of treatments on many high priority species.

Response: The PEIS, PER, and Biological Assessment discuss likely effects from treatment activities on species of concern. In addition, the ecological risk assessments prepared for herbicides used by the BLM deal extensively at the programmatic level with the risks to species of concern associated with herbicide use. As noted in Chapter 2 of the PEIS under Special Precautions, Special Status Species, the BLM would evaluate risks to sensitive species and their populations at the local level for each treatment project.

EMC-0525-079
Western Watersheds Project

Comment: Sadly, the series of Alternatives (Proposed and Preferred Actions) cast aside reasonable analysis of the impacts of the massive intervention and treatment disturbance put forth in the [P]EIS/PER on these species, and the viability of habitats that will be drastically fragmented under the [P]EIS actions.

Response: The analysis of the alternatives is found in Chapter 4 of the PEIS. The Proposed Action and Purpose and Need are identified in Chapter 1 of the PEIS. The PEIS proposes no actions that would drastically fragment viability of habitats for avian and other sensitive species. Analysis of herbicide use on sensitive species is presented under Wildlife Resources in Chapter 4 of the PEIS. Effects of non-chemical treatments on wildlife sensitive species are discussed under Wildlife Resources in the PER.

EMC-0525-087
Western Watersheds Project

Comment: The [P]EIS treatments (chaining, fire, chopping, herbiciding, and "biological control" livestock grazing) are identical to past activities that have caused the conversions that are dooming native species. The [P]EIS has failed to both provide a baseline of information on past acreages converted, the habitat fragmentation that has resulted, and the direct, indirect and cumulative impacts of its proposed greatly expanded treatments on resulting new conversion.

Response: The baseline conditions of public land resources are described in Chapters 3 of the PEIS and PER. Cumulative effects are described in Chapter 4 of the PEIS under Cumulative Effects.

EMC-0525-089
Western Watersheds Project

Comment: Nowhere does the [P]EIS and PER provide any protocol, analysis, mitigation, SOP [Standard Operating Procedure] or other provisions or analyses that would retain large tracts of any vegetation type, ensure seed-producing pine, or promote growth of native grasses and forbs. In fact, as the [P]EIS fails to address

livestock disturbance impacts and effects on outcomes of any treatments, and fails to provide science-based limitations on post-treatment livestock grazing and trampling use, there is no certainty that native grasses and forbs will not deteriorate further. This is especially the case as the very treatments identified may weaken or kill native grasses and forbs, as well as microbiotic soil crusts.

Response: An important objective of vegetation treatments is to promote the growth of desirable and healthy vegetation, including seed-producing vegetation. Given that 80% of treatments would be 1,000 acres or less, large tracts of land would remain untreated. The impacts of livestock on vegetation and other resources are discussed in Chapter 4 of the PER under Biological Treatments for each resource area, and also in the Analysis of Cumulative Effects in Chapter 4 of the PEIS. A discussion of the effects of treatments on soil, including microbiotic soil crusts, is included in the Soil Resources section of Chapter 4 of the PEIS and PER.

EMC-0525-144
Western Watersheds Project

Comment: What are the impacts of treatments, and likelihood of success under drought conditions? How would the effects of a passive treatment (reduction in, or removal of livestock) compared to invasive disturbance treatments as proposed under the EIS?

Response: It is likely that the impacts of treatments, and their success or failure, would be influenced by extremes in weather (e.g., drought, periods of heavy rainfall), although it is difficult to predict treatment outcomes based on weather at the programmatic level. For example, more vegetation may be killed or harmed under drought conditions, but restoration success may also be lower than it would be during periods with above-average rainfall. The primary objective of the PEIS and PER was to evaluate the effects of treatments. However, a discussion of the adverse and beneficial effects of passive treatments is provided in Chapter 2 of the PER under Vegetation Treatment Standard Operating Procedures and Guidelines.

EMC-0553-013
Callihan, Robert H.

Comment: Technical errors and omissions mentioned here reflect this draft's insufficient involvement of personnel having an adequate grasp of weed science in all of its ramifications. Calling weed management "vegetation management" is fine, but changes neither the nature of the problems nor the science needed to address them. My principal recommendation regarding the BLM's weed management activity is that the agency acknowledge that it is dealing with a specialty, not simply a few elements of that specialty. Proper acknowledgment will warrant more than token involvement of true weed specialists. It takes more than assigning a title to be a specialist. To be well qualified for BLM purposes, weed specialists should have not only experience but also a formal education focused on weed science and technology, including range and forest science. Such personnel are needed not only for development of documents such as this but also for directing related field work. They are the personnel most likely to have not only adequate preparation, but also a basic professional interest and motivation so focused on weed technology that its application will be sound. That basic motivation is not a minor consideration, and it's not obtained by simply retraining or reassigning personnel from another profession.

Response: The development of the PEIS reflects the interdisciplinary involvement of a broad range of professional resource specialists, including weed scientists. The PEIS is not a weed management document. The PEIS is an analytical document addressing the use of herbicides on vegetation and public land resources. Invasive species and noxious weeds are included under vegetation. BLM standards for qualifications for resource specialist positions are guided by Office of Personnel Management standards,

and are outside the scope of this analysis.

EMC-0584-084
Western Watersheds Project

Comment: Actions under the Alternatives of the [P]EIS/PER will bring about widespread soil erosion and relocation in wind and water. In order to understand the impacts of the actions, the current condition of all lands (soils, veg, microbiotic crusts, etc.) must be thoroughly assessed. The [P]EIS fails to assess effects of multiple or overlapping treatments. For example, how will herbicide runoff be accelerated in burned landscapes? This also relates to air quality problems, and possible increased air or water pollution on top of other pollutants.

Response: See responses to Comment EMC-0584-071 under PEIS Environmental Consequences, Cumulative Effects Analysis, and Comment EMC-0585-010 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0584-109
Western Watersheds Project

Comment: Risk Assessments: BLM must conduct assessments of the risks of seeding failure/loss, increased depletion, weed invasions, under various post-treatment grazing strategies and across a broad range of alternatives. What are the risks of seeding weakening and depletion if grazing is allowed to resume too soon?

Response: Each vegetation treatment project has site-specific NEPA analysis conducted at the time the project is proposed. Issues such as treatment success are evaluated within the context of the proposal.

EMC-0584-110
Western Watersheds Project

Comment: Minimal Use of Chemicals: BLM must strive to minimize use of chemicals in wild land settings. An increasing segment of the public has health problems related to chemical sensitivities. Chemicals may leach into water, blow on eroding soils into other sites. Wind erosion is far more significant in post-fire environments, as dark bare soil surfaces heat up, with the result of funnel-cloud erosion/dustdevils blowing soils away. Cancer, respiratory problems and many other human health effects of herbicides and other treatment chemicals are well-known.

Response: The BLM would strive to minimize herbicide use, as noted in Chapter 2 of the PEIS and PER under Site Selection and Treatment Priorities. Also see response to Comment RMC-0214-011 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments.

EMC-0585-010
Western Watersheds Project

Comment: While BLM superficially examines a few risks of herbicides, nowhere are the risks of treatments, or combined treatment and herbicide use examined.

Response: The PEIS, PER, and ecological and human health risk assessments provide extensive coverage of the risks of herbicides to natural and human resources. The risk assessments evaluated several tank mixes (applications of a mixture of several herbicides). However, an analysis of potential combinations of herbicides and other treatment methods is impractical at the programmatic level, as there could potentially be hundreds of combinations of treatments. This analysis is best done at the local level for each project.

EMC-0585-014
Western Watersheds Project

Comment: Although BLM entitles the [P]EIS "Vegetation Treatments on BLM lands in 17 western states", it fails to assess the environmental impacts of vegetation treatments and take a hard look at a reasonable range of alternatives related to the massive array of treatments proposed.

Response: The Purpose and Need for the Proposed Action is described in Chapter 1 of the PEIS. The PEIS does not propose a massive array of treatments. The PEIS assesses the human health and ecological risk from the use of herbicides on public land resources. The BLM has determined the range of alternatives analyzed is reasonable and appropriate to the Proposed Action and Purpose and Need. Effects of other non-chemical treatment methods are described in the PER. The environmental impacts of a vegetation treatment are assessed at the time the treatment is proposed through site-specific NEPA analysis.

EMC-0585-023
Western Watersheds Project

Comment: BLM must use best available science and provide a basis for the claimed purpose and need. BLM must provide baseline information on the numbers of acres treated/manipulated in the past, the environmental effects of these treatments, and the current condition of these treated lands. The proposed vegetation treatments and herbicides have been purposefully employed by BLM and the Forest Service for a significant period of time. They have caused harmful, often irreversible changes to habitats for species such as sage grouse and pygmy rabbit (MDFW [Montana Department of Fish and Wildlife] 1995, Braun 1998, Connelly et al. 2000, Connelly et al. 2004). The very treatments described in the PER have led to large-scale habitat declines.

Response: See response to Comment EMC-0584-051 under PER Vegetation Treatment Programs, Policies, and Methods, Programs, Policies, and Initiatives Influencing Vegetation Treatment Activities. The BLM has utilized the best available science in its assessment of the herbicides identified in the Proposed Action and Purpose and Need of Chapter 1 of the PEIS. See Appendixes B through D of the PEIS for a summary of the scientific methodology used in the analysis of herbicides.

EMC-0585-060
Western Watersheds Project

Comment: BLM must conduct analysis and provide data that shows: What is the current ecological condition of lands subject to past treatments, or proposed for treatment under the DEIS [Draft PEIS]? How might chemical, carrier, breakdown product impacts be magnified in degraded environments of bare disturbed soils, devegetated wild land springs, etc.?

Response: The PEIS discussed the current condition of public lands at the programmatic level based on surveys conducted by the BLM (see Wetland and Riparian Areas, Vegetation, and Wildlife Resources sections of Chapter 3). The ecological risk assessments considered soil, slope, vegetation type, and other factors when determining risks from the use of herbicides under different field conditions. These assessments would be used by local field offices to predict the effectiveness of herbicide treatments on degraded lands.

EMC-0585-089
Western Watersheds Project

Comment: These are also the areas where most of the pesticide spraying related to grasshopper, Mormon cricket and other pest control occurs. So, the same lands are more likely to be subjected to multiple classes and types of pesticides – and their carriers, contaminants and breakdown products. Congress recently allocated funds for a large-scale increase in insect spraying on the same lands where this EIS contemplates massive increases in herbiciding and disturbance treatments. Plus, these are the lands closest to areas where private land owners may be applying a vast array of chemicals – for everything from weeds to insect infestations to fungicides – both terrestrially or aerially, so impacts of drift or off-site transport - either from BLM to private lands, or vice versa, and multiple chemical and breakdown and carrier exposure is most likely to happen. In arid lands subject to brief periods of favorable plant growth, many of the herbicide/pesticide treatments may be compressed into a short time frame occurring on

both BLM and private lands at the same time. Thus, risks of overlapping chemical exposure, including from degradates, must be assessed.

Response: Based on BLM Pesticide Use Reports for 2004 and 2005, the BLM treated 58,838 acres using the following pesticides: carbaryl (22,905 acres), deltamithrin (694), MCH (60), verbenone (33), acetaphate (3), benomyl (3), chlorothalonil (6), dithane (3), esfenvalerate (66), iprodione (3), malathion (503), metaxyl (3), permethrin (3), propaconizole (6), triophante-methyl (3), and diflubenzuron (34,544). The focus of the PEIS is on how the BLM manages vegetation using herbicides. The BLM would follow label directions and Standard Operating Procedures and mitigation identified in Chapter 2 of the PEIS to avoid or minimize the likelihood of herbicides applied by the BLM on public lands being carried to non-target lands. The BLM would also coordinate with other pesticide applicators near the treatment area to reduce the likelihood of multiple treatments on public or non-public lands. See responses to Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment, and Comment EMC-0505-009 under PEIS Alternatives, Monitoring.

EMC-0585-094
Western Watersheds Project

Comment: Chemicals applied in burned or otherwise disturbed environments or environments where soils have been disturbed or altered by grazing are much more likely to erode in wind or water, and end up killing non-target organisms, polluting wildlife water sources, infiltrating domestic water supplies, etc. Thus, any Risk Assessment can not be conducted using "normal" situations as a baseline. It must consider the significant environmental disturbance that will result from treatments, or in the case of ESR [Emergency Stabilization and Rehabilitation], in the post-fire environment, occurring on top of ongoing chronic disturbances of livestock grazing, OHV [off-highway vehicle] activity, or other human-caused abuses.

Response: The BLM's GLEAMS models used in the herbicide ecological risk assessments (ERAs) used fate and transport conditions to represent conditions of erodible soils expected after fire. The ERAs are available for review on the CD that accompanies the Final PEIS. As discussed in Chapter 4 of the PEIS and PER under Soil Resources and in the Cumulative Effects Analysis, livestock grazing, OHV [off-highway vehicle] use, and even BLM vegetation treatments can cause erosion. As proposed by the BLM in the PEIS and PER, passive (e.g., reduce livestock and OHV use) and active (e.g., use herbicides and prescribed fire) treatments would be used to control weeds and other invasive vegetation and reduce hazardous fuels. Although these treatments could lead to short-term loss of soil, it is anticipated that BLM-administered lands would improve with time, as would soil stability as native vegetation revegetates the treatment site.

EMC-0585-099
Western Watersheds Project

Comment: Land in proximity to UI [urban interfaces] or with weed problems (where [P]EIS claims many activities are to occur) typically have more roading and OHV [off-highway vehicle] use, more livestock use, and typically, in more disturbed lands related to livestock projects or other human activities, and thus are in the poorest condition and subject to accelerated erosional or runoff events. This is more likely to deliver pollutants into ground and surface waters as soils and vegetation are disturbed. Throughout this process, BLM must conduct analyses and risk assessments based on worst-case rugged wild land scenarios.

Response: See response to Comment EMC-0585-094 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0591-002
Johnson, Robert

Comment: I request that input which challenges the use of herbicides registered by the EPA have their claims subject to the "Daubert standard" which the courts use. The US Supreme Court ruled in Daubert vs Merrill Dow Pharmaceutical that opposing claims must meet the scientific method. http://www.daubertontheweb.com/. In the Daubert case a number of academically qualified individuals "re-analyzed" existing peer reviewed research and professed their analysis revealed danger to the medicine in question. Despite their academic backgrounds, the court rejected their claims as not scientifically sound. Regarding herbicides, groups such as the Northwest Coalition for Alternatives to Pesticides (NCAP) will re-analyze peer reviewed studies and claim health concerns. However NCAP has failed to submit their re-analysis to peer review. The US Supreme Court has ruled such non-peer reviewed "re-analysis" is not to be considered. I request that the BLM reject non-peer reviewed re-analysis of the herbicides it is considering under Alternative B.

Response: The BLM will accept all information presented by reviewers and the public and give appropriate consideration to the information's validity based on its scientific defensibility with regard to peer review, professional expertise, and professional judgment.

EMC-0597(a)-008
Beeland, DeLene

Comment: What are the bioaccumulative effects? When these poisons reach our watersheds – which they will – what are the effects on fishes and amphibians – and ultimately on water quality? On soil quality? On the beetles and burrowing animals ecosystems depend upon for soil production? On birds? Twenty years from now, will trails have to be closed to hikers because of accumulated poisons in the soil that can't be contained and are jettisoned into the air by a disturbance as small as a boot-print? If BLM insists on retaining its public lands grazing program, will humans eventually eat the cows that ate grasses coated in herbicides? Fifty years from now will we have altered the food web once more because top predators such as wolves, bears and cougars will hold the accumulated health effects of herbicides in their bodies and their young?

Response: Bioaccumulation was evaluated for the piscivorous (fish-eating) bird (bald eagle). The risk assessment found either no risk or low risk to this indicator species. The amount of time that herbicides proposed for use by the BLM persist in the environment is generally short—days to weeks (see response to Comment RMC-0069-009 under PEIS Alternatives, Monitoring). The BLM also evaluated risk to hikers and found either no (non-diquat herbicides) or low risk (diquat). However, hikers would not likely be exposed to diquat, as it is an aquatic herbicide.

EMC-0641-019
Idaho Conservation League

Comment: We have serious concerns about the adverse impacts of aerial herbicide application on aquatic environments, particularly over smaller streams and intermittent channels. We do not believe that the minimum 100-foot buffer zones between water bodies are adequately protective. Furthermore, we feel unsure about how the BLM might prevent contamination to streams via wind drift, even with buffer zones, particularly since the elevation of spraying will vary. Although we recognize that aerial and broadcast applications may be appropriate in some areas, we strongly encourage the BLM to consider adopting an alternative that does not involve using aerial applications in regions containing wetlands or small streams and other shallow water bodies. The BLM should also refrain from utilizing aerial applications in regions containing critical habitat for threatened and endangered fish species. Amphibians are also extremely sensitive to herbicides, even at relatively low levels. The PEIS needs to analyze potential impacts to amphibians and associated species from the use of these herbicides.

Response: See responses to Comment RMC-0006-034 and Comment RMC-0228-007 under PEIS Alternatives, Herbicide Treatment Standard Operating Procedures. Avoidance of the use of herbicides near amphibian-bearing waters was an important component of Alternative E (see Chapter 2 of the PEIS). To protect amphibians and reptiles, and fish species of concern, the BLM would follow guidance in the Biological Assessment prepared in support of the PEIS. This document, along with Chapter 2 of the PEIS, lists numerous mitigation and conservation measures that would be implemented to reduce risks to the animals, including not broadcast spraying in habitats with special status species.

EMC-0643-006
California Indian Basketweavers Association

Comment: The BLM is embarking, in this EIS, upon a new path that essentially would institutionalize a policy with the potential for irreversible long term, serious, adverse impacts to the environment. The use of chemical poisons to kill plants at this scale on public lands is unprecedented. It has been known for half a century that pesticides have unintended adverse effects on human health and the environment—such as increased risks for cancer, neurological disorders, reproductive disorders, endocrine and immune system dysfunction; impaired surface and ground water, and harm to fish and wildlife. Public lands play an essential role providing largely unpolluted refugia ensuring the survival of countless numbers of species of plants and wildlife.

Response: As discussed in Chapter 4 of the PEIS, herbicides do have adverse effects on humans and the environment, although the effects of herbicides proposed for use by the BLM are generally none to low. Risks to human health and fish and wildlife are discussed in detail in Appendixes B and C of the PEIS and in the human health risk assessment (HHRA) and ecological risk assessments (ERAs) prepared in support of the PEIS (see HHRA and ERAs on the CD that accompanies the PEIS). However, as discussed in the Introduction (Chapter 1 of the PEIS), the increase in weeds, invasive vegetation, and hazardous fuels also threaten the health and welfare of humans and fish and wildlife and are adversely impacting the "naturalness" of public lands.

EMC-0643-007
California Indian Basketweavers Association

Comment: Separate from this, the BLM has failed in this DEIS [Draft PEIS] to document with scientific evidence that the use of herbicides will result in improving ecosystem health or restoring lands. In fact, there is much evidence in the scientific literature that suggests that the use of herbicides results in simplifying ecosystems and further reducing biological diversity, eliminating native species and setting the stage for worse invasions of weeds. We insist that the BLM follow up on these issues and address them in a substantive manner, with full documentation and with references footnoted, in the final EIS, as required by the National Environmental Policy Act.

Response: Scientific literature on herbicide use is found under References in Chapter 6 of the PEIS. The BLM is not attempting to make the case that use of herbicides results in the improvement of ecosystem health or restoration of land. Herbicides are one tool utilized for vegetation treatments in an integrated pest management framework, to attain improved ecosystem function. Experience and scientific literature support the idea that vegetation treatment and manipulation to meet desired goals and objectives have positive and beneficial outcomes in attaining desired outcomes, such as improved ecosystem function. The BLM also recognizes that herbicides have risks associated with their use. The impacts (beneficial and adverse) and risks of herbicide use are analyzed and disclosed in the PEIS.

EMC-0643-024
California Indian Basketweavers Association

Comment: The [P]EIS must analyze the direct, indirect, and cumulative environmental, health and cultural impacts of the chemical products as they will actually be used, as mixtures, in the field and at environmentally relevant concentrations. (See Attachment 3). Further, common sense dictates that pesticide products in full formulation that have not been tested for their environmental impacts should not be permitted for use on the public's lands unless there are overriding, emergency situations in which their use is absolutely essential. Pesticides should be used only as a "last resort" in integrated pest management programs, as affirmed by former Secretary of Agriculture Anne Venneman (U.S. GAO [Government Accounting Office] 2001 cited in CIBA's [California Indian Basketweavers Association's] comments, 2002). As alternative methods of prevention and control such as were recommended by CIBA in the Restore Native Ecosystems Alternative have not been implemented by the BLM, it is clear that pesticides are not a "last resort" method.

Response: See response to Comment EMC-0623-017 under PEIS Environmental Consequences, Herbicide Effects Analysis. As stated in Chapter 2 of the Final PEIS under Site Selection Priorities in the Vegetation Treatment Planning and Management section, the BLM would first take actions to prevent or minimize the need for vegetation controls where feasible; then use effective nonchemical methods of vegetation control where feasible; and finally use herbicides only after considering the effectiveness of all potential methods and their impacts on the environment.

EMC-0643-045
California Indian Basketweavers Association

Comment: The DEIS [Draft PEIS] even concludes that risks to Native people and others "would be greatest under the Preferred Alternative." Risks to wildlife, air quality, and water quality are also the highest under the Preferred Alternative. The DEIS [Draft PEIS] also finds, "However, as the long term objective of treatment is to restore native plant communities and habitats, including those of traditional importance to Native Peoples, the greatest benefits would accrue under the Preferred Alternative."(page 4-221, also see p 2-34 Table 2-8 [of Chapter 2 of the Draft PEIS]). There is no explanation as to how these binaries are weighed one against another.

Response: The Preferred Alternative analyzes the most acres of proposed herbicide use out of all the alternatives presented. Since herbicides would be applied to more acres, there is greater risk from the use of herbicides overall. Also, since more acres would be treated under this alternative, more acres would be potentially restored, reducing the need for future applications, and providing greater benefits over the long term as compared to the other alternatives.

EMC-0646-083
Californians for Alternatives to Toxics

Comment: This indirect effect associated with surfactants, carrying toxic substances through cell walls to cause effect, is in need of thorough evaluation. Data exists showing the ability of surfactants to carry toxic substances through plant surfaces, and a growing body of data showing similar transport through animal cell walls. This is a serious issue, and as Marc et al state, *"our results question the safety of glyphosate and Roundup on human health"*. The BLM must consider such warnings in its NEPA analysis but has failed in the draft PEIS.

Response: The BLM has prepared a new Appendix D for the Final PEIS to address endocrine disrupting chemicals and other inert ingredients that may be associated with glyphosate and other herbicides used or proposed for use by the BLM.

EMC-0646-111
Californians for
Alternatives to Toxics

Comment: Results from every research project and data review needs to be thoroughly analyzed, through peer review and independent analysis, unlike USDA 2003. There has never been a time when the need for critical, objective analysis has been more important than with the issues surrounding endocrine effects. This is especially true when one considers that new pathways of communication and functional overlap between the various endocrine systems are still being discovered (WHO 2002).

Response: See responses to Comment EMC-0646-021 under PEIS Environmental Consequences, Herbicide Effects Analysis and Comment EMC-0646-053 under Environmental Consequences, Non-herbicide Effects Analysis.

EMC-0646-232
Californians for
Alternatives to Toxics

Comment: Also missing is even a rudimentary analysis of how differences in climate, soil, topography and other factors will impact what treatments may be used and how efficacious they will be.

Response: Chapter 4 of the PEIS discusses how soil, rainfall, and other natural and social factors would influence, and be influenced by treatment methods. The ecological risks assessments used soil type, slope, weather, vegetation, and other factors in models to predict risks for each herbicide. The reader should consult the individual risk assessments found on the CD that accompanies the PEIS for more information. An analysis of site-specific factors that could influence treatment success and impacts would be conducted for each project at the local level.

EMC-0646-234
Californians for
Alternatives to Toxics

Comment: The Draft PEIS fails to inform the decision maker by making several very serious lapses in the description of the environmental consequences of the proposed program. The primary assumption is that for a programmatic EIS the BLM is absolved from analysis of the relative need for any of the means of control. The BLM can and must come up with, at the very least, pie charts and graphs that illustrate the proportion of each treatment option that may be anticipated to be used. This is not an impossible task, or if it is, why it is impossible should be described in the EIS. How can a decision maker be informed without this basic information?

Response: The estimated number of acres to be treated using herbicides for each alternative is given in Table 2-6 in the PEIS, and for all treatments in Chapter 4 of the Draft PER under Vegetation. However, to assist the reader with analysis of the alternatives, we have provided an estimate of the number of acres to be treated using other treatment methods in the section on Determination of Treatment Acreages in the Final PEIS.

EMC-0646-235
Californians for
Alternatives to Toxics

Comment: The BLM fails to provide fundamental information for project analysis related to noxious weed and invasive weed treatments. How much extra spraying will be involved to treat noxious weeds? What portion of the annual BLM budget will go towards which weed treatment methods? It what areas will which herbicides be considered? Are there areas or situations where certain chemicals will not be considered acceptable? Where is the analysis of the extra spraying proposed for weeds regarding impacts and effects to watershed, vegetation, and wildlife?

Response: Much of the information on treatments used in the PEIS and PER was obtained from local field offices during a data request in 2002. It is difficult to determine how much spraying will be focused specifically on weeds. Local offices may have identified weed control as the purpose of a spray program, or they may have mentioned that the purpose is to reduce hazardous fuels, improve wildlife habitat, or

assist with revegetation, which may or may not involve the treatment of weeds. An estimate of the costs of treatments per acre is given for each alternative in Chapter 4 of the PEIS under Social and Economic Values. For purposes of the PEIS, the BLM assumed that treatments and herbicide use could occur anywhere, but, as discussed in Chapter 4 of the PEIS under Vegetation, most treatments would occur in the Temperate Desert and Subtropical Steppe ecoregions. It was not practical, however, to identify the locations of specific projects in the PEIS; the locations will be identified during analysis at the local level. The risk assessments evaluated numerous treatment scenarios based on soil type, rainfall, habitat type (wetland or upland), vegetation type, proximity to humans or species of concern, and other factors. The results of risk assessments were used to identify situations in which use of one or more herbicides would not be acceptable; these situations were also identified in Chapter 4 of the PEIS and in the Biological Assessment. An assessment of the impacts of herbicide treatments on natural and human resources is provided in Chapter 4 of the PEIS.

EMC-0646-245
Californians for Alternatives to Toxics

Comment: The agency must use high quality information and accurate scientific analysis, 40 C.F.R. [Code of Federal Regulations] 1500.1(b), and must disclose "any responsible opposing view." Id. 1502.9(b). The [P]EIS must disclose and analyze opposing opinions. Center For Biological Diversity v. United States Forest Service, 349 F.3d 1157 (9th Cir. 2003). Thus far the BLM has failed to disclose opposing scientific opinion regarding toxicity of herbicide formulations, potential impacts of herbicide applications, and potential alternatives, thus violating this NEPA requirement.

Response: The PEIS discloses and analyzes extant scientific data, not opinions, on herbicide use and its effects. These data are included under resource sections in Chapter 4 of the PEIS. In addition, a comparison of the adverse and beneficial effects (and opposing opinions) of herbicide use is provided in Chapter 4 of the PER. Scientific toxicity of herbicides was evaluated using quantitative risk analyses, based on scientific methodologies consistent with USEPA guidance. Both peer and non-peer reviewed literature submitted during the NEPA process was reviewed and considered in the PEIS analysis. The PEIS is not a forum for airing opposing opinions, but an analytical tool to weigh scientific information that will result in a decision on which herbicides are appropriate for use on public lands. To the extent scientific data, not opinion, were submitted relative to the decision to be made, it was considered in the analysis.

FL-0006-005

Comment: I am concerned that these plans are unnecessary and unsafe for both human and environmental health. Public land management should be based on long-term ecological health, the best science available, and should err on the side of safety and conservation.

Response: See responses to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation, and Comment EMC-0026-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

FXC-0019-001
Degan, Janet

Comment: On p. 3 of 9 in the (FAQ) section, the following statement misleads the public: "Expected benefits (from these treatments of vegetation and soil) would include: reduced wildland fire risk, improved vegetation condition, improved fish and wildlife habitat, and improved watershed function." In truth, instead of benefits, there would be health and safety dangers created by poisoning the vegetation, poisoning the fish and wildlife habitat, and poisoning the water supply within the treated watersheds.

Response: As discussed in Chapter 4 of the PEIS and PER, proposed vegetation treatments would have both adverse and beneficial effects. These effects include the potential for herbicides to harm the environment and human health. However, by not treating vegetation, weeds and other invasive vegetation, and wildfires that result from high levels of hazardous fuels, could exclude or eliminate more desirable vegetation from fish and wildlife habitat, and cause extensive erosion that could harm watersheds.

RMC-0006-037
Central Sierra Environmental Resource Center

Comment: The environmental scope of this PEIS is too large, and it should be broken down by eco-region. There is too much environmental variation across eco-regions covered by the 17 western states. This plan should be broken down by eco-region. If nothing else, because this is a programmatic EIS, an NEPA level environmental assessment should be required for each specific site or project.

Response: The analysis of risks to resources from herbicides was based on risk assessment protocols that did not lend themselves well to analysis by ecoregions. In addition, some other resources were better analyzed based on state jurisdiction (air quality) or hydrologic region (water). Analysis of habitat effects for wildlife was done by ecoregion in the PEIS. An analysis of effects by ecoregions was done for more resources in the PER, including plants and wildlife.

RMC-0049-003
Wilson, Robert E. (University of Nevada Cooperative Extension)

Comment: As a whole, the document does not adequately (1) describe the ecological impacts that are certain to occur if all the federal, state, and private landowners in the Western U.S. do not do a better job of addressing the problem that we are all facing. (2) Nor does it look at solutions as part of an ecological process. Instead, the approach seems to be to simply reflect the removal of undesirable species and does not reflect much thought into what happens after that. By addressing vegetation management in terms of ecological or biological sequences that look into the future achieves a much more comprehensive and sustainable result. An approach outlined by Dr. Roger Sheley and described by him as Ecologically-Based Rangeland Weed Management is one science based approach to ecological manipulation. This concept touches on numerous areas of vegetation Manipulation, and is the basis for much of the newer science about invasive weed management in all the areas addressed by this [P]EIS.

Response: The PEIS analyzes the impacts of herbicide use under the different alternatives based on known BLM activities; cumulative impacts are based on known activities by the BLM and other federal land management agencies. The BLM cannot analyze unknown activities on other federal lands or on state or private lands. BLM handbooks, manuals, and policies incorporate an integrated approach to vegetation management. Using an integrated pest management or integrated vegetation management approach provides the local field office the ability to evaluate and select the method or combination of methods that will meet local vegetation management objectives. The Department of Interior adopted and endorses Integrated Pest Management (IPM) as defined in 7USC (United States Code) 136r-1: IPM is a science-based, decision-making process and a sustainable approach to manage pests by combining biological, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks. Another term used in addressing vegetation only is Integrated Vegetation Management (IVM). IVM is an ecosystem-based strategy for controlling unwanted vegetation using the most appropriate, environmentally sound, and cost effective combination of biological, chemical, cultural, manual, or mechanical methods. In IPM programs, herbicides are considered transition tools that enable the manager to manage vegetation and replace them with desirable, competitive vegetation. BLM Manual 9011 recommends selecting the least toxic low-residual herbicide that is effective against the target vegetation and applying

it in a judicious manner.

RMC-0049-026
Wilson, Robert E.
(University of Nevada Cooperative Extension)

Comment: At the very least, this [P]EIS should analyze the effect of invasive weed domination if a less aggressive management effort is maintained over the long term.

Response: The No Action Alternative and alternatives C, D, and E provide a range of alternatives that assess less aggressive responses to invasive species. See Chapter 4 of the PEIS for the analysis of these alternatives.

RMC-0049-029
Wilson, Robert E.
(University of Nevada Cooperative Extension)

Comment: Section 4-1[of the PEIS]. This section needs to specifically address the environmental consequences of invasive weed domination. It needs to discuss fully the environmental consequences of extensive monocultures of alien plant species and the resulting reduction of native flora and fauna that cannot survive in this newly forming environment. It also needs to address better the environmental consequences of herbicides on the plant communities where they are used. The consequences will be different for different classes of herbicides.

Response: The environmental consequences of invasive species are discussed under Alternative C for each resource area in Chapter 4 of the PEIS. Under Alternative C, the BLM would not be able to use herbicides, and thus the spread of weeds would likely be greater under this alternative than under the other alternatives. The PER discusses the effects of weeds on natural and social resources. In addition, the BLM has expanded the discussion of the spread and consequence of invasive weeds in the Final PEIS and PER, as well as expanding the discussion on herbicides is included in Chapter 2 of the Final PEIS and PER. Also see response to Comment EMC-0585-062 under Alternatives, Monitoring.

RMC-0072-007
Zimmermann, Adele E.

Comment: No Environmental Impact Statement can reliably predict the cumulative and long-term effects of wide-scale application of any chemical; relatively toxic, such as the proposed herbicides; or relatively benign, such as the fire retardant dropped on forest fires. Therefore any EIS, however well researched, is inadequate and any action based on such a Statement is illegal.

Response: The BLM does not agree with the comment. Most herbicides have a safe threshold of use. See response to Comment EMC-0646-048 under PEIS Environmental Consequences, Herbicide Effects Analysis.

RMC-0106-003
Public Employees for Environmental Responsibility

Comment: The D[raft] PEIS reiterates in numerous places that the information available is insufficient to support direct analysis of potential impacts. But then proceeds to obscure these deficiencies in so-called state-of-the-art risk analyses based on multiple assumptions, surrogate species, and guesswork. All the while, unmistakable evidence of harm to non-target plants, wildlife, aquatic life, and humans from the specific herbicides proposed to be used dribbles through.

Response: See response to Comment EMC-0640-036 under PEIS Environmental Consequences, Wildlife Resources.

RMC-0170-005
Carson Forest Watch

Comment: Our Western States' long-term drought needs to be analyzed in this DEIS [Draft PEIS] – low water levels, dry soils, loss of vegetation, warm temps, etc. all must be evaluated in this DEIS [Draft PEIS] – as it directly affects the condition of our soils and watersheds. Also, drought will affect any analysis of effects of herbicides – less ability of soil & water to dilute chemicals, absorption rates, etc.

Response: Prior to any application of an herbicide, local environmental conditions are taken into account. Risk analyses conducted for the herbicides under the GLEAMS and CALPUFF modeling covered a variety of environmental variables, including rainfall and soils. See Appendix C of the PEIS under Concentration Models of the PEIS for a description of the modeling methods used in the development of this analysis.

RMC-0191-006
Ertz, Brian

Comment: The potential harms of the Preferred Alternative are not adequately considered given the Biological Assessments as well as the Risk Assessments compiled for the proposed new herbicides.

Response: The PEIS summarized information provided in the risk assessments and Biological Assessment (BA), and provided information from numerous other sources (see References). However, the reader is encouraged to review the risk assessments, BA, and other appendixes and supporting information provided with the PEIS and PER to have a better understanding of the risks and benefits of using herbicides and other treatment methods.

RMC-0191-016
Ertz, Brian

Comment: The BLM is using this Vegetation Treatment PEIS to attempt to administer the Preferred Alternative which would triple the amount of toxic herbicides to be used across urban interfaces and public lands. All considerations of the impacts of such action given the Biological Assessments [BAs] and Ecological Risk Assessments [ERAs] are conducted as if human beings, ecosystems, and RTE [rare, threatened, and endangered] species exist in clean isolate environments free of any exposure to toxicity other than the given compound which the specific BA or ERA addresses. This environment no longer exists. As the science demonstrates above, degradates persist, Organic Wastewater Contaminants are found in waters all over the country, the risks of interactions and reasonable assessments regarding levels of these contaminants was not conducted nor considered by the agency in this PEIS. The BLM has failed to give a reasonable assessment of the risks associated with the Preferred Alternative's "ambitious" tripling of herbicide treatments to include at least 10 new formulations in addition to the eight previously approved for current levels of administration.

Response: See response to Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment concerning degradates, and responses to Comment EMC-0585-199 and Comment RMC-0191-012 under PEIS Environmental Consequences, Herbicide Effects Analysis concerning other contaminants.

RMC-0200-008
Lindsay, Dianne

Comment: The PEIS/PER fails to include the most up to date and broad research in regard to human and animal health. Petrochemicals behaving like estrogens are having a serious affect on people and wildlife. This kind of result may not show up in your research because it may affect the next generation more than the one exposed. It is not addressing the possible long term affects on our children and later generations. (References are available by request).

Response: No reliable data was found on the endocrine disrupting effects of the 10 BLM herbicides bromacil, chlorsulfuron, dicamba, diflufenzopyr, diuron, fluridone, fosamine, imazapic, oust, and tebuthiuron. Typical endocrine disruptors, such as nonylphenol ethoxylates (NPE), were not found in these BLM active ingredients or inerts. The BLM has prepared a new Appendix D for the Final PEIS to address endocrine disrupting chemicals and other inert ingredients that may be associated with glyphosate and other herbicides used, or proposed for use, by the BLM. Also see response to Comment EMC-0267-005 under PEIS Alternatives, Herbicide Active

Ingredients Evaluated under the Proposed Alternatives.

RMC-0221-006
Center for Biological Diversity

Comment: In this case, the BLM cannot rely on general assessments of the impacts of herbicides provided in the D[raft] PEIS without assessing the risks to all the components of the ecosystem in which the site-specific action will take place. Such risks include, but not limited to, potential impacts to rare, threatened and endangered species, and air and water quality. The BLM cannot authorize any herbicide vegetation treatments where the condition of the land and the extent of the resources have not been adequately assessed. An understanding of the ecological and hydrological functions of a specific area and the plant and animal communities that exist there is integral to interpreting how herbicides will affect and be effective on that landscape. Site-specific analysis must be conducted using short- and long-term scenarios before any herbicide treatments can be approved.

Response: The PEIS is a programmatic analysis assessing the human health and ecological risks of herbicide use as well as impacts on public lands resources, including sensitive species. Human health and ecological risk assessments for the herbicides proposed under this PEIS are found in Appendixes A and B of the PEIS. See Chapter 4 of the PEIS for analysis of potential impacts to threatened and endangered species, and air and water quality. In addition, the BLM has developed a Biological Assessment that accompanies the PEIS analysis for consultation under the Endangered Species Act. Proposals for vegetation treatments derive from the needs identified in land use plans and other resource-specific or integrated activity plans, which are based on an understanding of the ecological and hydrological functions of the area to which they apply. See NEPA Requirements of the Program in Chapter 1 of the PEIS for a description of the step-down process for NEPA under which analysis occurs at differing scales. Site-specific analysis occurs later in time when individual projects are proposed. The BLM can authorize herbicide vegetation treatments in compliance with applicable regulations, statutes, and executive orders. In every case, site-specific analysis is conducted before any herbicide treatments are approved.

RMC-0221-011
Center for Biological Diversity

Comment: The identification and analysis of the environmental impacts of the proposed project is a huge undertaking not the least of which is the identification and analysis of the impacts of the proposed project on hundreds, if not thousands, of native species. Nonetheless, it is an undertaking that is mandated by NEPA and the Endangered Species Act (ESA). Because the D[raft] PEIS prepared by BLM is legally inadequate, the agency cannot properly rely on this document in approving the proposed project.

Response: The PEIS meets the requirements of both NEPA and the ESA. Under the National Environmental Policy Act (NEPA), the BLM is required to disclose the impacts associated with a proposed action and compare those impacts with reasonable alternatives to the proposal. Under the ESA, the BLM is required to consult with National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) to ensure that the proposed action is not likely to jeopardize the continued existence of any ESA-listed species or result in the destruction or modification of critical habitat. 16 U.S.C. § 1536(a)(2) (2006). The BLM initiated informal consultation with USFWS and NMFS in November 2001 (refer to PEIS under Consultation in Chapter 1, and in Chapter 5, Consultation and Coordination). The BLM also proposed a formal initiation package, and consultations with USFWS and NMFS are ongoing and will be completed by the time the Record of Decision is signed.

RMC-0221-060
Center for Biological Diversity

Comment: If the BLM insists on moving forward with this ill-conceived project, it must first undertake detailed analysis of each of the herbicides it is proposing to use and their potential impacts on the environment based on reliable, current, high-quality data. Given that the impacts to native plants and animals, including rare, threatened, and endangered species, have not been widely studied and are largely unknown, this task will require the BLM to do more than simply rely on previously prepared NEPA documents. Because the proposed action may irreparably harm native species and ecosystems, the BLM cannot go blindly forward – NEPA analysis must provide sufficient information and detail for a reasoned decision-making process. Without first identifying and disclosing to the public the potential adverse impacts of the proposed project on public lands and the native ecosystems that those lands support, the BLM cannot approve this project.

Response: The BLM conducted detailed risks assessments for 10 herbicides (included on the CD that accompanies the Final PEIS), and used assessments recently prepared by the Forest Service (http://www.fs.fed.us/foresthealth/pesticide/risk.shtml) to analyze the risks associated with an additional 9 herbicides. These results generally show no risk to low risk at typical application rates. Also see responses to Comment RMC-0211-013 under PEIS Environmental Consequences, Herbicide Effects Analysis, and Comment EMC-0640-036 under PEIS Environmental Consequences, Wildlife Resources. The BLM also evaluated the risks to species of concern in Chapter 4 of the PEIS, and in a Biological Assessment that was prepared in support of the PEIS and is available on the CD that accompanies the Final PEIS.

Environmental Consequences, Subsequent Analysis before Projects

EMC-0646-244
Californians for Alternatives to Toxics

Comment: How will future decision makers take into account adaptations of native species to invasive plants, and how are they to deal with these the possible displacement of these other species since guidance is not provided in the programmatic DEIS [Draft PEIS]?

Response: While some examples of a single native species adapting to invasive species have been observed, it does not mean that the invaded ecosystem can properly function. Any system where a diverse plant community has been replaced by a monoculture, regardless of whether a native species is able to exist with the monoculture, will not provide the inputs necessary to maintain natural ecological processes in the long term.

If adaptation of native species to invasive species occurs, it will be at a much smaller scale than this programmatic EIS. Each case will be considered during the local NEPA analysis.

Environmental Consequences, Herbicide Effects Analysis

EMC-0067-002
Womens Global Green Action Network

Comment: Your research is based under tightly controlled laboratory conditions and their use in the real world --in the field conditions --has an entirely different outcome.

Response: The BLM does not do research on the effects of herbicides on plant and animal health, but relies on others including USEPA, herbicide manufacturers and the scientific literature. The USEPA uses various conservative safety factors to extrapolate from animal studies to humans. As discussed in Appendix C of the PEIS under Non-target Species Exposure Characterization, use of surrogate species is often necessary to address the broad range of species likely to be encountered on public lands.

EMC-0139-014
Troutman, Doug

Comment: I see no evidence of studies of sufficient length to declare any of these compounds can't have mutagenic effects in the environment.

Response: Every pesticide is tested for mutagenicity as part of the Federal Insecticide, Fungicide, and Rodenticide Act USEPA pesticide registration requirements. The objectives of these studies are to detect the capacity of a chemical to alter genetic material in mammalian cells and to evaluate the relevance of these mutagenic changes to mammals (i.e., carcinogenicity or other health effects). A review of the available mutagenicity information presented in the registration materials indicated that only three active ingredients (diquat, hexazinone, and metsulfuron methyl) had reported a positive (mutagenic) result for one of the series of required mutagenicity tests. These positive tests included gene mutation (mouse lymphoma cells), chromosomal aberration (human blood lymphocytes), and bacterial reverse mutation (Ames) assays. However, the evidence was not sufficient for the USEPA to classify these, or any other active ingredients as carcinogens.

EMC-0142-004
Mintz, Mary

Comment: Have you read the EPA reports on this chemical and have you read the MSD [Material Safety Data] sheets on these products?

Response: See responses to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation, and Comment EMC-0026-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0155-001
Kozlowski, James C. (National Society for Park Resources, National Recreation and Park Association)

Comment: Given the existing registration process of herbicides and pesticides under FIFRA [Federal Insecticide, Fungicide and Rodenticide Act] which relies heavily on industry supplied safety data, in my opinion, there are too many uncertain human and environmental variables to necessarily assume herbicide and pesticide use policy on BLM lands can, or should be effectively settled within the broad parameters of a programmatic EIS. To do so, in my opinion, would effectively subvert the legislative intent of NEPA.

Response: While there are variables, herbicides and pesticides have generally undergone a rigorous series of toxicity tests, especially compared to many other chemicals which are used in consumer products.

EMC-0176-002
Richardson, Peter

Comment: Each year increasing evidence appears in the scientific literature that the public health is at risk as we add more new chemicals to the environment. I would argue that a more conservative approach than is offered in the D [Draft] [P]EIS be considered. You are putting our children and grandchildren at risk.

Response: The human health risk assessments done by the BLM (see Appendix B of the PEIS) and Forest Service (see http://www.fs.fed.us/foresthealth/pesticide/risk_assessments/091702_24d.pdf) for herbicides proposed for use in the PEIS included safety factors. The human health risk assessments were based on very conservative exposure assumptions and toxicity values for the various herbicides. The risk calculations assumed that members of the public would repeatedly be exposed to spray drift, and recently-sprayed vegetation and waterbodies, which is unlikely. The specific dermal contact rates and ingestion rates used were at the upper end of the range of possibilities. The toxicity values used for the herbicides were derived by USEPA, and are based on a thorough review of toxicology literature. The toxicity values incorporate several safety factors to account for sensitive individuals and long-term exposure.

EMC-0267-005
Medbery, Angela

Comment: Implementation of any new chemical testing data that might relate to endocrine disruptor chemical effects or immune system effects should be reviewed. This new data should be used in a precautionary atmosphere for more conservative use of any permitted chemicals.

Response: Endocrine disrupting effects were evaluated in Appendix D of the Final PEIS. Also see response to Comment EMC-0646-021 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0308-005
Damus, Marilyn

Comment: Most of the chemicals you are planning to use do not have very thorough safety testing. I don't know of any that have long records of completely safe use, and some are already known to cause reproductive and developmental harm. In fact, I think I even read that you are reserving the right to add more herbicides on later, without going through the [P]EIS process again. Any or all of these herbicides could be the next DDT that causes untold harm and diminishes our quality of life. Even if none prove to be as damaging as DDT, there is so much potential for harm (for example, look at Daconil 2787 (chlorothalonil), a lawn-care chemical that was once thought to be safe but has killed people who walked on the ground where it had been applied). By our thoughtless loss of priorities in this country, we are threatening our food, our water, our air, and in doing so, children's future as well as our own.

Response: As the federal authority to determine safety, it is the USEPA's duty to evaluate and register pesticides for use. The BLM uses information from the USEPA and other scientific sources and constructs exposure scenarios within the label requirements, but typical of BLM needs. The BLM uses these exposure scenarios to evaluate risk in order to assess effects under NEPA. Also see response to Comment EMC-0505-010 under Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

EMC-0314-003
Alliance for the Wild Rockies

Comment: First, the registration/risk assessment data ignores the vast majority of health endpoints (data gaps). Next, these classic toxicology methods fail to test what they claim they are testing: dose levels, cumulative and concurrent exposure to mixed chemicals and vulnerable stages of development (in that respect, classic toxicology and chemical RA [risk assessment] are literally(!) scientific frauds). Almost all the data gaps and the faulty test methods concern the long-term (chronic) effects of exposure to these chemicals. Finally, all such safety tests are performed by parties with massive (typically tens of millions to many billions of dollars of revenue depend on their chemical being declared safe enough to use (financial conflict of interests, CoI). Since in sum this is not knowledge, these registration tests are seldom published in peer-reviewed journals; and to my knowledge none has ever been published in an independent one (i.e. a journal with adequate strictures against, and disclosure of, financial CoI).

Response: See responses to Comment EMC-0308-005 under PEIS Environmental Consequences, Herbicide Effects Analysis, and Comment RMC0069-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

EMC-0316-002
Hardebeck, Larry J.

Comment: The safety studies on the chemicals you are proposing are not thorough enough to demonstrate their safety for all members of our society, and they certainly do not address the long-term repercussions that may occur down the road (say 20 years), for example, cancer of various types, autoimmune disease, etc.

Response: See responses to Comment EMC-0244-002 under PEIS Environmental Consequences, Human Health and Safety, and Comment RMC 0069-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

EMC-0340-004
Craig, Diane

Comment: What I also question is where does the research on these chemicals come from? – how long were the studies done and on what subjects, and for what results were they looking for. I would hope that the vast majority of the population understands is that it is the chemical companies themselves that provide the information on these chemicals to government agencies such as the [US]EPA and it is their studies that are used – not biased at all is it!

Response: Congress and the USEPA have determined the procedures for safety testing of pesticides. The manufacturer seeking registration must supply USEPA scientists with a wide range of toxicological data for review, and the USEPA then determines if the data meet its standards for registration. The USEPA extrapolates information from these studies to develop toxicity values for humans by applying various safety factors.

EMC-0350-002
Morris, Nancy

Comment: The pesticide industry is one that polices itself and the test results regarding safety for the pesticides manufactured and used is highly questionable and does not truly reflect the dangers of these chemicals. One only has to look historically how many pesticides including some herbicides have been used on our agricultural fields and ranges lands and how many of these have been pulled from the market after many people were harmed and the environment seriously damaged. Pesticide drift presents a significant health issue because people and wildlife are being treated as guinea pigs every time they are exposed to these chemicals.

Response: See response to Comment EMC-0340-004 under PEIS Environmental Consequences, Herbicide Effects Analysis. Drift was specifically evaluated in the BLM risk assessments; see response to Comment RMC-0210-042 under Alternatives, Description of the Alternatives – Alternative D.

EMC-0430-002
Crowlie, Colleen

Comment: But still I am not happy with the thought of herbicides being used on public lands so I want to put my 2 cents in. In the Ecological Risk Assessment when explaining the very complex problem of measuring toxicity I see that you have had to rely on surrogate species because that is the group of animals that have been tested and you need factual information to fit into your formula. All I can think of is those desert toads that come out when it rains, and they seem to be disappearing in recent years. I doubt there is a laboratory animal that is similar enough to those toads that I would believe the surrogate species data.

Response: See response to Comment EMC-0585-199 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0457-003
Ryan, Eleanor (North American Butterfly Association)

Comment: The terrestrial insect tested in your document is the honeybee, a very sturdy creature. Given their listed status and the very sensitive nature of butterfly species, herbicides need to be tested on both adult and larva stages. Caterpillars will be directly eating the treated foliage, not at one remove like bees, who take only nectar. Cabbage butterflies are not native but abundant and easily raised. They could be a good test subject.

Response: Honeybees are actually fairly sensitive insects because of their feeding strategy, hairy structure, and soft abdominal cuticle. While bees take nectar, they are exposed to sprayed horizontal flower parts. The BLM also used honeybees because of

the availability of toxicology information, which is mostly lacking for butterflies.

EMC-0575-007
Davlantes, Nancy

Comment: May I suggest that these chemical companies such as Monsanto, experiment on contained areas that will not pollute surrounding land and lifeforms. They are certainly rich enough to afford doing a serious, scientific study on the affects of their chemical soups. And not endanger countless life forms including humans in the process.

Response: See response to Comment RMC-0076-005 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

EMC-0585-059
Western Watersheds Project

Comment: Develop a state-of-the-art human health and ecological risk assessment methodology. In order to adequately assess ecological risk, BLM must provide essential information on the conditions of the lands where treatments could occur, and the full range of species, including habitat specialists, that inhabit them. It must also assess the whole range of risks – from use of multiple chemicals on the same land to the impacts of breakdown products/degradates.

Response: Ecological risk is assessed through a formal quantitative process that is described in Appendix C of the PEIS and should not be confused with environmental impact analysis. Information on conditions of lands and affected species, including habitat specialists, is considered and addressed in the site-specific NEPA analysis for any herbicide treatment project. Information derived from inventory and monitoring of the area proposed for treatment is factored into the need for a proposed herbicide project, including the need to treat with multiple chemicals over time. Breakdown and degradates of herbicide are addressed in the Ecological Risk Assessment discussion in the Final PEIS.

EMC-0585-102
Western Watersheds Project

Comment: BLM claims that TES [threatened, endangered, and sensitive] species may be at "slightly greater risk" from herbicides than non-TES species. This is not valid --- they may be at much greater risk. Habitats for many TES species are already greatly fragmented (cause of perilous low levels of populations) or limited. See, for example, Dobkin and Sauder 2004 assessment of current status of bird and mammal species in the arid Intermountain west. Any increased disturbance or alteration of non-target vegetation or other mishap such as drift that hams remaining intact habitats may have far greater impacts on population and species viability. Such analysis, and the woefully limited, substanceless and deficient Biological Assessment do not employ Best Available Science.

Response: The paragraph summarizing the effects on aquatic organisms and terrestrial wildlife in the Executive Summary has been modified for clarity in the Final PEIS. According to risk assessments, the risk level representing the risk of adverse health effects to individuals exposed to herbicides can range from the same to substantially greater for TES species, as compared to non-TES species. However, any associated effects at the level of the population or the species would likely be much greater for TES species. The Biological Assessment (BA) and Chapter 4 of the PEIS discuss the potential for these effects, and consider the low population numbers and fragmented habitats of these species. Conservation measures presented in the BA reflect the need for additional protection of TES species and their habitats. In addition, treatment programs developed at the local level will take into account TES species, with a much greater level of detail about where treatments will occur in relation to TES species populations and habitats, and additional conservation measures to protect them, as appropriate.

EMC-0585-178
Western Watersheds Project

Comment: [On PEIS Appendix B page] b-33 "herbicide use parameters are claimed to be dependent on condition of non-target veg., the soil type, depth to water table and presence of other water sources" The RA then refers the reader to Tables B-4 to b-9 [in Appendix B of the PEIS] that "summarize the veg treatment program for each of the herbicides. Nowhere is any info provided on the critical factors of the condition of non-target vegetation, soil type, depth to water table and presence of other water sources provided. We are aware of no methodology used by BLM to determine depth to water table, presence of other water sources, etc. as part of treatments. Please provide the methodology and protocols claimed to be used.

Response: Each ecological risk assessment (see individual ecological risk assessments on the CD provided with the Final PEIS) and Appendix C (in Uncertainty Section under Concentration Models) of the PEIS included a discussion of the GLEAMS model that was used to predict the loading of herbicide to nearby surface water bodies and to groundwater.

EMC-0585-185
Western Watersheds Project

Comment: Drift models used by BLM focus on ag fields. Drift and Gleams and are not valid for use in topographically rugged wild land settings subject to rapid temperature and wind shifts, or sparse vegetation and aridity of BLM lands. The forest applications of these models are based on the presence of much greater shielding foliage than typically occurs on BLM lands. Thus, these analyses do not adequately assess risks associated with spray drift, or transport into water or neighboring soils in runoff or by winds. Water bodies may be subject to chemical contamination with herbicides and their degradates through application drift, soil and water runoff, and wind deposition of contaminated soils.

Response: The BLM acknowledges that water bodies located in and near application areas may be subject to impacts due to drift, soil and water runoff, and wind-driven transport of soil. In fact, its approach to exposure modeling includes separate analyses of each of these phenomena, as well as analysis of direct application to the water body. The selected models are generally applicable to rugged, arid, windy, and sparsely vegetated lands. Each of these aspects can be considered by the models, when they are relevant to prediction of the exposure concentration. In fact, the modeling approaches employed are consistent with standard practices, and their application was approved of by the relevant resource agencies.

EMC-0585-188
Western Watersheds Project

Comment: All the modeling and assessments also fail to include the often limited growing season in arid lands, and the fact that "treatment" activities may be compressed into a short time frame – thus members of the public are more likely to be exposed to multiple chemical or other treatment products (such as smoke, blowing disturbed soils, etc.) at one time. Many BLM lands border Forest lands upslope, and the likelihood of multiple exposures from multiple chemicals and multiple agency treatments is real.

Response: The BLM coordinates with the Forest Service and other agencies, organizations, and private entities with an interest in herbicide spraying to ensure that spray treatments are coordinated to reduce risks to humans and the environment. Treatment activities may be compressed into a short time frame, but herbicide treatments comprise only about 16% of all vegetation treatments, and treatments are spread nearly 261 million acres. In addition, many treatments are in remote areas, and treatment areas are posted to discourage the public from entering them. The human health and ecological risk assessments prepared by the BLM and Forest Service considered soil and vegetation type and rainfall patterns when modeling risks from the

use of herbicides.

EMC-0585-190
Western Watersheds Project

Comment: There really is no "updated" information at all on any but 6 chemicals, and even this "new" information is woefully deficient. BLM has improperly limited information on Hazard Identification, including toxicity (acute, chronic, subchronic, chronic/carcinogenicity, developmental, reproductive, neurotoxicity, mutagenicity, and metabolism of chemicals) it plans to use in greatly expanded amounts. BLM has improperly limited information on Dose-Response Assessments, including dietary, non-dietary, acuter dietary, chronic dietary, oral, dermal, inhalation.

Response: The comment does not specify what scientific information the BLM omitted. The commentor's list shows the BLM's evaluation to be comprehensive. Drift was an explicit part of the exposure analysis and risk assessment. All available USEPA toxicity information was utilized in the human health risk assessment. The BLM also used Forest Service risk assessments for nine herbicides; these assessments have been conducted since 1998.

EMC-0585-192
Western Watersheds Project

Comment: The secrecy surrounding inert ingredients provides no assurance or legitimate way to assess impacts to the environment or receptors. Although List 3 contains chemicals of unknown toxicity, BLM strangely jumps to the conclusion that this translates into "minimal risk" (see [page] B-27-28 [of Appendix B of the Draft PEIS). Just because something may be "unknown". It cannot be assumed to present "minimal risk"!

Response: Of the 32 inert ingredients found in herbicides evaluated by the BLM, none were found in categories of toxicological concern (List 1), none were found in the category of unknown toxicity/high priority (List 2), 5 were found in the category of unknown toxicity (List 3) and 27 were found in the category of minimal concern (List 4), as discussed under Inert Ingredients, in the Dose-response Assessment section of Appendix B (Human Health Risk Assessment) of the PEIS. Hence, 84% of the inert ingredients are in the category of minimal risk, and none are in the toxicological concern or high priority categories.

EMC-0585-197
Western Watersheds Project

Comment: BLM continues to use the inappropriate ag and forest drift models (see C-3 [of Appendix C of the Draft PEIS]) to assess wild land arid risk of exposure. BLM inappropriately relies on "surrogate" lab animal studies to understand effects to animals in wild land and water settings. (see [page] C-4 [of Appendix C of the Draft PEIS], discussion of TRVs [toxicity reference values]).

Response: The Agdrift model (drift) is predominantly dependent on the physical properties of the herbicide being applied, the method of application, and the wind speed. The model does not incorporate other weather-related inputs, such as humidity, and is therefore applicable to a wide range of conditions. The BLM modeled arid environments via GLEAMS (surface runoff) under a wide range of relevant environmental conditions. The wind erosion model was designed to represent a "reasonable, but conservative" impact under the range of meteorological conditions tested. Conditions in Wyoming, Montana, and Oregon were modeled using a highly conservative incorporation/mixing depth of 1 millimeter (thinner affected soil depths result in elevated herbicide emissions during fugitive dust events). A range of important input parameters was evaluated, and the impacts to model predictions were documented, in order to facilitate prioritization of site-specific analysis by land managers, when appropriate. The use of laboratory results to assess toxicity is a standard approach for assessing impacts to wild populations in ecological risk

assessment. Toxicity data on wild populations is generally lacking, and confounding factors (e.g., diet, body weight, other stressors) present in natural habitats make interpretation of results difficult.

EMC-0585-199
Western Watersheds Project

Comment: BLM claims to apply information based on species guilds. Yet, there is no guild for insectivorous birds, granivorous birds, frugivorous birds, predatory birds, etc. – just "small, large and piscivorous birds". A great many guilds are not represented in the analysis. Likewise, BLM uses small and large mammals. BLM fails to differentiate between insectivorous small mammals, granivorous small mammals, predatory small mammals, etc.

Response: It is impractical to assess all possible guilds, although the BLM captured most of them using omnivorous birds and mammals. The honeybee (*Apis mellifera*) was selected as the surrogate species to represent pollinating insects. The deer mouse (*Peromyscus maniculatus*) was selected as the surrogate species to represent small mammalian frugivores (i.e., fruit eaters) although it is an omnivore. The mule deer (*Odocoiieus hemionus*) was selected as the surrogate species to represent large mammalian herbivores. The coyote (*Canis latrans*) was selected as the surrogate species to represent a large mammalian carnivore and omnivore. The American robin (*Turdus migratorius*) was selected as the surrogate species to represent small avian invertivore and frugivore. The Canada goose (*Branta canadensis*) was selected as the surrogate species to represent large avian herbivores. The Northern subspecies of the bald eagle (*Haliaeetus leucocephalus alascanus*) was selected as the surrogate species to represent large avian piscivores (fish eaters).

EMC-0585-200
Western Watersheds Project

Comment: [On page] C-6 [of Appendix C of the Draft PEIS]. Acute LOC [Level of Concern] was lowered. There was no systematic methodology to examine population viability on top of individual viability.

Response: The acute Level of Concern was lowered for rare, threatened, and endangered species to protect for not only population, but individual viability. See Table C-1 (Levels of Concern) in Appendix C of the PEIS for Levels of Concern to plants and animals and species of concern.

EMC-0585-202
Western Watersheds Project

Comment: [Page] C-7 [of Appendix C of the Draft PEIS] states that a thorough description of uncertainties is a key component, and serves to identify weaknesses in this process. Why, then, does BLM throughout the DEIS [Draft PEIS] and PER ignore uncertainties and predict rosy outcomes?

Response: A key part of risk assessment is to disclose uncertainties. Uncertainties can work both ways: they may be over conservative or under conservative. In a quantitative risk assessment, efforts are made to identify the most likely point estimate of risk with narrative statements describing where the uncertainties lie. Not all the risk assessment outcomes are "rosy." Several herbicide-exposure-receptor scenarios do show risk, and the BLM will mitigate, restrict or delete the herbicide or the application rate under these scenarios.

EMC-0585-203
Western Watersheds Project

Comment: [Draft PEIS Appendix C, Page] C-7 reveals that the models used by BLM, did not estimate additional risks from adjuvants, inert ingredients, or chemical breakdown products/degradates. BLM claims "evaluating the potential additional/cumulative risks from mixtures of pesticides is substantially more difficult, particularly at the level of a PEIS". Well, BLM is claiming elsewhere that the PEIS will adequately assess risks and impacts, and yet fails to do so here! BLM then uses a

qualitative assessment, based on labels, most of which say mixing is ok.

Response: Uncertainty analysis is part of a risk assessment. The PEIS and human health and ecological risk assessments focus on the risks from the active ingredients. It would be difficult and extremely expensive to analyze all the breakdown products and degradates found in the herbicide formulations used by the BLM. Furthermore, there is little or no information on the risks associated with these products in the scientific and agency literature and in production registration documents. The human health risk assessments and ecological risk assessments make predictions of risk regardless of favorable or unfavorable outcome. Uncertainty analysis improves our perspective of the risk estimates, their conservatisms, and unknowns. Concerning inerts and degradates, see response to Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment.

EMC-0585-204
Western Watersheds Project

Comment: BLM models use buffers of 100, 300 and 900 feet. In wild land areas with downdrafts, rugged canyons, canyon breezes, thermals, etc. much greater buffers may be required. Plus, as aerial application is allowed under varying wind speeds in different states, such uncertainties must also be assessed.

Response: The buffers presented in the PEIS represent minimum distances based on drift modeling results. It is recognized that these buffers may need to be adjusted for site-specific conditions.

EMC-0585-205
Western Watersheds Project

Comment: The list of surrogate species is extremely limited ([page] C-11 [of Appendix C of the Draft PEIS]). Honeybee, rat, mouse, dog, rabbit, guinea pig, mallard, bobwhite quail, ring-necked pheasant, Japanese quail, chicken. Many of these species are very similar – example: avian granivores, so this list does not represent the "guild" approach claimed by BLM, and is full of deficiencies as described above.

Response: See response to Comment EMC-0585-199 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0585-206
Western Watersheds Project

Comment: Table C-4 [of Appendix C of the Draft PEIS] then presents "vertebrate surrogate species evaluated by life history". This list is extremely limited, and does not cover necessary important species types, even under the guild approach. The robin, goose, deer mouse, mule deer, bald eagle, coyote that it includes are generalist, or common species and coyotes are predators but also omnivorous to some degree. NONE of these species is rare or declining.

Response: See response to Comment EMC-0585-199 under PEIS Environmental Consequences, Herbicide Effects Analysis. The species selected for quantitative evaluation in the ecological risk assessments are species for which life history and toxicological response data are available. It is not practical, and can be illegal, for researchers to test chemicals using rare or declining species.

EMC-0585-207
Western Watersheds Project

Comment: There are no burrowing mammals (such as the pygmy rabbit or northern Idaho ground squirrel or kit fox)? How might herbicides and vapors of breaks down products affect burrowing mammals? How are vapors suspended in the air column? Not only may an animal consume herbicided vegetation for prolonged periods, it may also be subject to inhalation of chemicals, plus suddenly encounter an environment where essential cover from predators is being defoliated or killed.

Response: Although none of the surrogate species used in the ecological risk assessments are strict burrowing animals, the deer mouse to some degree would be exposed to conditions cited above. A burrow would tend to offer protection from foliar herbicide spray, compared to a non-burrowing animal shelter that is directly sprayed, and thus risks to a burrowing animal from herbicides should generally be less than those for a non-burrowing animal.

EMC-0585-208
Western Watersheds Project

Comment: If species existing in environments that contain no surface water sources, and consume sprayed vegetation or dew on sprayed vegetation, how will this affect their water balance, or organ function? Exposure pathway scenarios do not adequately reflect real-life scenarios for wild animals on public lands.

Response: Species, such as kangaroo rats, that do not consume water obtain water from their diet. Exposure to herbicides from consumption of foods exposed to herbicides was evaluated in the ecological risk assessments. Life history questions such as these are uncertainties and the reason safety factors are used in deriving toxicity reference values for interspecies extrapolation.

EMC-0585-209
Western Watersheds Project

Comment: The [Draft] [P]EIS drastically underplays the impacts and likelihood of direct spray exposure (see C-15 [of Appendix C of the Draft PEIS]). Animals that inhabit an area to be sprayed will be in contact with these chemicals. BLM also claims that "impacts outside of the intended application area are accidental exposures that are not typical. Yet, BLM provides no information or data showing that it has ever systematically monitored its own applications of chemicals applied in wild land settings under the many ways covered under this [P]EIS. This monitoring is required if BLM is to be able to make such statements. Where is the data that shows this is not typical, or that BLM 99% - or whatever – of the time –does not misapply chemicals? We are being asked to believe in a fantasy world that BLM has constructed here.

Response: The BLM modeled a direct spray scenario for ecological receptors. Risks were low to none at typical application rates. The BLM also modeled herbicide drift scenarios, which demonstrate the potential for herbicides to drift off-target, with similar results. The BLM is not a research organization, but relies on the USEPA and other organizations for research. See response to Comment EMC-0267-002 under PEIS Proposed Action and Purpose and Need, Federal Laws, Regulations, and Policies that Influence Vegetation Treatments regarding training of herbicide applicators and ensuring that herbicide applications are done properly.

EMC-0585-217
Western Watersheds Project

Comment: [Page] C-15 [of Appendix C of the Draft PEIS] states that "there is little information on magnitude of transfer of herbicide from plant to animal. Well, if an animal walks through sprayed vegetation, it will contaminate itself with herbicide, inhale fumes, etc.

Response: Wildlife may come into contact with herbicides by walking through areas that have previously been sprayed. However, there is little information available on how much herbicide is transferred to the animal through this exposure route. The BLM ecological risk assessments used an assumption of $1/10^{th}$ the exposure due to a direct spray of the animal. This assumption was based on work by Harris and Soloman (1992; see citation in Appendix C [of the Draft PEIS]) which evaluated the dislodgeable residues of 2,4-D present on turf 1 to 24 hours after application. Other research (Nishioka, M.G., H.M. Burkholder, M.C. Brinkman, S.M. Gordon, and R.G. Lewis. 1996. Measuring transport of lawn-applied herbicide acids from turf to home: correlation of dislodgeable 2,4-D turf residues with carpet dust and carpet surface

residues. Environmental Science and Technology 30:3313-3320) has indicated that the dislodgeable residues of 2,4-D and dicamba may be as low as 0.1% to 0.3% of the application levels on turf.

EMC-0585-218
Western Watersheds Project

Comment: [Page] C-16 [of Appendix C of the Draft PEIS]. Again, drift models here (as previously discussed) do not represent real world arid land scenarios.

Response: The results generated by the Agdrift model are predominantly dependent on the physical properties of the herbicide being applied, the method of application, and the wind speed. The model does not incorporate other weather-related inputs, such as humidity, and is therefore applicable to a wide range of conditions. The wind erosion model was designed to represent a "reasonable, but conservative" impact under the range of the meteorological conditions tested. Conditions in Wyoming, Montana, and Oregon were modeled using a highly conservative incorporation/mixing depth of 1 millimeter (thinner affected soil depths result in elevated herbicide emissions during fugitive dust events).

EMC-0585-219
Western Watersheds Project

Comment: Water is much more scarce and concentrated – often limited small springs and seeps, puddles, or small streams, and many of these may be receiving significant in-flow from large surrounding areas during runoff events. Such scenarios (very small water bodies, often receiving concentrated inflow/runoff from large areas) are not represented in the models used by BLM. Plus, BLM has ignores the fact that many of its treatments are likely to occur in lands where livestock use is most concentrated – which are often sites nearest water or flatter areas bordering draws. So herbicide application directly to degraded zones of livestock concentration is much more likely to result in herbicide and breakdown product contamination of, and concentration in, ground and surface waters.

Response: The parameters described in the comment reflect the base watershed that was evaluated in the GLEAMS model used in the risk assessments. These parameters were selected for the modeling of inerts in order to provide consistency between the models for inerts and active ingredients. This assessment was done to compare predicted exposure concentrations between an inert additive and the active ingredient. The conditions selected for modeling by GLEAMS are reasonable worst-case conditions, as they are the ones predicted to lead to high runoff and loading to nearby surface waters.

EMC-0585-223
Western Watersheds Project

Comment: [Appendix C, page] C-19 [of the Draft PEIS]. BLM's model does not take into account a combination of high risk events.

Response: The BLM modeled an accidental spill scenario in the human health risk assessments and ecological risk assessments, which is a worst-case scenario and would simulate a high-risk event.

EMC-0585-224
Western Watersheds Project

Comment: Calculations of ambient water concentrations may not reflect wild land scarce-water settings. The [P]EIS provides no information on the size of the ponds or steams and topographical and vegetation components used in modeling.

Response: The sizes of the ponds and stream are presented in the Appendix C of the PEIS under Non-target Species Exposure Characterization. The ecological risk assessments (ERAs) considered two types of generic aquatic habitat: 1) a small pond (¼-acre pond of 1 meter [m] depth, resulting in a volume of 1,011,715 liters); and 2) a small stream representative of Pacific Northwest low-order streams that provide

habitat for critical life-stages of anadromous salmonids. The stream size was established at 2 m wide and 0.2 m deep with a mean water velocity of approximately 0.3 meters per second, resulting in a base flow discharge of 0.12 cubic meters per second (cms). Details on the vegetative components used in the modeling are found in the two modeling appendixes of the ERAs (for GLEAMS and AgDrift) and in the Air Quality Modeling for BLM Vegetation Treatment Methods document (for CALPUFF). The BLM believes that these assumptions are reasonable, but conservative, worst-case ones representative of arid western lands. In addition, the importance of these input parameters to predicted risk has been explored in order to help the land manager identify situations that may result in higher impacts and that should be subject to additional, site-specific analysis.

EMC-0585-225
Western Watersheds Project

Comment: [Page] C-20 [of Appendix C the Draft PEIS]. Wind erosion. BLM states "dry conditions and wind may also allow transport of herbicide in fugitive dust'. This does not consider degraded site conditions and the level of site disturbance, as would be typical of many sites where herbicides may be applied. This is especially critical in understanding the fate of chemicals in post-burn ESR environments where large black burn surfaces essentially generate their own weather and winds. Plus, the modeling examines only small acreages (1,000) see [page] C-21 [of Appendix C of the Draft PEIS], yet BLM in post-burn environment may apply chemicals such as Oust over tens of thousands of acres. Erosion models also do not appear to take into account OHV [off-highway vehicle] use, cattle or sheep trampling of soils.

Response: The BLM has attempted to evaluate migration of herbicides from application sites in three different ways (drift, runoff, and blown dust). Each of these approaches has been done in a conservative albeit general fashion. Every attempt was made to select worst-case model inputs. Notably, for the dust model, it was assumed that all of the applied herbicide was associated with a very thin (1-mm) soil layer. This assumption maximized the potential prediction of rapid and complete herbicide transport. Similarly, the soils were assumed to be both disturbed (i.e., no vegetation cover) and very fine in texture in order to maximize predicted migration. Finally, a range of important input parameters was evaluated, and the impacts to model predictions were documented in order to facilitate prioritization of site-specific analysis by land managers when appropriate.

EMC-0585-226
Western Watersheds Project

Comment: [The] BLM describes "overdrive" being a combination of chemicals, and no toxicity data available, so BLM extrapolates to another mixture. [Pages] C-28 and C-29 [of Appendix C of the Draft PEIS] show adverse impacts of tebuthiuron and other chemicals BLM proposes to use.

Response: Overdrive® is assessed via its constituent active ingredients, dicamba and diflufenzopyr, and toxicity data are provided in the human health risk assessment (HHRA) and ecological risk assessment (ERA). When Overdrive toxicity data were available, these toxicity values were used in the ERA. The ERA and HHRA do predict risks for certain active ingredient exposure/receptor scenarios, but they are generally low for typical applications.

EMC-0585-227
Western Watersheds Project

Comment: BLM's Table C-15 [in Appendix C of the Draft PEIS] "Risk levels used to describe typical herbicide effects according to exposure scenario and ecological receptor groups" only provides information for 11 chemicals. The inadequacy of the drift models used by BLM is shown by the large numbers of zeroes in off-site drift, surface runoff, wind erosion.

Response: Appendix C of the PEIS only presents the tables generated during BLM's ecological risk assessment. Table C-15 presents the risk levels for the herbicides for which BLM conducted risk assessments. The herbicides covered in the Forest Service ecological risk assessments are not included in this table. Risk levels generated by the Forest Service ecological risk assessments are presented in Chapter 4 of the PEIS (see Table 4-13). The nature of the model selected to predict drift impacts as well as its mode of application are entirely consistent with current practice in the field (e.g., USEPA analysis during herbicide registration). This analysis of drift impacts is consistent with the review and approval of the proposed modeling approach by the USEPA and other agencies. The "large number of zeros" arise from anticipated site conditions as well as the level of toxicity documented for the herbicides. It should be noted that not all scenarios were found to be risk free. The BLM believes that these findings are consistent with the best available science.

EMC-0585-228
Western Watersheds Project

Comment: Wind erosion effects are not shown for aquatic species. This does not even evaluate any assessment of impacts to water bodies. As scarce isolated desert springs, seeps potholes, puddles tinajas, etc. may serve as critical water sources for terrestrial fauna, this is critical. Plus, many rare desert aquatic species exist in environments of limited water that may be subject to input of runoff or windblown soils from large land areas, and subsequent evaporation events that concentrate chemicals.

Response: The more conservative direct spray and off-site drift scenarios were assumed to address any potential impacts to aquatic resources from wind erosion. These evaluations included impacts to rare species within a small waterbody. In addition, the ecological risk assessment protocols were designed to evaluate and document the importance of several aspects of both the environment and mode of application to help land managers identify those situations such as desert springs in which elevated risks might be expected. This was done to help identify mitigation measures (e.g., set-backs or avoidance altogether) as well as the potential need for site-specific risk analysis.

EMC-0585-229
Western Watersheds Project

Comment: The surface runoff calculations are not representative of the real world of often degraded and desertified arid lands where BLM's treatments and herbiciding will occur.

Response: The surface runoff calculations represent a wide range of conditions. The GLEAMS modeling (discussed in Appendix C of the PEIS under Concentration Models) presents reasonable worst-case situations that would most favor migration leaching into surface water, which may not occur under the arid conditions typical of BLM lands.

EMC-0590-029
Western Slope Environmental Resource Council

Comment: We are also concerned that the synergistic effects of combining herbicides is very poorly understood and not well-addressed in the analyses presented in the DEIS [Draft PEIS] and PER. The EPA does not require pesticides to be studied for synergistic effects for registration of these chemicals, however they are known to occur. Often these effects are exploited in the development of herbicide products for field application (see study on the synergistic effects of diflufenzopyr with dicamba. With the multitude of chemicals being used in environmental settings, the potential for unknown toxic effects on organisms resulting from synergistic mixtures of chemicals is very real. Herbicides interact cumulatively and synergistically in aquatic and terrestrial environments, and such effects are likely responsible for the decline is species abundance, as evidenced by studies on the decline of frogs and toads over the past twenty years.

Response: The BLM analyzed dicamba together with diflufenzopyr. Also see responses to Comment RMC-0221-070 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives, and Comment RMC-0159-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

EMC-0606-009
Johnson, Kathy

Comment: The food chain starts at the herbal level , (vegetation). What studies have been done to show that the critters', (especially endangered/protected) DNA are not being altered in the least! ??

Response: See responses to Comment RMC-0055-006 under PEIS Environmental Consequences, Social and Economic Values, and EMC-0007-001 under PEIS Environmental Consequences, Human Health and Safety.

EMC-0619-002
Bellovary, Christopher

Comment: While I am glad to see the BLM taking the expansion of invasive species on public lands as a quite serious concern, the use of any untested herbicides appears to be an ultra vires action, that is outside of the BLM's discretional authority. Article III courts give administrative agencies great deference when it comes to scientific matters within their range of expertise, but there is no scientific data to rely upon with untested herbicides. The result is that courts would give no deference to the agency decision, as this would be by definition an arbitrary and capricious action.

Response: See response to Comment EMC-0308-005 under PEIS Environmental Consequences, Herbicide Effects Analysis. The BLM does not use untested herbicides.

EMC-0619-003
Bellovary, Christopher

Comment: I fully agree that of the herbicides that look promising based on successful laboratory results should be tested under field conditions before final approval is given. That said, when you lack the results of laboratory testing to rely on, you do not have sufficient data on which to make an educated prediction of the results. To proceed with the aerial application of these herbicides anyway is irrational, would needlessly risk the biological diversity within these areas that are necessary for their productivity, and would be at least as likely to increase the spread of invasive species as it would be to contain them. Such an unscientific approach to the management of our public lands would be a clear breach of the BLM's legal duty to protect the public lands for current and future generations.

Response: See response to Comment RMC-0218-043 under PEIS Alternatives, Vegetation Treatment Planning and Management. The USEPA requires field testing of herbicides as part of the registration process to ensure that the chemicals are effective and safe to the environment.

EMC-0623-017
Defenders of Wildlife

Comment: Evaluate the toxicity of each actual herbicide being used, not just the active ingredients. Recent research has found that the herbicide Roundup is extremely deadly to tadpoles, with the culprit being not the glyphosate, but the surfactant added to it. BLM must follow best management practices with respect to each formulation, not just each active ingredient. Furthermore, BLM must evaluate any combinations of chemicals for potential for synergistic impacts.

Response: BLM evaluated representative mixtures of herbicides (tank mixes) and also evaluated inert compounds in the BLM risk assessments. The BLM conducted additional analysis of degradates and the potential for proposed herbicides to act as endocrine disruptors for the Final EIS (see Appendix D). Inert ingredients found in BLM herbicides have little or no toxicity (see Degradates, Inert Ingredients,

Adjuvants, and Tank Mixtures in Appendix C of the PEIS; also see response to Comment RMC-0173-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives). As noted in Appendix C, BLM land managers have control over the selection of adjuvants, active ingredients, and tank mixtures, and can select herbicide formulations to reduce risk to humans and the environment. See response to Comment RMC-0221-070 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives for synergistic impacts.

EMC-0623-019
Defenders of Wildlife

Comment: Defenders of Wildlife maintains that the Environmental Protection Agency registration guidelines, which the BLM has signaled its intention to follow in adopting future chemical formulations, are not sufficiently protective of wildlife. We urge that the BLM follow regulations under the Endangered Species Act when evaluating new active ingredients, and implement best management practices as directed by these regulations.

Response: The BLM must generally follow the guidance of the USEPA in the use of registered herbicides, as USEPA is the authorized agency. The Endangered Species Act does not specify risk assessment procedures. BLM endeavored to evaluate risk to rare, threatened and endangered species by using additional conservatisms (e.g. more conservative levels of concern) above and beyond USEPA's guidance.

EMC-0640-007
Animal Welfare Institute

Comment: The fact that the BLM lumped amphibians in with fish in assessing the potential impact of herbicide use is problematic, especially given the fact that amphibians are known to be particularly sensitive to toxins.

Response: Fish and amphibians are both sensitive and share an aquatic environment, although there are obvious differences (e.g., adult amphibians leave the water). Both species are exposed via dermal and respiratory mechanisms and have a more permeable dermis. Both reproduce in the aquatic environment and amphibians spend all of their life cycle in or near water. Unfortunately, there is limited controlled toxicological data for the effects of herbicides on amphibians. Also see response to Comment EMC-0643-077 under PEIS Environmental Consequences, Wildlife Resources for a discussion of a study showing the similarities between fish and amphibians.

EMC-0640-008
Animal Welfare Institute

Comment: Using surrogate species (mice, rats, dogs, and others) to assess herbicide impacts on a variety of wild species as well as the proposed widespread use of herbicides may result in unknown or unexpected impacts of potential significance. Consequently, the BLM should employ the precautionary principle and avoid, to the maximum extent possible, the use of herbicides and only use herbicides where there is compelling and valid scientific evidence that the potential for adverse impacts are none to small.

Response: Generally, the risks to non-plant ecological receptors at typical application rates are none to small. Uncertainty due to interspecies extrapolation is addressed in Comment EMC-0643-036 under PEIS Environmental Consequences, Wildlife Resources.

EMC-0640-037
Animal Welfare Institute

Comment: In addition to the significant cruelty and suffering associated with these live animal tests (including lethal dose, dermal, eye, and other tests) and the fact that there are non-animal tests available that could and should be used to test such poisons, the test results themselves provide no indication of the potential impact of the

herbicide on wildlife or the environment when applied in the field. First, testing a herbicide in a laboratory environment on mice, rats, guinea pigs, rabbits, or dogs provides no evidence of how the herbicide will react in a field environment given the potential for the herbicide to be altered by environmental conditions (i.e. sunlight, heat, cold, naturally occurring elements in the soil, natural toxins). Second, for the same reasons, the amount of herbicide determined to be toxic to a rat or a dog in a laboratory environment may not accurately predict the amount of toxin fatal to a wild animals as the physical condition of wild animals (i.e. immune function, body condition, presence or absence of injury or disease, stress level, etc.) may be very different than the condition of laboratory animals. For example, while a certain amount of herbicide may kill 50 percent of laboratory mice, the amount necessary to kill one or more wild mice may be much lower because the physical condition of the wild mouse because he/she lives in the wild may be compromised compared to a mouse living in a laboratory environment. Similarly, a wild fox that has to engage in a day-to-day struggle to find food and avoid predators to survive in the wild may have a very different reaction to a direct or indirect exposure to a herbicide compared to a dog forced to consume the poison in a laboratory environment. Third, the use of surrogate species to predict the impact of herbicides on a wide-ranging variety of wild species is both scientifically invalid and doomed to significant errors in understanding the potential impact of herbicides in a natural environment. The toxicity studies referred to in the PEIS and Ecological Risk Assessment report used mice, rats, guinea pigs, rabbits, dogs, some fish species, some bird species, and perhaps a few addition common species. To suggest that these species can act as surrogates for the variety of wild species (i.e. deer, pronghorn, turkey, waterfowl, song birds, furbearers, raptors, bears, mountain lions, wild horses and burros) that may be exposed, directly or indirectly, to herbicides applied for vegetation treatment in 17 western states is ridiculous. As a consequence, the BLM must admit that its assessment of the potential impacts of herbicides on wild species is completely speculative because it is based on no critical evidence or data.

Response: All data used in this PEIS concerning toxic effects on animals were derived from published sources. There are differences in extrapolating from the laboratory to the wild animal. Using published data derived from laboratory animals provides the controlled experimental design that is not possible with wild animals. Uncertainty factors are used to address extrapolations such as this; see response to Comment EMC-0643-036 under PEIS Environmental Consequences, Wildlife Resources. To evaluate risks to humans, the results of animal toxicity testing are essential, since it is obviously impossible to conduct studies on humans. The extrapolation of animal toxicity data to humans involves the use of various safety factors.

EMC-0640-038
Animal Welfare Institute

Comment: Of particular concern is BLM's decision to use fish as a surrogate to understand the impact of herbicides on amphibians. Considering the documented sensitivity of amphibians to slight changes in environmental conditions, to natural toxins, and to human-produced toxins including products intentionally and unintentionally released into aquatic ecosystems, suggesting that the herbicidal impacts on fish will mimic the impacts to amphibians is blatantly wrong and scientifically reckless.

Response: See response to Comment EMC-0640-007 under Environmental Consequences, Herbicide Effects Analysis.

EMC-0643-011
California Indian Basketweavers Association

Comment: Although the DEIS [Draft PEIS] includes or references volumes of literature in support of the risk analysis for the chemicals, we find consistent data gaps that were avoided during this analysis, in those that preceded this one, and in those upon which this analysis are based. These data gaps are summarized here:

- Failure to fully analyze the environmental impacts of the chemicals as they are actually applied in the field, as a formulation or mixture
- Failure to fully analyze the environmental impacts of the degradates and secondary metabolites of the chemicals
- Failure to include data for endocrine disruption at environmentally relevant (dilute) exposures as a toxicological endpoint
- Failure to analyze the ecological effects to ecosystems from use of herbicides to manipulate vegetation. Ecological references by citation and footnote are almost completely lacking in the EIS. 40 CFR [Code of Federal Regulations] § 1502.24. The analysis must not be limited to toxicological effects analysis.
- Failure to document with citation and footnote proof that herbicides will achieve the desired results for restoration of natural plant communities and fire regimes

Response: The BLM evaluated mixtures (tank mixes) and inert compounds in the risk assessments. In response to public comments the BLM has provided more information on degradates and endocrine effects in Appendix D in the Final PEIS. Also see responses to Comment RMC-0200-008 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated, and Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment. It is not clear what the commentor means by ecological effects, but the methodology used is in compliance with all USEPA ecological risk assessment methodology and guidance. Chapter 4 of the PEIS includes a discussion of the risks and benefits of using herbicides to restore natural plant communities and to control invasive vegetation. Additional information is provided in the PER in Chapter 4. The information sources are referenced in Chapter 4 and in the Reference chapter.

EMC-0643-018
California Indian Basketweavers Association

Comment: Risk assessments must analyze the herbicide products as they are actually applied in the field—in other words, as the full formulation, as it is supplied by the manufacturer, purchased off the shelf, and also as they will be combined with any other added products such as the surfactant, colorant, buffering agent, or other additives. Each product as it is applied in the field is a *mixture*.

Response: See response to Comment EMC-0643-011 and 0646-058 under PEIS, Environmental Consequences, Herbicide Effects Analysis.

EMC-0643-021
California Indian Basketweavers Association

Comment: The methodology used to inform the current risk assessment process in the DEIS [Draft PEIS] does not incorporate the latest science that is known concerning environmental risks from pesticides.

Response: See response to Comment EMC-0640-036 under PEIS Environmental Consequences, Wildlife Resources.

EMC-0643-026
California Indian Basketweavers Association

Comment: The BLM analyses contain little to no information about the environmental effects of the degradates of the herbicides proposed. Research has shown that degradates are prevalent in ground water and are frequently detected more often than their parent compounds. An extensive review of the literature (in Kolpin et al. 2004) found that 30% of the degradates found in groundwater were more toxic than the parent compound. Kolpin et al. state: "[S]imply stating that relatively few detections of herbicide parent compounds were observed in ground water provides a

false impression that little chemical transport to ground water is occurring from herbicide applications at the land surface." The [P]EIS must analyze the environmental and health impacts of the degradates and metabolites of the chemicals proposed for use, in the context of direct, indirect, and cumulative impacts relative to human health, water, cultural impacts to Indian people, and to wildlife.

Response: See response to Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment.

EMC-0643-030
California Indian Basketweavers Association

Comment: Do present risk assessment methods capture these risks? No, according to the authors of a recent review of the mechanisms of estrogenic endocrine disruptor chemicals (EEDCs). Welshons et al. (2003) concluded that: "Information about the mechanism of action of EEDCs, together with information concerning mechanisms of hormone action, predict that current risk assessment assumptions can lead to a dramatic underestimation of responses (and thus risk) associated with exposure to low doses of EEDCs, particularly during development when the effects of very small changes in hormonal activity are permanent."

Response: The BLM risk assessments used the authoritative toxicity factors from the USEPA's Office of Pesticides and other information provided by the USEPA, and a comprehensive literature search. See response to Comment RMC-0200-008 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated on endocrine disruptors.

EMC-0643-032
California Indian Basketweavers Association

Comment: While the EPA has failed to meet the timeline mandated by the statutes of FQPA [Food Quality Protection Act], the BLM is not exempt from utilizing existing and readily available information to inform its risk analyses in order to meet NEPA standards for scientific integrity. 40 C.F.R. 1500.1 (b), 1502.24. Hermaphroditic wildlife, or animals with ambiguous gender or deformed secondary sex characteristics have now been documented among frogs, fish, river otters, polar bears, and alligators; endocrine disruptor chemicals have also been implicated in skewed human sex ratios and low fertility rates. The scientific literature is filled with documentation of these effects, to such a degree that it cannot be ignored. Yet, the BLM risk assessment does not even raise the topic of endocrine disruptor chemicals.

Response: See response to Comment EMC-0643-030 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0643-037
California Indian Basketweavers Association

Comment: The DEIS [Draft PEIS] inappropriately limited ecological risk assessment to the six "new" herbicides proposed for use by the BLM and relied upon a set of data that was inappropriately dominated by industry funded studies, and makes conclusions ma. The DEIS [Draft PEIS] justifies no further analysis of eight chemicals by stating: "These herbicides have been evaluated in a previous BLM EIS (USDI BLM 1991), as well as more recently in an invasive plant EIS prepared by the U.S. Department of Agriculture Forest Service (Forest Service; USDA Forest Service 2004)." (D[raft] PEIS, Vol. 2, Appendix C; p. C-1). The most current of these analyses, the Forest Service's 2005, Region 5 Invasive Species EIS, is based on chemical literature review evaluations made by contractor SERA (Syracuse Environmental Research Associates). These reviews by SERA do not incorporate the latest, published information concerning the ecological and environmental effects of the chemicals. The reviews are found to rely predominantly on old industry registrant studies that are not peer reviewed and unpublished. We ask BLM to reject all such literature if it is not published in a peer reviewed journal. The final SERA reports themselves were peer-

reviewed to test methods and assumptions, but the data reports upon which the SERA reports have been drawn from have largely *not* been published or peer reviewed. These SERA reports are the foundation of the BLM's health risk assessment for these eight chemicals, yet they are both out of date, incomplete, and over biased towards industry generated studies.

Response: Both the Forest Service and BLM relied on product registration documents because these are often the most complete sources of information and because there is limited information in the technical literature. Both the BLM and Forest Service reviewed registration documents and conducted database searches to identify sources of published information on herbicide effects (see Appendix A of the BLM ecological risk assessments included on the CD that accompanies the Final PEIS). Concerning using USEPA registration data, see response to Comment RMC-0069-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives. The risk assessment methods used by the BLM and Forest Service were similar and are compared in the Impacts Assessment Methodology in the Vegetation section of Chapter 4 of the PEIS, and also in several other resource sections of Chapter 4.

EMC-0643-038
California Indian Basketweavers Association

Comment: We believe that BLM's acceptance of industry sources that demonstrate lack of harm, and exclusion of current sources found in mainstream, academic and peer-reviewed scientific journals that document harmful effects, suggests a biased analysis and fails to provide a reliable foundation for decision making as required under NEPA.

Response: See responses to Comment RMC-0076-005 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives; Comment EMC-0585-008 under PEIS Alternatives, Monitoring, and Comment EMC-0340-004 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0643-039
California Indian Basketweavers Association

Comment: Open literature from unbiased, academic and peer reviewed journals appears to be almost completely lacking. In some instances, new information that is readily available and highly topical has been ignored. This is especially true relative to impacts to frogs and other amphibians. Given the current downward trend among amphibian populations globally, it is unconscionable for the BLM to ignore the latest science relative to this issue. The widespread use of poisons in agriculture today creates a greater obligation on public lands to provide unpolluted refugia for wildlife.

Response: See responses to Comment RMC-0076-005 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives, Comment EMC-0585-008 under PEIS Alternatives, Monitoring, and Comment EMC-0340-004 under PEIS Environmental Consequences, Herbicide Effects Analysis for a discussion of sources of information. As noted for response to Comment EMC-0643-077 under PEIS Environmental Consequences, Wildlife Resources, the BLM provided additional information on the risks to amphibians from the use of herbicides in Chapter 4 of the Final PEIS under Wildlife Resources.

EMC-0643-060
California Indian Basketweavers Association

Comment: Inaccurate characterization of "less toxic" herbicides. The [P]EIS makes a recurring generalization throughout the document, namely that "the herbicides proposed for use by the BLM are less harmful to non-target vegetation, fish and wildlife, and humans than most currently-available herbicides used by the BLM, and any future herbicides used by the BLM would also likely have low risk." (e.g., p. [page] 4-221, Herbicide DEIS [Draft PEIS]). This statement is not factually correct. "Less toxic" is a relative term: relative to what? Several of the proposed "new"

herbicides, in the ALS [acetolactate synthase] group, are exponentially more toxic to plants than any of the herbicides currently in use.

Response: The four new chemicals (not including sulfometuron methyl) evaluated in the PEIS generally have low toxicity to non-target species. Oust® has higher toxicity to non-target plants, but is currently available for use by the BLM and was re-evaluated based on concerns from the field.

EMC-0643-065
California Indian Basketweavers Association

Comment: For these "new" chemicals, more precaution is needed, because a large body of scientific literature has not yet accumulated over years of study by academic and independent scientists that fully demonstrates their true environmental impacts. It should be noted that in all cases, these harmful characteristics have not been captured under the EPA mandated testing that the chemicals undergo in order to be registered for use under FIFRA [Federal Insecticide, Fungicide, and Rodenticide Act]. Even atrazine, banned in most European countries, was recently re-registered by the EPA in the U.S. in spite of volumes of literature showing it to be a cancer causing chemical, an endocrine disruptor, and a probable link in the global decline of amphibians (Hayes et al. 2002, 2003, 2005). And as noted in our discussion about 2,4-D, above, the EPA itself has acknowledged that it has failed to require testing data on the actual chemicals as they are applied in the field. These deficiencies do not exempt the BLM from its duties under NEPA to address this issue and to make decisions that are protective of the environment.

Response: Under the BLM Preferred Alternative and Alternatives D and E, atrazine would not be allowed for use on BLM-administered lands unless new human health and ecological risk assessments were conducted to show that it is safe for use (see Description of the Alternatives in Chapter 2 of the PEIS). According to FIFRA, the USEPA is responsible for registering pesticides, not the BLM. The BLM relies on the USEPA for safety testing. The BLM did a comprehensive literature survey on the toxicological effects for all the new herbicides, as documented in the ecological risk assessments (ERAs) for each herbicide (ERAs are available on the CD that accompanies the Final PEIS).

EMC-0643-066
California Indian Basketweavers Association

Comment: Clearly, a lack of sufficient, targeted study does not equate to a lack of harm. A lack of studies rather suggests the need to take a precautionary approach and to act conservatively. The list of existing studies for each toxicological endpoint should be listed in table style for each chemical, and not tucked away in an appendix in digital format, that is not easily accessible either to the public or decision makers. Studies demonstrating ecological harm should be listed also. It is not appropriate for BLM to limit analysis to toxicological endpoints mirroring EPA registration format. The agency "shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement." 40 CFR [Code of Federal Regulations] § 1502.24.

Response: See responses to Comment EMC-0643-065 under PEIS Environmental Consequences, Herbicide Effects Analysis, Comment RMC-0173-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives, and Comment RMC-0221-067 under PEIS Environmental Consequences, Herbicide Effects Analysis. The human health and ecological risk assessments are long, complex documents that do not lend themselves well to being incorporated verbatim into the PEIS. Thus, these documents are included on a CD that accompanies the PEIS for those individuals that would like more detailed information on the literature, methods, toxicological endpoints, and other information used in preparing the risk assessments.

EMC-0646-011
Californians for Alternatives to Toxics

Comment: A glaring deficiency found in the PEIS is it's lack of analysis of potential negative effects from all toxic substances proposed for use in this program. The substances in need of analysis include all components of the final tank mixture that is then applied into the environment. All inerts, adjuvants and active ingredients. The analysis should also include any known degradates and contaminants that could cause negative impacts. The BLM has instead chosen to give cursory analysis to certain active ingredients (AIs), while piggybacking on limited analysis used by the Forest Service for others, and refusing to perform any analysis whatsoever for potential effects from the use of the hundreds of toxic substances BLM introduces into the environment as inerts, adjuvants and degradates. These comments will illustrate the need for adequate analysis to be performed on all components of the final mixture of pesticides, adjuvants and diluents.

Response: All active ingredients and inert compounds were evaluated in the PEIS risk assessments for the 10 herbicides analyzed by the BLM; see response to Comment RMC-0173-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives. The BLM has conducted additional analysis of degradates and the potential for herbicides to be endocrine disruptors for the Final PEIS; see responses to Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment, and Comment RMC-0200-008 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated. The risk assessments were exhaustive evaluations of the risks of using herbicides proposed by the BLM; also see response to Comment EMC-0640-036 under PEIS Environmental Consequences, Wildlife Resources on the development of the risk assessments. The information from the risk assessments is then used to identify risks to natural and social resources in Chapter 4 of the PEIS.

EMC-0646-016
Californians for Alternatives to Toxics

Comment: This rationale is false and can be upheld as such. To state that there has been no research in the last 15 years on either 2,4-D, clopyralid, dicamba, glyphosate, hexazinone, imazapyr, metsulfuron methyl, picloram, and triclopyr, that would warrant further concern, is simply wrong, and wrong by a wide margin. There are countless studies, all readily available through Toxline and PubMed, or other search engines, and many within the last few years, that show a need for great concern with the use of products containing these active ingredients. Case in point. The BLM risk assessment of these chemicals was 1988 or 1991. One of the above compounds, 2,4-D, is a commonly listed endocrine disruptor (ED). Alkylphenol ethoxylates, surfactants commonly used by the BLM in herbicide mixtures, are also EDs. Endocrine disruptors were unknown as a health problem until 1991, with the greatest advances in identification, and understanding, of the effects and pathways involved, occurring in the past seven years. This fact alone invalidates the assessment claims stated above in EIS [Draft PEIS page] 1-3. If, as stated, there was a "comprehensive literature search" of "new human health and ecological health risks", some very important data was overlooked. Without taking such evidence into consideration, BLM has failed in its analysis.

Response: The literature review referenced was for human health. It was not stated that no new research has been conducted; rather, it was stated that the toxicity values used in risk assessments have not changed substantially since 1991. Table 5-22 of the human health risk assessment (HHRA; available on the CD that accompanies the PEIS) compares the dose-response values used for 2,4-D and other currently-available pesticides to the most recent dose-response information (as of 2003). The toxicity data used for 2,4-D in the 1988 California Vegetation Management Final EIS were the

same as the data currently provided on the Integrated Risk Information System. Therefore, potential risks from 2,4-D, if calculated today, would be similar to those calculated in 1988. An uncertainty evaluation was carried out in the HHRA (and summarized in Appendix B of the PEIS under Evaluation of Currently-available Herbicide Active Ingredients) for all currently-available herbicides to determine whether the earlier HHRAs were still appropriate. Dose-response values, receptors, and exposure pathways were considered. The conclusions of a current risk assessment would not change for any of the previously evaluated herbicides, with the possible exception of simazine, an herbicide that has not been used by BLM since at least 1997. 2,4-D is not listed in agency lists as an ED compound, although the USEPA plans to perform ED screening on 2,4-D. Also see response to Comment EMC-0646-102 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0646-017
Californians for Alternatives to Toxics

Comment: Even greater disregard is paid to adjuvants, inert ingredients, and known degradates; the effects of diluents have been ignored entirely. This area of discussion is particularly important in part due to the inconsistent approach to its analysis taken by BLM. Appendix C [of the Draft PEIS] describes a list of herbicides and adjuvants to be used, but for most names only the active ingredient where, for a few, a formulation containing the active ingredient is named. Any number of inert ingredients and adjuvants can be associated with and used depending on the formulation employed. The formulations used should be identified so that the full range of inerts, diluents and degradates can be analyzed and so that it can be assured that no chemical, to the extent possible, will be used in the program, and thus no significant potential adverse impact will have been overlooked. Without a confirmed list of chemicals that may be used, the NEPA analysis cannot be accomplished.

Response: The BLM has added information on degradates and the potential for herbicides to act as endocrine disruptors; see responses to Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment and Comment RMC-0221-070 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives. For inert ingredients, see response to Comment RMC-0173-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives. Inert compounds are considered Confidential Business Information by USEPA, and according to USEPA cannot be disclosed. See response to Comment EMC-0623-017 under PEIS Environmental Consequences, Herbicide Effects Analysis for a discussion on BLM efforts to evaluate herbicide formulations. Adjuvants were discussed in Appendix C of the PEIS under Degradates, Inert Ingredients, Adjuvants, and Tank Mixtures.

EMC-0646-020
Californians for Alternatives to Toxics

Comment: BLM cannot depend on the registration of pesticides to satisfy the requirements of NEPA. All pesticides used in the program must be subject to NEPA analysis and, as an integral part of those pesticides, the so-named inerts of chemicals of the formulations, degradants and allowed diluents must be analyzed.

Response: All herbicides used by the BLM, or proposed for use, were evaluated under NEPA in the PEIS, or in earlier EISs prepared by the BLM. See response to Comment EMC-0646-017 under PEIS Environmental Consequences, Herbicide Effects Analysis for information on the analysis of inerts, formulations, degradates, and diluents.

EMC-0646-021
Californians for Alternatives to Toxics

Comment: It has been clearly established in the scientific literature that the substances that contribute to the makeup of individual formulations, the adjuvants that increase the efficacy of specific formulations, and diluents that may be allowed, by the registration label, can be highly toxic and often more toxic than the active ingredient

[AI]. The BLM addressed these issues with the following; [1] Inerts, "Relatively little toxicity information was found. A few acute studies on aquatic or terrestrial species were reported. No chronic data, no cumulative effects data, and almost no indirect effects data (food chain species) were found for the inerts in the 10 herbicides." ([Draft] [P]EIS C-83); [2] Adjuvants, "In general, adjuvants compose a relatively small portion of the volume of herbicide applied; however, selection of adjuvants with limited toxicity and low volumes is recommended to reduce the potential for the adjuvant to influence the toxicity of the herbicide." ([Draft] [P]EIS C-84); [3] The Full Tank Mixture "Ecological Risks of Degradates, Inerts, Adjuvants, and Tank Mixtures – Only limited information is available regarding the toxicological effects of degradates, inerts, adjuvants, and tank mixtures. In general, it is unlikely that highly toxic degradates or inerts are present in approved herbicides. Also, selection of tank mixes and adjuvants is under the control of BLM land managers, and to reduce uncertainties and potential risks, products should be thoroughly reviewed and mixtures with the least potential for negative effects should be selected" (Bromacil ERA [ecological risk assessment] pg 7-10). Once again, this rationale and subsequent lack of analysis for these broad class of chemicals is unjustified, and illegal in respect to NEPA and ESA [Endangered Species Act]. There is a wide body of data concerning many effects from the list of BLM approved inerts and adjuvants and their degradates, readily available through internet search engines. We hope the following data we present will help you to understand this fact. Time constraints, however, force us to highlight only certain compounds, effects and pathways in this comment period. One chemical family and associated health effects is herein highlighted for each of the individual concerns, i.e.; a) For AIs [active ingredients], 2,4-D/endocrine & reproductive; b) For inerts, POEA [polyethoxylated tallowamine] /multiple concerns; c) For adjuvants & degradates, NPE [nonylphenol ethoxylate] /endocrine disruption & acute toxicity. Endocrine disruption will be the primary health effect analyzed that has not been given analysis in the PEIS or supporting documents. NEPA is very clear what agencies must do when there is insufficient data on a potential significant adverse effect: Describe the data gaps that need to be filled and describe either how those shall be filled or why it is not possible to do so.

Response: The BLM disagrees that there is a wide body of data on inert and degradate compound toxicity. Among the new herbicides for which the BLM did risk assessments and the USFS herbicides that did not have ecological risk assessments, no active ingredient or inert compounds were found to be clearly associated with endocrine disruption in information available to the BLM or on any agency lists. In response to public comment, the BLM provided more information on degradates and toxicity in Appendix D of the Final PEIS. Also see responses to Comment EMC-0646-017 under PEIS Environmental Consequences, Herbicide Effects Analysis, Comment RMC-0106-037 (POEA) under PEIS Environmental Consequences, Fish and Other Aquatic Organisms, and Comment EMC-0646-102 (2,4-D) under PEIS Environmental Consequences, Herbicide Effects Analysis. The BLM has proposed as mitigation to no longer use formulations of glyphosate that contain POEA, or if no alternative formulations are available, to use the formulation with the lowest amount of POEA. A discussion of how the BLM handled incomplete and unavailable information is found in Chapter 4 of the PEIS under Incomplete and Unavailable Information in the section on How the Effects of the Alternatives Were Estimated.

EMC-0646-024
Californians for Alternatives to Toxics

Comment: It is important for BLM to present the analytical route and investigative tools used to arrive at the conclusion that scientific data had changed little in the toxic profiles of "2,4-D, clopyralid, dicamba, glyphosate, hexazinone, imazapyr, metsulfuron methyl, picloram, and triclopyr," since 1992. It might open a window

through which we could understand where this assessment was derived from and support claim that this analysis upholds NEPA.

Response: The BLM does not state that the scientific data have not changed; it states that the current toxicity values (derived by USEPA) for these chemicals are not substantially different from the toxicity values used in the earlier risk assessment. Therefore, the results of risk assessments for these herbicides would not change. The previous risk assessments showed that for some herbicide-exposure situations, there is a potential for risk. Still, the BLM conducted a detailed analysis of the human health and ecological risks associated with the use of 2,4-D, clopyralid, glyphosate, hexazinone, imazapyr, metsulfuron methyl, picloram, and triclopyr by using information from recent risk assessments prepared by the Forest Service. In addition, the BLM conducted its own risk assessment for dicamba for this PEIS. Thus, although the scientific data may have changed little since 1992, the BLM still conducted an analysis of these herbicides using up-to-date information.

EMC-0646-031
Californians for
Alternatives to Toxics

Comment: The BLM, however, sees no need for concern in the body of scientific data provided since 1992 on endocrine, neurologic or reproductive effects relating to 2,4-D. When the BLM last did an ERA [ecological risk assessment] for 2,4-D, endocrine disruption was an unknown science. And though it was better understood by 1998, it isn't mentioned in the SERA [Syracuse Environmental Research Associates, Inc.] 1998 supporting document. Nor can it currently be found in the BLM PEIS or 2,4-D supporting documents. It has somehow missed detection during the BLM's search for "new human health and ecological health risks" for 2,4-D.

Response: See responses to Comment EMC-0646-024 under PEIS Environmental Consequences, Herbicide Effects Analysis, Comment RMC-0221-070 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives, and Comment RMC-0200-008 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0646-038
Californians for
Alternatives to Toxics

Comment: In truth, science has come a long way since 1991 with respect to toxicology in general. There are ample reasons why the AIs need to be reanalyzed, and new ERAs [ecological risk assessments] prepared. The above are only a few of them. Every AI [active ingredient], (as well as other components in the final mix), needs to be analyzed for the full range of known health effects, including neurotoxicity, immunotoxicity and endocrine disruption. All data used in this analysis needs to be derived from published and peer reviewed studies and reports, to ensure the integrity of the analysis. Only then can the following statement be made.

Response: The BLM agrees that the science with respect to toxicology has come a long way since 1991; it was an important reason for updating the risk assessments for herbicides proposed for used under alternatives B, D, and E. However, the BLM relied on earlier risk assessments to evaluate several herbicides that could be used under Alternative A, but would not be used under alternatives B, D, and E because the current toxicity values (derived by USEPA) for these herbicides are not substantially different from the toxicity values used in the earlier risk assessments. See response to Comment EMC-0646-031 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0646-040
Californians for
Alternatives to Toxics

Comment: The analysis must also take into account the fact that real world conditions can often increase the potency of toxic substances. Numerous studies, mostly with insecticides, have demonstrated that pesticide toxicity can increase with environmental

factors, such as differences in temperature, water pH, and competition (Boone and Semlitsch 2002, Boone MD, Bridges CM 1999, Zaga et al. 1998). Predatory stress has been also shown to increase pesticide toxicity, in the case of carbaryl, making it anywhere from 4 to 46 times more lethal (Boone and Semlitsch 2001, Relyea and Mills 2001, Relyea 2003). Understanding the complexities of toxic response, and how seemingly insignificant factors can produce different results, is one of the recent advances in the science of toxicology.

Response: Varying environmental conditions are confounding factors that make it difficult to attribute effects to the primary independent variable—dose. See the Uncertainty Analysis section of Appendix C of the PEIS for a discussion of compounding factors that can influence the results of a risk analysis and how the BLM tended to err on the side of caution. Also see response to Comment EMC-0646-031 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0646-048
Californians for Alternatives to Toxics

Comment: Another important fact that has been overlooked by BLM in your preparation of the [P]EIS, is, quite simply, whatever comes out the end of the spray nozzle, is the material that BLM is adding to the environment, and which must be analyzed for potential adverse impacts to satisfy the requirements of NEPA. To isolate components of the final mix and pretend that their introduction into the environment is not your responsibility, is, to put it mildly, absurd, in addition to being in violation of law. To state that analysis cannot be attempted because it wouldn't fit into current modeling does not re-leave you of performing other aspects of amassing data and evaluating potential effects ([Draft] PEIS p C-78 [of Appendix C]).

Response: The BLM used the most current state-of-the-science methods, toxicity information, models, and risk assessment guidance available to perform the risk assessments. Also see response to Comment EMC-0646-021 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0646-052
Californians for Alternatives to Toxics

Comment: The scientific body of toxicological data concerning chemicals used as inerts or adjuvants, or their degradates, by the BLM, is massive. Some of these substances are 100 to 10,000 times more toxic than the AI they are mixed with. Because the BLM is having trouble locating this data, might we suggest that you start with studies referenced here. Many of these studies then reference other studies which can be then acquired, and those studies reference other studies, etc. This is known as following a reference trail, and very helpful for locating data about specific chemicals or health effects.

Response: The BLM disagrees that there is massive literature on inerts, adjuvants and degradates. See responses to Comment 0646-021 under Environmental Consequences, Herbicide Effects Analysis, and Comment EMC-0646-011 and Comment EMC-0646-017 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0646-053
Californians for Alternatives to Toxics

Comment: Interesting enough, the BLM is aware of the importance of viewing the application of the final mix as a singular action. In the Ecological RA [risk assessment; Appendix C of the PEIS] you state; In a detailed herbicide risk assessment, it is preferable to estimate risks not just from the a.i. of an herbicide, but also from the cumulative risks of degradates, inert ingredients (inerts), and adjuvants.....However, using currently available models (e.g., GLEAMS), it is only practical to make deterministic risk calculations (i.e., exposure modeling, effects assessment, and RQ derivations) for a single a.i." ([Draft] PEIS [Appendix C] p [page] C-78).

This statement raises some serious questions. First, if the NEPA analysis of an agency program calling for the treatment of a million acres a year with toxic substances isn't the right time for a detailed risk assessment, when is? Second, just because current modeling standards don't allow for cumulative analysis risk quotients of all ingredients, this does not excuse BLM from analyzing the individual components and then making assessments as to their cumulative effect. And irrespective of how you perform a cumulative analysis, the individual substances need to be analyzed and toxicologically profiled. As NEPA demands, the BLM must perform the following steps; 1) State "that such information is incomplete or unavailable." 2) "A statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts". 3) "A summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts". 4) "An evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community". (40 CFR [Code of Federal Regulations] 1502.22). BLM must analyze all components of the final mixture that pose a risk to human health or the environment. This is an unavoidable reality. NEPA demands it, for endangered species ESA [Endangered Species Act] demands it, and responsible decision making demands it. Claiming that there is no data available for review, when there is a wide body of data with relevant information, does not free BLM from it's responsibilities.

Response: See response to Comment EMC-0646-048 under PEIS Environmental Consequences, Herbicide Effects Analysis. The BLM did not limit the assessment to active ingredients, but looked at tank mixes and inert compounds; see response to Comment RMC-0173-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives. For example, BLM used GLEAMS modeling for surfactant inert compounds to determine the environmental concentrations and compared them to available toxicity information/levels of concerns. The BLM conducted additional analysis of degradates and endocrine disrupting capability of herbicides for the Final PEIS; see Appendix D. A discussion of how the BLM handled incomplete and unavailable information is found in Chapter 4 of the PEIS under Incomplete and Unavailable Information in the section on How the Effects of the Alternatives Were Estimated. The BLM stated what information was unavailable in the herbicide risk assessments (see CD that accompanies the PEIS) and in Appendixes B and C of the PEIS; the relevance of this incomplete or unavailable information is given in the Uncertainty Analysis sections of the human health (Appendix B) and ecological (Appendix C) risk assessments. The risk assessments and Chapter 4 of the PEIS provide reasonably foreseeable significant adverse impacts and an evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community.

EMC-0646-054
Californians for Alternatives to Toxics

Comment: In the Consent Decree for *Californians for Alternatives to Toxics et al v. The Environmental Protection Agency*, C00-3150 CW, EPA agreed to considered inerts, adjuvants, degradants and diluents in ESA [Endangered Species Act] consultations undertaken under the CD. This approach should be applied to all analysis of pesticide use in the BLM program where listed species may be affected. The BLM has failed to make such analysis in the draft PEIS.

Response: The BLM acknowledges that the USEPA agreed to consider inerts, adjuvants, degradants and diluents in ESA consultations undertaken under the consent decree. See Appendix D of the Final PEIS for an expanded discussion of these substances. During the development of the Final PEIS, the BLM reviewed all available data on inerts and degradants, and associated use of diluents, adjuvants, and surfactants

to the extent practicable, given the data that exists and is currently available. The BLM also conducted extensive toxicological risk assessments on the herbicides considered under this PEIS, in addition to and beyond the risk assessments conducted by USEPA to register such ingredients for use under the Federal Insecticide, Fungicide, and Rodenticide Act. The cost to the BLM to assess every possible combination of active ingredient, tank mixture, and degradant, given the lack of information that exists on these substances would be exorbitant.

EMC-0646-055
Californians for Alternatives to Toxics

Comment: Each individual component must be analyzed as an individual action. Then, an analysis of the cumulative effects from all components of the final mix must be performed. Where similar modes of action are identified, this fact must be addressed. There should also be an analysis of cumulative effects both for environmental effects and as they pertain to the general body burden of an individual or species, including how this affects the immune system.

Response: See responses to Comments EMC-0646-053 and Comment EMC-0585-203 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0646-058
Californians for Alternatives to Toxics

Comment: The PEIS states that selection of tank mixes and adjuvants is under the control of BLM land managers, and to reduce uncertainties and potential risks, products should be thoroughly reviewed and mixtures with the least potential for negative effects should be selected. As we have noted previously, this is in violation of established law.

None of this rationale concerning analysis or use of inerts, adjuvants, and degradates, satisfies legal requirements. On one hand, BLM is saying that ERAs [ecological risk assessments] are important to decision making. On the other hand BLM is saying that analysis of the full mixture is a) impossible to address and b) will be addressed adequately at the site specific level because land managers and field workers will have the knowledge needed to pick the components that will produce the least toxicity.

Response: See response to Comment EMC-0646-053 under PEIS Environmental Consequences, Herbicide Effects Analysis. The BLM evaluated adjuvants in 1991 (USDI BLM. 1991. Final Environmental Impact Statement Vegetation Treatment on BLM Lands in Thirteen Western States. BLM Wyoming State Office. Casper, Wyoming) and as part of the ERAs prepared for each herbicide evaluated by the BLM (and included on the CD that accompanies the Final PEIS).

EMC-0646-059
Californians for Alternatives to Toxics

Comment: Without documentation in support, the BLM claims that there is little data available concerning inerts, adjuvants and degradates currently used by BLM. Then BLM claims that the issues are too complex and are outside the scope of the [P]EIS. Yet BLM expects land managers to have enough information to choose the right combinations of inerts and adjuvants to limit toxicity. If BLM does not provide this data at the program level, where is this knowledge going to come from? Does BLM think that their land managers and field workers spend their free time doing Toxline and PubMed data searches, and studying up on the latest health effects in medical journals, in order to have the knowledge needed to perform their task of choosing "mixtures with the least potential for negative effects".

Response: See responses to Comment EMC-0646-053 and Comment EMC-0646-058 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0646-060
Californians for Alternatives to Toxics

Comment: There needs to be an NEPA analysis of individual components at the program level and any additions made in the future so land managers will have a basic understanding of potential effects at the project level. Congress intended that NEPA would serve this purpose. Currently, the Biological Assessment for this program does not even contain the words inert and adjuvant, let alone analyze potential effects, thus illustrating that BLM's failure to realize these mandates have created an Agency-wide incompetence.

Response: See response to Comment EMC-0646-053 under PEIS Environmental Consequences, Herbicide Effects Analysis. The Biological Assessment does reference the mode of action of inerts, but relies on the analysis in the ecological risk assessments for effects to sensitive species and does not differentiate between effects caused by the active ingredient and effects from other components of the herbicide formulation.

EMC-0646-062
Californians for Alternatives to Toxics

Comment: Hopefully, this data will help BLM to see the insufficiency of the statement "it is unlikely that highly toxic degradates or inerts are present in approved herbicides".

Response: See response to Comment EMC-0646-053 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0646-064
Californians for Alternatives to Toxics

Comment: However, the names of many inerts are known, and from this list we can assess effects. POEA (polyethoxylated tallowamine, listed as polyoxethylene-alkylamine by Monsanto) is the primary inert in the original RoundUp formulation. In every scientific study we have reviewed that deals with the differences in toxicity between glyphosate and POEA in the RoundUp formulation, it has been shown, or stated, that the surfactant POEA was the primary contributor to the toxicity of RoundUp. [See Relyea 2005b, 2005c.]

Response: See responses to Comments EMC-0046-002 and EMC-0257-005 under PEIS Environmental Consequences, Wildlife Resources.

EMC-0646-087
Californians for Alternatives to Toxics

Comment: There are countless inerts in use, or proposed for use, by the BLM. Some are identified through the EPA list of inerts which, (especially in terms of list 3), is dated and provides insufficient data. Some are highly toxic, some are not. The affected community (BLM employees, contract workers, anyone passing through or near the annually treated million acres, all wildlife that call these acres home, etc.) is depending on BLM to amass as much pertinent data, with help from the scientific and environmental communities, and perform an honest evaluation of the known data. It is required under NEPA.

Response: See response to Comment EMC-0646-053 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0646-088
Californians for Alternatives to Toxics

Comment: When dealing with additives to a tank mixture, it makes little difference whether the chemical is an inert (premixed with the AI [active ingredient] in a commercial mixture), or an adjuvant (mixed in at the tank stage). This is especially true for surfactants, a necessary component of most herbicide mixtures. Since they are essential, their use can be expected. And this use must be analyzed at the program level, in order for there to be reasoned decision making at the project level.

Response: See response to Comment EMC-0646-053 under PEIS Environmental Consequences, Herbicide Effects Analysis. The BLM evaluated adjuvants in 1991 (USDI BLM. 1991. *Final Environmental Impact Statement Vegetation Treatment on BLM Lands in Thirteen Western States*. BLM Wyoming State Office. Casper, Wyoming), and in Appendix D of the Final PEIS.

EMC0646-099
Californians for
Alternatives to Toxics

Comment: BLM must analyze the effects of any diluent, including diesel, that may be used with any of the herbicides in its proposed program.

Response: Typical diluents used by the BLM include water, crop oils, penetrator oils, and in the past, diesel. The effects of diesel and kerosene oil were evaluated by the BLM in 1991 (USDI BLM. 1991. *Final Environmental Impact Statement Vegetation Treatment on BLM Lands in Thirteen Western States*. BLM Wyoming State Office, Casper, Wyoming). Diesel is a USEPA List I Inert of Toxicological Concern. The BLM in recent years has moved away from using diesel to using water, crop-based adjuvants, and other inert ingredients that are List 3 or 4 ingredients that are of minimal toxicity.

EMC-0646-102
Californians for
Alternatives to Toxics

Comment: Some of the comments provided in Appendix A refer to the document USDA 2003 (or Bakke 2003). This is the current risk assessment for NPEs [nonylphenol ethoxylates] used by the FS [Forest Service]. Since the BLM is piggybacking on FS Ras [risk assessments], it is assumed that the BLM will attempt to piggyback on the USDA 2003 as a supporting document for endocrine disruption [ED] effects from NPEs nonylphenol polyethoxylate's) and other EDs proposed for use. This would be a mistake, as USDA 2003 is limited in it's understanding of endocrine disruptor effects, poorly written, and outdated.

Response: The BLM has prepared a new Appendix D for the Final PEIS to address ED chemicals. None of the herbicide active ingredients are known or suspected EDs, with the possible exception of 2,4-D, which is scheduled for additional USEPA evaluation. The only known ED inert compound used by the BLM is R-11, a NPE compound which is also suspected of being toxic to aquatic life (Stark et al; 2003 Agricultural Adjuvants: Acute Mortality and Effects on Population Growth Rate of Daphnia Pulex after Chronic Exposure, Environmental Toxicology and Chemistry Vol. 22, No. 12, pp. 3056-3061). The USEPA has registered R-11 for aquatic use. The U.S. Department of Agriculture (D. Bakke, Human and Ecological Risk Assessment of Nonylphenol Polyethoxylate-based (NPE) Surfactants in Forest Service Herbicide Applications, 2003) concluded concentrations associated with normal operations are below any levels of concern. Given the lack of agreement in the literature, the BLM proposes to no longer use R-11 as an intentional adjuvant.

EMC-0646-146
Californians for
Alternatives to Toxics

Comment: There is no discussion of endocrine disruption in the PEIS. The only reference to ED [endocrine disruptor] effects that could be found were in the FS [Forest Service] ERAs [ecological risk assessments]. Concerning ED and glyphosate, the FS supporting document, SERA [Syracuse Environmental Research Associates, inc.] 2003b, is one of the few places within the extended body of the PEIS where one can find a discussion of endocrine disruption. Unfortunately, it is a very limited and poorly written analysis.

Response: See responses to Comment EMC-0646-021 under PEIS Environmental Consequences, Herbicide Effects Analysis; Comment RMC-0200-008 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated; and Comment RMC-0221-070 under PEIS Alternatives, Herbicide Active Ingredients

Evaluated under the Proposed Alternatives.

EMC-0646-151
Californians for Alternatives to Toxics

Comment: This limited ED [endocrine disruptor] analysis of glyphosate performed by SERA is, for most extent and purposes, the entire body of analysis relating to endocrine disruption in the whole of the PEIS, PER and supporting documents. Though some of the SERA ERA's [ecological risk assessments] (supporting documents found on the FS [Forest Service] website) contain this brief analysis of ED, it is interesting to note that the SERA ERA for 2,4-D, the most well known ED among the herbicides that are relying on FS ERAs, has no discussion whatsoever of endocrine disruption. A further discussion of endocrine disruption will be provided below in a later section.

Response: See response to Comment EMC-0646-021 under PEIS Environmental Consequences, Herbicide Effects Analysis. 2,4-D is not contained on any official government lists as an ED compound; however, the USEPA has targeted 2,4-D for additional ED screening studies, according to USEPA's 2005 Reregistration Eligibility Decision. Also see responses to Comment RMC-0200-008 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated and Comment RMC-0221-070 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

EMC-0646-152
Californians for Alternatives to Toxics

Comment: BLM has proposed one of the largest herbicide projects in history, not only in acreage, but also for the number of active ingredients, inerts and adjuvants at their disposal. Unfortunately, the level of analysis performed is a throwback to the late 1980's. The excuses used for foregoing analysis are: a) Research since 1988 has shown no need to re-analyze 11 of the herbicides in question. As such, it is appropriate to piggyback on analysis provided by the FS [Forest Service]. b) There isn't enough data available to do proper analysis of inerts, adjuvants and degradates, and besides, they're probably harmless anyway. c) The issues are too complex.

Response: See responses to Comments EMC-0646-024 and EMC-0646-053 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0646-153
Californians for Alternatives to Toxics

Comment: We have demonstrated, with overwhelming support from scientific data, that: a) Research since 1988 shows a pressing need for re-analysis of all AIs [active ingredients]. The example given is 2,4-D, shown to be an endocrine disruptor, and recently listed as a Proposition 65 reproductive toxicant. b) For many of the inerts, adjuvants and degradates that are known, there is a wealth of information available, for both acute and chronic effects. In some cases, these additives can be 1000 to 10,000 times more toxic than the AI. The examples given, inerts in glyphosate products and NPE [nonylphenol ethoxylate] adjuvants and degradates, have had countless studies performed that are readily available. Endocrine disruption, a family of health effects that was not known in 1988, is now being extensively researched. There are numerous ED's [endocrine disruptors], both known and suspected, among the additives. c) Yes, the issues are very complex. If BLM is not up to the task, then it would be best to abandon the herbicide component of this program, until such time that BLM can effectively carry out it's mandate. When that time comes, all ingredients (and their degradates) proposed and approved for use in this project, will need thorough analysis, updated profiles, and with RA's [risk assessments] for any substance that shows a clear threat to human health or the environment. Cumulative effects analysis is important with or without GLEAMS modeling.

Response: See responses to Comment EMC-0646-038, EMC-0640-037, EMC-0643-030, and EMC-0646-053 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0647-003
Alaska Community Action on Toxics

Comment: In a systematic review of the peer-reviewed scientific literature concerning health effects of pesticides, a team of physicians from the Ontario College of Family Physicians concluded: "The literature does not support the concept that some pesticides [including herbicides] are safer than others; it simply points to different health effects with different latency periods for the different classes…Some more surprising positive associations were found for pesticides that are considered less toxic in acute poisoning settings…[For example] the herbicides glyphosate and glufosinate had associations with congenital malformations. Parental preconception exposure to glyphosate was associated with late abortion.[1]" Although glyphosate is touted as a "safe" herbicide, the latest science demonstrates that it is associated with serious adverse environmental and health effects.

Response: The conclusions of this study do not necessarily reflect a consensus among governmental regulators or the scientific community. The BLM risk assessment was conducted using comprehensive toxicology data supplied by the USEPA.

FL-0001-004

Comment: Aerial application is particularly problematic, since only a small fraction of the pesticides actually land on the target pest; the rest drifting off-site causing "unanticipated" health and ecological impacts.

Response: See response to Comment RMC-0200-012 under PEIS Environmental Consequences, Air Quality.

FXC-0071-008
Campbell, Bruce

Comment: For the ten herbicide active ingredients/formulations which BLM prepared human health and ecological risk assessments for related to these Programmatic documents, did BLM seek data on all tests which are considered to make a complete toxicological profile? If not, why not? If not, did BLM abide by what you mentioned on Page 1-11 [of Chapter 1 of the Draft PEIS]) – which says that "The Council on Environmental Quality Regulations provide direction on how to proceed with the preparation of an EIS when information is incomplete or unavailable: "If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement: 1) a statement that such information is incomplete or unavailable;". Is such a statement in these recent Programmatic BLM documents? If so, where is it? In the human health and ecological risk assessments for the five herbicides/formulations currently available to BLM (bromacil, chlorsulfuron, diuron, sulfometuron methyl, and tebuthiuron) as well as those proposed for future use (diflufenzopyr, diquat, fluridone, imazapic, and Overdrive), where in the documents (if existent) is detailed information about their inert ingredients, adjuvants, and degradation products?

Response: The BLM found sufficient toxicological information to proceed with the risk assessments for the active ingredients. The BLM relied on the USEPA's evaluation of the toxicity of inert compounds. Also see responses to Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment on Degradates; Comment EMC-0640-036 under PEIS Environmental Consequences, Wildlife Resources on the level of analysis, and Comment RMC-0173-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives on inert ingredients.

FXC-0071-018
Campbell, Bruce

Comment: Did the risk considerations for the herbicides consider substances such as thalidonmide or such as dioxin contaminants which impact humans much more than those in the animal kingdom? If not, why not(?) – especially when these statements on page B-83 of [Appendix B of] the Draft Programmatic EIS tell of the uncertainty involved when extrapolating similar risk levels from animals to humans" "Extrapolation from animals to humans introduces uncertainty into the risk characterization. Usually, the difference between the human reaction to a chemical and the test animal reaction to a chemical is unknown." And "because the fate of a chemical can differ in animals and humans, it is possible that animal experiments will not reveal an adverse effect that would manifest itself in humans." There will be considerably more on dioxin contaminants under the 2,4-D heading.

Response: See responses to Comment RMC-0200-008 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated, and Comment EMC-0643-030 and Comment FXC-0071-025 under PEIS Environmental Consequences, Herbicide Effects Analysis.

FXC-0071-019
Campbell, Bruce

Comment: Despite saying that a commenter during the scoping process urged that the Programmatic documents describe all potential toxicological hazards including the ability of herbicides/formulations to disrupt the hormone system and the immune system, did the Draft Programmatic EIS and Programmatic Environmental Report research impacts of the proposed to be used substances on hormone and immune systems of various species including humans of various ages and health conditions? Where is such an evaluation in the documents? If they were not evaluated, why not?

Response: See responses to Comments RMC-0200-008 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated and Comment EMC-0643-030 and Comment EMC-0646-021 under PEIS Environmental Consequences, Herbicide Effects Analysis.

FXC-0071-020
Campbell, Bruce

Comment: Where in the Draft Programmatic documents is analysis of synergistic effects on workers, other humans, animals, threatened/endangered/sensitive species from not only various chemicals within an herbicide formulation, but also different active ingredients being applied together (such as Overdrive®) along with the inert ingredients? Will such analysis be in the final Programmatic BLM document regarding vegetation treatment? Also, seeing that many species travel, and seeing that herbicides drift and runoff (as well as direct aquatic habitat application) will bring various residues to similar areas to impact various species. I object to BLM scientists getting access to USEPA's inert ingredient Confidential Business Information and yet not share this info with the public. It is clear that both EPA and BLM are in bed with the chemical industry, so rather than getting assurance that key info is being shared, it is clear the agencies and industry are winking at each other and not interested in true analysis of effects from inert ingredients, active ingredients, synergistic effects, etc. Also, was any analysis conducted in regards to species exposed to various herbicide formulations and also exposed to fire retardants which on page 4-59 of the PEIS [Draft PER] admits are "especially harmful to aquatic organisms?"

Response: The BLM did evaluate approved mixtures of active ingredients (tank mixes) in the risk assessments (see Adjuvants and Tank Mixtures in Appendix C of the PEIS and individual ecological risk assessments included on the CD that accompanies the PEIS). Additionally, the BLM did obtain and evaluate inert compound information, and is required by law to maintain confidential business information proprietary. Fire retardants rapidly degrade in the environment, are not commonly applied to herbicide

treatment areas, and are restricted to upland non-aquatic or riparian uses. Also see response to Comment RMC-0122-002 under Appendix C.

FXC-0071-025
Campbell, Bruce

Comment: I do not have time to get into harmful impacts from specific active ingredients – with the exception of 2,4-D and glyphosate which I will paste below. Also in regards to 2,4-D, I cannot find the specific info currently, but it was more than half the time that 2,4-D contains either the 2,3,7,8-TCDD dioxin contaminant or the 1,2,3,7,8-Pentachlorodibenzo-p-dioxin which are the two considered to have the highest Toxic Equivalency Value (thus the most toxic). As far as other active ingredients, besides reminding you that the document says that animals (like horses and burros were just mentioned) could suffer "death" as well as many ailments due to herbicide Spraying, please look at some of your own material to discover health and safety hazards for many species due to this massive BLM herbicide application plan.

Response: The BLM provides an analysis of the risks associated with using 2,4-D, glyphosate, and other herbicides the BLM proposes to use in Chapter 4 and in Appendices B and C of the PEIS, and in the ecological risk assessments prepared by the BLM (an included on the CD that accompanies the PEIS) and Forest Service (http://www.fs.fed.us/foresthealth/pesticide/risk.shtml). According to the USEPA's 2005 Reregistration Decision for 2,4-D, the dioxin/furan contaminants were always low in 2,4-D in the 1980s, and the industry has since reduced these contaminants. Using 1987 data, the USEPA found cancer and noncancer effects from these contaminants to be of no toxicological concern.

FXC-0075-004
Citizens for Fire Safety Sanity

Comment: The mandate of the BLM is not to conduct "risk assessments" for pesticide use. Please inform us as to how many toxicologists the BLM employs and location of the laboratories that allow the BLM to conduct this kind of research. Our impression is this is the responsibility of the EPA to do this kind of research though their efforts have been sabotaged by the Bush Administration.

Response: It is not the BLM's mission to conduct herbicide research. It is the USEPA's mission to regulate pesticides; hence the BLM's reliance on USEPA data, models, and guidance. The BLM contracted the toxicological services for preparation of the ecological risk assessments, and consulted with in-house and other federal toxicologists and scientists. Also see response to Comment EMC-0640-036 under PEIS Environmental Consequences, Wildlife Resources.

RMC-0095-008
New Mexico Department of Game and Fish

Comment: The second major omission in the D[raft] PEIS is the failure of the document to analyze or address the long-term persistence (fate) of these chemicals in the environment, particularly as they pertain to adverse affects to groundwater resources and amphibians. Many of the herbicides discussed in the D[raft] PEIS have been identified as groundwater contaminants. As a likely result of the long-term persistence of some of these chemicals in the environment, recent research has implicated atrazine, an herbicide currently approved for use by the BLM, in causing reproductive malformations in frogs. The PDEIS [Draft PEIS] states that atrazine has not been used much in the last few years by the BLM, but does not discuss why, or why it should be reauthorized for use in this PDEIS [Draft PEIS].

Response: See response to Comment EMC-0316-003 under PEIS Environmental Consequences, Soil Resources. The BLM would not be allowed to use atrazine and five other herbicides currently approved for use under the three of the action alternatives (the Preferred Alternative and alternatives D and E). Alternative C prohibits the use of all herbicides.

RMC-0106-040
Public Employees for Environmental Responsibility

Comment: P. 4-173 [of the Draft PEIS]. Inerts. a) Analysis of Confidential Business Information is done only for the 6 active ingredients in this section. While HHRAs [human health risk assessments] may have been assessed in previous EISs (1988, 1989, 1991), none of these assessed inert components except to state that most of the formulations did not contain USEPA List 1 and 2 substances. Therefore, this PDEIS [Draft PEIS] assesses inert components for only 33 percent of the herbicides proposed to be used.

Response: Toxicity information was sought and evaluated for all inerts. Confidential Business Information was analyzed for dicamba, diflufenzopyr, fluridone, imazapic, oust, diuron, bromacil, fosamine, chlorsulfuron, and tebuthiuron, and all inerts were classified by the four USEPA list categories.

RMC-0106-041
Public Employees for Environmental Responsibility

Comment: The USEPA categorization cited is incomplete. List 4 has two subdivisions: 4a inerts of minimal risk; 4b substances that have yielded sufficient information to determine that current uses have no adverse public health or environmental effects. This D[raft] PEIS lumps all List 4 inerts under 4a. However, the wording of 4b requires knowledge of when each item included was evaluated and what uses were then "current," and what cumulative impact might be relevant.

Response: We have revised the text in the Final PEIS to reflect that there at two subdivisions for List 4 inert ingredients.

RMC-0106-045
Public Employees for Environmental Responsibility

Comment: A perusal of this literature gives no confidence that the BLM's assessment of inerts in 6 herbicide formulations is sufficient.

Response: See response to Comment RMC-0106-040 under PEIS Environmental Consequences, Herbicide Effects Analysis.

RMC-0106-047
Public Employees for Environmental Responsibility

Comment: Thus, at least 21 inerts in 50% of the herbicides proposed for use are potentially harmful to human health and to the environment. How many of the inerts in List 4 are actually harmful to human, plant, and wildlife receptors by current or cumulative use is unknown—this is underscored by the statement re inerts (p. C-83) that "relatively little toxicity information was found (from 6 sources). A few acute studies on aquatic or terrestrial species were reported. No chronic data, no cumulative effects data and almost no indirect effects data (food chain species) were found for inerts in the 10 herbicides [Appendix C evaluates one herbicide not proposed for use in the Draft PEIS].

Response: By definition, according to the USEPA, List 4 inerts are of minimal risk (List 4A) or there is sufficient data to indicate that they can safely be used in pesticides (List 4B). Hence, the USEPA has determined that they have minimal toxicity and risk to humans, plants, and wildlife. As shown on Page C-83 of Appendix C of the PEIS, only 12 inerts of unknown toxicity were found for 10 herbicides. All herbicides evaluated in Appendix C are used, or proposed for use, by the BLM. Also see response to Comment RMC-0106-041 under PEIS Environmental Consequences, Herbicide Effects Analysis.

RMC-0106-055
Public Employees for Environmental Responsibility

Comment: P. [Page] 4-178 [of the Draft PEIS]. It is stated that in all steps in the HHRA [human health risk assessment] evaluation process, "...assumptions must be made due to a lack of absolute scientific knowledge." For too much of this process, the problem is the absolute lack of knowledge.

Response: Risk assessments will always be an evolving art and science. USEPA-approved state-of-the-science methods were used in the BLM risk assessments. A large body of toxicological literature was available for each of the herbicides.

RMC-0130-004
Craig, Diane

Comment: I also question where does the research on these chemicals come from? – how long were the studies done and on what subjects, and for what result were they looking for. I would hope that the vast majority of the population understands is that it is the chemical companies themselves that provide the information on these chemicals and it is their studies that are used – not biased at all is it!

Response: See responses to Comment RMC-0069-009 under PEIS Alternatives, Monitoring. The USEPA is the federal agency designated to regulate pesticides (including toxicity testing) and does so in concert with its statutory authority and judicial review. Extensive human health toxicity profiles were provided in Appendix B of the PEIS under Toxicity Profiles in the Hazard Identification section. These profiles were based on USEPA documents, which rely in part on manufacturer studies, as well as on literature searches using the National Library of Medicine's Hazardous Substance Database and Toxline.

RMC-0159-008
Proctor, Gradey

Comment: Dicamba also contains numerous toxic inert ingredients. Virtually all the testing that has been done on Dicamba have been on the chemical itself, not the products and their inert ingredients and contaminants. There is evidence that these other ingredients greatly increase the toxicity and the health risks. We are very concerned that these health risks are largely unknown and believe that the [P]EIS should disclose how little we know about the health and environmental risks associated with this chemical, the other herbicides proposed for use, including the inert ingredients, and any other chemicals used on BLM land, including but not limited to rodenticides, fire retardants, fire propellants, and any other pesticides, and the potential for synergistic effects with surfactants, and between chemicals if multiple chemicals are used at the same location over time. We also believe that what we do know enough about the risks to know that the toxicity of these chemicals far outweighs many of the dubious benefits of herbicide treatments.

Response: While no information was gathered by the BLM on synergism with non-herbicides, rodenticides and other non-herbicide pesticides are either not used or are infrequently used by the BLM. Fire propellants and retardants are sparingly used, and generally not in the same locations and at the same time as herbicides. All of these chemical classes are either rapidly degraded in the environment or are not used. Dicamba does not contain any inert ingredients on USEPA List 1 or List 2, and contains only one ingredient on List 3, indicating that dicamba formulations do not contain substances of known toxicity. Another inert is on List 4B, and one is unlisted but is a common naturally occurring mineral.

RMC-0173-008
Delles, Susan

Comment: Inert ingredients of chemicals do not require listing on the label. Health and safety studies are kept secret so the public does not know possible dangers. However, many of these "Inert Ingredients" can add to the toxicity of the product. Included for reference on pg is a list of Inert Ingredients for 2,4-D. (Journal of Pesticide Reform, Winter 2005 Vol 25 #4 obtained by them through a Freedom of Information Act request). These ingredients are rarely disclosed to the public.

Response: Inert ingredients are regulated as confidential business information, and the BLM is prohibited from explicitly identifying them in a product. However, the BLM received approval from the USEPA to review the list of inerts for the 10 herbicides

evaluated by the BLM in their risk assessments. The results of that review are provided in Appendix C of the PEIS under Degradates, Inert Ingredients, Adjuvants, and Tank Mixtures in the Uncertainty Analysis section. Also see response to Comment RMC-0106-004 under PEIS Alternatives, Monitoring.

RMC-0191-009
Ertz, Brian

Comment: This citation of scientific literature suggesting the necessity that degradates be considered when prescribing herbicide application is wise. Scientific studies undertaken by the USGS [U.S. Geological Survey] confirm the necessity for degradate consideration. How are we to know that the EPA's thresholds or RTE [rare, threatened, and endangered] species' toxicity thresholds for concentration levels have not been exceeded when as studies out of the USGS indicate that frequencies of detection in ground water for a given herbicide increased multifold when its degradates are considered (Kolpin, Thurman, and Linhart 1998). The "GLEAMS" model protocol the agency uses (D[raft] PEIS [on page] C-17 [of Appendix C) to assess concentration levels of herbicides in environments associated with treatment makes no mention accounting for pre-existing concentrations associated with adjacent public or private (agricultural, adjacent agency, organic wastewater contaminants, etc.) treatment, the cumulative toxicity levels associated with these contaminants in addition to degradates resulting from proposed treatment will inflate levels of toxic chemicals beyond those accounted for in the model.

Response: Additional text on degradates associated with the herbicides under consideration is included in Appendix D of the Final PEIS. Very little fate or toxicological data are available for herbicide degradates, so a quantitative assessment is not feasible. The risk assessments were designed to assess the potential risks associated with individual herbicides as applied by the BLM, not all potential sources of risk within a watershed. There is no sound way to estimate background levels of contaminants in the environment and incorporate that information into a quantitative risk assessment. Section 4 (Environmental Consequences) of the PEIS includes a qualitative discussion of potential cumulative impacts on the environment due to the effects of BLM vegetation treatments. The Uncertainty Associated with Herbicide Concentration Models section of each ecological risk assessment (ERA) indicates that "unidentified stressors" may have an unknown effect on the results of the ERA (copies of each ERA are included on the CD that accompanies the Final EIS). These unidentified stressors may include herbicides or other chemicals added to the environment by agricultural or industrial sources.

See response to Comment RMC-0191-007 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives regarding consideration of degradates, and response to Comment EMC-0646-164 under PEIS Environmental Consequences, Herbicide Effects Analysis regarding multiple treatments within a watershed. The BLM examined USGS data for herbicides in surface water and groundwater (Larsen et al, 1997 Pesticides in Surface Waters, distribution, Trends, and Governing Factors, Ann Arbor Press, Chelsea, Michigan.; Scribner et al. 2002. Reconnaissance Data for Glyphosate, Other Selected Herbicides, Their Degradation Products, and Antibiotics in 51 Streams in Nine Midwestern States, U.S. Geological Survey Open-File Report 03–217). Few, if any, data points were available for surface waters in proximity to BLM-administered lands except downstream of urban areas. Most of this work has been reported for agricultural areas where herbicides are intensively used and groundwater is often shallow. The GLEAMS model does not account for preexisting conditions, but concentrations of herbicides on public lands should be none to low, depending upon the recency and frequency of herbicide applications on or near the treatment site, and the type of herbicide used. However, as

stated in Appendix C of the PEIS under GLEAMS in the Concentration section, the GLEAMS modeling approach either approximates or overestimates the rate of loading observed in the field. Thus, the conservative nature of the model may indirectly account for the risks associated with preexisting conditions.

RMC-0191–010
Peacock, Delores (Dog Valley Ranch)

Comment: The BLM claims to be sensitive to the risks associated with use of herbicides pointing to the "acceptable" levels at which the herbicides it hopes to approve break down. However, the degradates that these herbicides break down into are sometimes as harmful if not more harmful than the parent herbicides (Kolpin, Thurman, and Linhart 1998). Given these findings regarding the effects that degradates have on both human and environmental health, Koplin concludes that, "it is essential that degradates are included in any type of herbicide investigation" (Kolpin, Thurman, and Linhart 1998). As we can see in section 7.3.1 the BLM agrees. However, the agency states that, "it is beyond the scope of this risk assessment…" (D[raft] PEIS [page] C-83). We've heard this before in reference to the Restore Native Ecosystems Alternative being "beyond the scope" of the Vegetation Treatment [P]EIS. This "unknown" cannot be accepted.

Response: See response to Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment.

RMC-0191-011
Ertz, Brian

Comment: Given these findings regarding the effects that degradates have on both human and environmental health, Koplin concludes that, "it is essential that degradates are included in any type of herbicide investigation" (Kolpin, Thurman, and Liinhart 1998). As we can see in section 7.3.1 the BLM agrees. However, the agency states that, "it is beyond the scope of this risk assessment ..." (DPEIS [Draft PEIS page] C-83). We've heard this before in reference to the Restore Native Ecosystems Alternative being "beyond the scope" of the Vegetation Treatment EIS. This "unknown" cannot be accepted.

Response: See responses to Comment RMC-0191-007 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives, and Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment.

RMC-0191-012
Ertz, Brian

Comment: In addition to the actual toxicity levels of treated or affected waterways being neglected in favor of superficial consideration of isolate herbicide parent compounds, the effect of synergistic and antagonistic interactions between herbicides, degradates, and previously existing contaminants in watersources were not adequately (not at all) considered in either the herbicide ERAs [ecological risk assessments] nor the Biological Risk Assessments submitted by the BLM. All considerations of risks associated with application of herbicides to specific species were conducted as if these species were only being exposed to a given herbicide. Studies have shown the presence of various Organic Wastewater Contaminants (OWCs) in streams across the country. Such compounds represent the fallout of pharmaceuticals, hormones, pesticides, etc. that inevitably find their way into our waterways as a result of water treatments' inability to break them down. Scientists wonder about the potential for increased toxicity of chemical *mixtures* and about the effects that such interaction may have on the health of humans and aquatic ecosystems (Kolpin et al. 2002). The adverse affects of such mixtures can be pronounced and implicate the endocrine, immune, and nervous systems of humans and animals alike (Porter et al 1999). Neurological, endocrine, immune, and developmental effects may show up only when pesticides are tested in combination (Boyd et al., 1990; Porter et al., 1993). I make this point to illustrate the inadequate consideration that has been given to the health of our

ecosystems and human populations should such a drastic upsurge in the use of herbicides be allowed to take place as the Preferred Alternative prescribes. I am concerned that given the little we know about the pre-existing chemicals that are persistent in our environments (which include the lands managed by the BLM) as a result of both public and private use (agriculture, pre-existing agency treatments, joe-sixpack's overzealous landscaping techniques, waste disposal, etc.) and their effect on human and environmental health, to administer more chemicals into the soup that already exists is extremely unwise. It's akin to a pharmacist handing a patient a bottle of volatile pills without ever asking whether the patient is on any other drugs. This in conjunction with the agency's seemingly lackluster mentioning of these issues without the good-faith effort and scientific consideration that one would hope for, let alone being prescribed in the BLM's own account and by the body of scientific literature, is unfortunate and negligent.

Response: See responses to Comments RMC-0191-009, RMC-0221-070, and Comment RMC-0159-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives. In addition, very little fate or toxicological data are available for herbicide degradates, so a quantitative assessment is not feasible. Furthermore, there is no sound way to estimate background levels of contaminants in the environment and incorporate that information into a quantitative risk assessment. It is impractical and beyond the scope of this PEIS to evaluate the potential effect of all possible non-herbicide contaminants in all surface water bodies of 17 western states.

RMC-0191-014
Ertz, Brian

Comment: The lack of consideration for the science regarding degradates, baseline toxicity levels, the potential for increased toxicity to species given mixtures etc. constitutes a failure on the part of BLM to give adequate consideration to relevant scientific data required by NEPA (See 40 C.F.R. [Code of Federal Regulations] §§ 1500.1(b); 1502.24; *Native Ecosystems Council v. United States Forest Serv.* (9th Cir. 2005) 418 F.3d 953, 964.).

Response: See response to Comment EMC-0623-017 under PEIS Environmental Consequences, Herbicide Effects Analysis regarding degradates and mixtures. See Appendixes B and C in the Final PEIS for the risk analysis results and the methodology used to evaluate herbicide toxicity and risks associated with mixtures, including the section in Appendix C on Degradates, Inert Ingredients, Adjuvants, and Tank Mixtures. Incomplete and unavailable information is presented in Chapter 4 of the PEIS under Incomplete and Unavailable Information in the section on How the Effects of the Alternatives were Estimated. The BLM adequately considered the relevant, extant scientific data on the toxicity and degradates of the herbicide active ingredients evaluated in the PEIS. Also see responses to Comment EMC-0646-048 under PEIS Environmental Consequences, Herbicide Effects Analysis, Comment RMC-0191-007 and Comment RMC-0159-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives, and Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment.

RMC-0204-007
Wroncy, Jan (Gaia Vision/Canaries Who Sing)

Comment: The Draft [P]E1S does not consider obtaining informed consent from the members of the public who are assumed to be likely to receive some amount of exposure from pesticides, by-products, contaminants, pyrolytic or phytolytic products, petroleum distillates, inerts, surfactants, smoke, fire ignitors and/or fire retardants that may be used in the vegetation management program. First of all there is not complete information given as to the full formulations of the pesticides, what their inerts are, what their breakdown products are, their pyrolytic or phytolytic products, what surfactants, Spreader-stickers, activators or contaminants are in them, much less any

health, environmental fate or impact information about them. The full formulations of the pesticides are usually not even tested; only the inert ingredients. How can the BLM ever hope to get informed consent without providing the "information" to the public being asked to give their consent. To expose people to chemicals and/or smoke without their explicit prior informed consent is, many of us would argue, in fact a criminal act, not becoming of a public agency.

Response: The BLM will post locations intended for herbicide use to warn people to stay out until the restricted entry interval has elapsed. Extensive information about the human toxicity of the herbicides is provided in the PEIS and human health risk assessment that accompanies the PEIS (and is included on the CD that accompanies the Final PEIS). The active ingredients were evaluated in the risk assessment, while the inert ingredients (Confidential Business Information) were determined to be of minimal risk to humans or had no known toxicity data. Also see responses to Comment RMC-0173-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives, Comment EMC-0646-048 under PEIS Environmental Consequences, Herbicide Effects Analysis, Comment RMC-0159-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives, Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment, and Comment RMC-0191-007 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

RMC-0208-040
California Oak Foundation

Comment: Ultimately, "little is known about the fate of pesticides (transport, dissolution, degradation. and deposition onto soil, plants, and water) and their impact on ecosystems in the topographically complex landscape of California." (Exhibit 23.) In some cases, pesticide residue in winter and SPRCing rain and snow has been found at levels " 'uncomfortably close' " to the published median concentrations." *(Ibid.).*

Response: The BLM disagrees with the commentor. Herbicides proposed for use by the BLM have been used for many years, and many studies have been conducted on the fate of these chemicals in the environment. This information is provided in Sections 3.2 (Herbicide Physical-chemical Properties) and 3.3 (Herbicide Environmental Fate) in the ecological risk assessments prepared by the BLM for each herbicide and in the risk assessments prepared by the Forest Service (http://www.fs.fed.us/foresthealth/pesticide/risk.shtml) that were used by the BLM for the PEIS.

RMC-0208-058
California Oak Foundation

Comment: California's ecosystems are also contaminated by a number of other active ingredients that are not proposed for use by the BLM. Nevertheless, the synergistic effects of these active ingredients must be assessed in order to project the real potential for cumulative impacts of the BLM's vegetation management program. (See exhibits 23, 24, 25 [studies assessing the potential of different herbicides to interact cumulatively and/or synergistically in both the aquatic and terrestrial environments].)

Response: See response to Comment EMC-0590-029 under PEIS Alternatives, Herbicide Modes of Action and Treatment Methods. The exhibits only reference glyphosate plus its surfactant adjuvant, and triclopyr formulations in separate mixtures (e.g., triclopyr not mixed with glyphosate) and with differing water hardness. It is well known that surfactants enhance toxicity to plants and potentially to aquatic life. The BLM did evaluate the potential for synergistic effects in Appendix C of the PEIS under Degradates, Inert Ingredients, Adjuvants, and Tank Mixtures.

RMC-0210-021
MCS Task Force of New Mexico

Comment: The PEIS fails to disclose the identity of the "inert" ingredients in the products containing the six active ingredients evaluated in this risk assessment. It states that BLM scientists obtained this information, but claims that because it is considered Confidential Business Information, it cannot be disclosed to the public ([Draft] PEIS [page] 4-173). The [Draft] PEIS further claims that the majority of the inerts are of "minimal risk" and only a few are on EPA's List 3, "Inerts of Unknown Toxicity". But failing to provide the identity of the inert ingredients prevents the public from being able to affirm or refute this claim and thus violates NEPA. The BLM is, in effect, saying "just trust us" rather than providing the public with the information it needs to fully participate in the EIS process. Under NEPA, an Environmental Impact Statement is (EIS) required to provide "high quality" data to the public. Providing "no" data on the identity of the inert ingredients, even though this information is known BLM and relied upon to reach conclusions in the draft PEIS, falls far short of providing "high quality" data.

Response: The BLM is prohibited by law from releasing Confidential Business Information. See response to Comment RMC-0106-004 under PEIS Alternatives, Monitoring.

RMC-0210-022
MCS Task Force of New Mexico

Comment: The BLM should only have considered using and analyzed herbicides whose manufacturers were willing to provide the identity of inerts in their products and allow this information to be disclosed to the public.

Response: See response to Comment RMC-0210-021 under PEIS Environmental Consequences, Herbicide Effects Analysis.

RMC-0210-027
MCS Task Force of New Mexico

Comment: The draft PEIS and Forest Service Risk Assessments fail to adequately analyze the herbicides proposed for use regarding their potential endocrine-disrupting effects. While herbicide active ingredients are evaluated for gross reproductive and developmental effects, many endocrine-disrupting effects are far more subtle.

Response: See response to Comment RMC-0200-008 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

RMC-0210-029
MCS Task Force of New Mexico

Comment: According to Theo Colborn: The U.S. EPA has rarely used the open literature in its risk assessments, generally using only data submitted by manufacturers. Industry continues to use traditional toxicology protocols that test for cancer, reproductive outcome, mutations, and neurotoxicity, all crude endpoints in light of what is known today about functional endpoints. In using manufacturer data, the U.S. EPA misses almost all delayed developmental, morphologic, and functional damage of fetal origin ... Brucker-Davis (1998) published a comprehensive review of the open literature in which she found 63 pesticides that interfere with the thyroid system – a system known for more than a century to control brain development, intelligence, and behavior. Yet, to date, the U.S. EPA has never taken action on a pesticide because of its interference with the thyroid system. (A Case for Revisiting the Safety of Pesticides: A Closer Look at Neurodevelopment by Theo Colburn, Env. Health Perspectives, Vol. 114, No. 1, January, 2006, http://ehp.hiehs.nih.gov/members/2005/7940/7940.pdf). The EPA has, however, expressed concern that "Based on currently available toxicity data, which demonstrates effects on the thyroid and gonads following exposure to 2,4-D there is concern regarding its endocrine disruption potential" (EPA Reregistration Eligibility Decision for 2,4-D, June, 2005, p. 21, www.epa.gov/oppsrrd1/REDs/24d_red.pdf). The EPA also noted there was a need for further testing of 2,4-D regarding its endocrine-

disrupting potential.

Response: See response to Comment RMC-0222-104 under PEIS Environmental Consequences, Herbicide Effects Analysis.

RMC-0210-030, 036
MCS Task Force of New Mexico

Comment: The draft PEIS errs in placing too much emphasis on the concept of RfD [reference dose] and not placing enough emphasis on prudent concerns regarding the hazards of applying toxic herbicides to the environment, including their potential to cause adverse effects in humans, wildlife, vegetation, and water resources.

Response: The RfD is the USEPA's reference dose, which is derived from toxicity studies of laboratory animals. Safety factors are used to address uncertainty from interspecies extrapolation or high to low dose extrapolation. Safety factors are fundamental in extrapolating to other non-target species, be they humans, wildlife, or plants. Although a firm experimental basis does not exist for safety factors, toxicologists have used them for many years to address uncertainty. The BLM and Forest Service conducted risk assessments for the herbicides the BLM proposes to used under the PEIS; the risks associated with the use of these herbicides are given in the ecological risk assessments, and in Chapter 4 and Appendixes B and C of the PEIS. Based on this information, the BLM developed Standard Operating Procedures and mitigation to prevent or minimize risks associated with the use of these herbicides, as discussed in Chapter 2 of the PEIS under the Herbicide Standard Operating Procedures and Mitigation sections.

RMC-0210-032
MCS Task Force of New Mexico

Comment: a) Too narrow a focus on the NOAEL [no-observed-adverse-affect-level] means that information on the shape of the dose-response curve is ignored. Such data could be important in estimating levels of concern for public safety. b) As scientific knowledge increases and the correlation of precursor effects (e.g., enzyme induction) with toxicity becomes known, questions about the selection of the appropriate "adverse effect" arise. c). Guidelines have not been developed to take into account the fact that some studies have used larger (smaller) numbers of animals and, hence, are generally more (less) reliable than other studies. These and other "scientific issues" are not susceptible to immediate resolution, since the data base needed is not yet sufficiently developed or analyzed. U.S. EPA work groups are presently considering these issues.

Response: Concerning the NOAEL, the shape of the dose response curve is typically only important at higher doses, and not at the no effect level. It is most conservative to use the NOAEL as the BLM did. Enzyme induction may not be an adverse effect; it may simply be a defensive response that has no adverse effect on health. The USEPA animal testing guidelines specify the minimum number of animals for statistical significance.

RMC-0210-033
MCS Task Force of New Mexico

Comment: The term "safety factor" suggests, perhaps inadvertently, the notion of absolute safety (i.e., absence of risk). While there is a conceptual basis for believing in the existence of a threshold and "absolute safety" associated with certain chemicals, in the majority of cases a firm experimental basis for this notion does not exist.

Response: A safety factor does not represent absolute safety. It is a mechanism to extrapolate from one species to another by dividing a toxicity dose by a factor such as 10 or 100 or another quantity to provide conservatism for assessing risks to non-target species. Use of safety factors or uncertainty factors is an empirical principal that has been used by toxicologists world-wide for many years, based on extensively studied

chemicals and extrapolations from (1) individual to individual, (2) species to species, and (3) acute to chronic effects.

RMC-0211-013
Ghandi, Theresa Marie K.

Comment: I'll start with the science BLM used in the draft PEIS. So called "scientific studies" produced by USEPA and included in the PEIS are not "verifiable science". Science relies on observation and classification being verifiable by other scientists. If you do not publish something in a sufficiently complete way that an independent scientist can replicate results and is peer reviewed, it is not acceptable science by any reputable scientist. No one can replicate an experiment or testing involving secret substances. The United States pesticide (includes herbicides) regulatory system, i.e. USEPA and BLM's PEIS fail to meet basic criteria of the scientific method: ability to be verified and reproduced with 0.95 of original study by other scientists and this submitted for peer reviewed scientific study.

Response: Most (not all) of the toxicological studies were performed under USEPA oversight for registration. Extensive directives specify USEPA requirements and quality assurance/quality control. When the USEPA receives data, they are carefully reviewed and commented on by USEPA scientists. Studies are sometimes rejected and must be redone. Testing results are public information. The BLM also reviewed the scientific literature for toxicity information. See responses to Comment RMC-0069-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives and Comment EMC-0640-036 under PEIS Environmental Consequences, Wildlife Resources.

RMC-0211-017
Ghandi, Theresa Marie K.

Comment: The PEIS can not be trusted to protect the public, wildlife, aquatic life, birds, cattle and other range animals and the vegetation these species feed upon because peer review scientific tests were not done on the Endocrine Disruption aspects of herbicides used by BLM. This omission eliminates the possibility that results of the so called "scientific studies" included in the BLM PEIS are reliable and can be trusted to protect the public.

Response: See responses to Comment RMC-0200-008 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated, Comment EMC-0267-005 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives regarding endocrine disruption aspects, and Comment EMC-0640-036 under PEIS Environmental Consequences, Wildlife Resources regarding the quality of the studies used to evaluate risks from the use of herbicides.

RMC-0211-018
Ghandi, Theresa Marie K.

Comment: Although short term tests for cancers were included I did not find any test results for endocrine disruption on the proposed chemicals in the PEIS. The chemical family tree of organophosphates, chlorinated hydrocarbons, organochlorines, furans, dioxins and PCBs [polychlorinated biphenyls] are proven endocrine disruptors. That means that the chemicals disrupt the body's hormonal system, be that human, bird, aquatic, livestock or wild life, i.e. wild horses (the last of them) or collaterally damaged vegetation. Omitting and or ignoring the peer reviewed scientific studies of the endocrine disruption aspects of herbicides proposed to be used by BLM threatens the extinction of all life species down stream and proposed areas of application by interfering with hormones necessary to reproduction.

Response: None of the chemical classes listed above include herbicides that are used or proposed for use by the BLM. The BLM conducted additional analysis on herbicides used or proposed for use by the BLM for their potential to be endocrine disruptors for the Final PEIS; this information is provided in Appendix D of the Final

EIS. Also see response to Comment RMC 200-008 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

RMC-0214-047
Natural Resources Defense Council and National Wildlife Federation

Comment: The BLM has failed to consider the epidemiological data on adverse reproductive outcomes and the data on steroid hormone disruption in the Preferred Alternative and the other alternatives incorporating use of 2,4-D in the D[raft] PEIS.

Response: See responses to Comment RMC-0218-027 and Comment RMC-0222-104 under PEIS Environmental Consequences, Herbicide Effects Analysis, and Comment EMC-0324-011 under Environmental Consequences, Human Health and Safety.

RMC-0216-009
Neff, Jack

Comment: BLM submits no contingency for the foreseeable consequences resulting from a combination of the nine active ingredients (2,4-D, chlorsulfuron, clopyralid, glyphosate, hexazinone, imazapyr, metsulfuron methyl, picloram, and triclopyr) likely released in the toxic spill on BLM land.

Response: Prior to the application of an herbicide on BLM-administered lands, the agency prepares a Pesticide Use Proposal which is tied into the Environmental Assessment. Proposals are specific for a site or a particular weed species. An understanding of how each herbicide is to be used is needed to prepare the plan. The nine herbicides identified in the comment would not all be in the same spray tank, since some of them are selective for the management of broadleaf species, while others offer no selectivity. Some are applied and require incorporation into the soil for their herbicidal activity to be expressed. Given the different properties associated with each herbicide identified, all of them would not be used in a single application. Also see response to Comment RMC-0122-002 under Appendix C.

RMC-0216-020
Neff, Jack

Comment: BLM's language to describe the environmental consequences of the draft [P]EI[S]R probably comes directly from the warning labels, instruction labels and disclaimer language provided by the manufacturers of these harmful, toxic products.

Response: The information used to describe the environmental consequences that is contained in Chapter 4 and Appendixes B and C of the PEIS was taken or based on information provided in the risk assessments conducted by the BLM and Forest Service, the scientific literature, discussions with agencies and field personnel, and other credible sources of information about the risks associated with the herbicides. Warning labels and instruction labels were used to help develop the Standard Operating Procedures. Also see response to Comment EMC-0640-036 under PEIS Environmental Consequences, Wildlife Resources.

RMC-0216-023
Neff, Jack

Comment: BLM never acknowledges its responsibility under the law to insure these hazardous chemicals are used safely because BLM cannot insure these hazardous chemical are used safely. BLM wants to bring in thousands of workers into environmentally-sensitive habitats and abdicate control over substances which constitute a threat to national security.

Response: The BLM believes that the new herbicides are safe to use under the typical application scenarios, with the mitigation measures and other site-specific and safety precautions associated with the label. Also see responses to Comment RMC-0208-040 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives, and Comment EMC-0267-002 under PEIS Proposed Action and Purpose and Need, Federal Laws, Regulations, and Policies that Influence Vegetation Treatments.

RMC-0218-021
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: Generally the synergistic effects of combined active ingredients in formulas, chronic toxicity effects, effects on amphibians, insects and vital soil functions have not been well studied for most of these herbicides and studies have been on lab animals, not wildlife in wild conditions.

Response: Concerning synergistic effects, see responses to Comment RMC-0159-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives, and Comment RMC-0122-002 under Appendix C. Also see Degradates, Inert Ingredients, Adjuvants, and Tank Mixtures in the Uncertainty Analysis Section of Appendix C of the PEIS.

RMC-0218-027
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: New or more recent scientific findings as to the toxicity and other imparts of 2,4-D, glyphosate and other herbicide active ingredients, formulas, inerts, metabolites and impurities should have been disclosed and analyzed in the DEIS [Draft PEIS] (examples given in the NCAP [Northwest Coalition for Alternatives to Pesticides] comments).

Response: See responses to Comment EMC-0646-016 under PEIS Environmental Consequences, Herbicide Effects Analysis and Comment FXC-0071-009 and Comment RMC-0221-070 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives for information on the timing of development of the risk assessment for the PEIS. Also note that the BLM has included updated information on degradates and the potential for herbicides to act as endocrine disruptors in Appendix D of the Final PEIS.

RMC-0220(i)-003
Save Our ecoSystems, Inc.

Comment: The attached list includes hundreds of chemicals, but it can never be complete so long as manufacturers continually introduce new ones and send them to market. Testing of new ones, if it is done, is done by the manufacturers themselves. This list, however is published by the EPA which they say "performs an independent review of studies conducted in mice and rats to evaluate the carcinogenic potential of pesticides." Two chemicals you propose to spray on our public lands are on this list: Bromacil is "a possible human carcinogen." (page 8). Diuron is a "known/likely" carcinogen. (page 12).

Response: Neither bromacil nor diuron is currently listed as a known or likely human or animal carcinogen by the USEPA, the federal government's regulator of pesticides and authority on environmental carcinogens. Inconclusive evidence prompted the USEPA to list diuron as category C, possible human carcinogen, in 1996 and require that it be assessed using the reference dose for noncarcinogenicity.

RMC-0220(k)-001
Save Our ecoSystems, Inc.

Comment: "humans are more sensitive than the most sensitive experimental animals tested to date…" See pg IV-17, attached: Chemical Hazards to Human Reproduction Council on Environmental Quality to the White House.

Response: Standard risk assessment guidance treats humans as more sensitive than laboratory animals and utilizes uncertainty factors to extrapolate from laboratory animals to humans (for example, the no observed adverse effect level from animals may be divided by uncertainty factors from 10 to 1,000, based on interspecies extrapolation and other factors). The BLM and Forest Service used uncertainty factors to account for the risks to humans during the development of the risk assessments for the PEIS.

RMC-0221-061
Center for Biological Diversity

Comment: The BLM fails to adequately analyze the impacts even of the 10 herbicides that it chose to examine: bromacil, chlorsulfuron, diflufenzopyr (with dicamba), diquat, diuron, fluridone, imazapic, sulfometuron methyl, and tebuthiuron. The Ecological Risk Assessment portion of the Biological Assessment fails to fully and adequately consider cumulative acute and chronic and synergistic ecological effects of these herbicides on biota, and present its results in a clear, concise, accessible format as required by NEPA. 40 C.F.R [Code of Federal Regulations] § 1502.1.

Response: The BLM conducted detailed, state-of-the-science human health and ecological risk assessments, which are provided on the CD that accompanies the PEIS. These risk assessments were developed in cooperation with the USEPA, U.S. Fish and Wildlife Service, and National Marine Fisheries Service. Subsequently, two appendixes (Human Health Risk Assessment and Ecological Risk Assessment) were prepared for the PEIS to summarize the findings of the risk assessments in a clear and concise format, and the information was incorporated into the effects analysis of Chapter 4 of the PEIS. The Biological Assessment incorporates much of this material in the text by reference and provides conservation measures to protect species of concern. The risk assessments and appendixes evaluated acute, chronic, and synergistic effects, and cumulative effects were evaluated in both the PEIS and Biological Assessment.

RMC-0221-064
Center for Biological Diversity

Comment: The methodology used for this Ecological Risk Assessment ("ERA") was to develop a "Toxicity Reference Value" using both U.S. EPA toxicity studies and current literature. Typically, surrogate species had to be used for analyses of effects on rare, threatened, or endangered ("RTE") species due to lack of available studies. The ERA addressed RTE animal species using the same toxicity endpoint for other non-RTE species, but the acute Level of Concern was lowered. While this approach may make sense for assessing the potential impacts on individual animals in some instances, it does not adequately and fully express the risks of the proposed action to populations of at-risk species or provide meaningful information regarding direct, indirect or cumulative impacts on those populations and their habitats. The ERA fails to include any information on overall populations of special-status species in the project area; the status of specific populations in different locations and habitat types within the project area; how many of these specific populations would be exposed to herbicide treatment; and how often these populations would be exposed.

Response: Appendix C of the PEIS and the supporting ERAs thoroughly address RTE species to the extent possible, given that it is against the law to experiment or perform toxicology studies on RTE species. Effects on RTE species are evaluated at the level of the individual organism; it is especially important to protect every individual of an RTE species. The ERAs also looked at secondary impacts of herbicide application on the habitats of several RTE species. The ERAs provide a listing of RTE species in Appendix C of the ERA. Information on the direct, indirect, and cumulative impacts on populations of RTE species in the project area; the status of specific populations in different locations and habitat types within the project area; and populations that could be exposed to herbicide treatment are provided in the Biological Assessment that accompanies the PEIS. The Biological Assessment, along with the PEIS and PER, would be used by the BLM and U.S. Fish and Wildlife Service and National Marine Fisheries Service during consultations to ensure that RTE species are protected from herbicide treatments.

RMC-0221-067
Center for Biological Diversity

Comment: We could find no disclosure of the literature used to formulate the Toxicity Reference Values in the ERA [ecological risk assessment]. This information is important for the public to be able to determine whether any key studies were omitted.

Response: All literature sources are described in Appendix C of the PEIS under Effect Characterization, Literature Review, and are also included with the effects characterization in Appendix C under Non-target Species Effects Characterization. References used to develop the ERAs are also included in the individual ERAs and their appendixes.

RMC-0221-069
Center for Biological Diversity

Comment: Chemicals also can have complex effects on wildlife: even sublethal doses can result in adverse impacts on immune function and reproductive rates, and can increase stress on individuals. The ERA [ecological risk assessment] provided no such detailed information on these sublethal but potentially significant impacts on populations of wildlife, which is particularly troubling in the case of rare, threatened, and endangered species.

Response: The BLM did consider non-lethal effects in the risk assessments; see those sections of the ERAs related to chronic effects. Also see response to Comment RMC-0069-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

RMC-0221-071
Center for Biological Diversity

Comment: Widespread aerial herbicide application by the BLM with little understanding of the extremely serious potential direct, indirect, cumulative, and additive/synergistic effects it may cause would be irresponsible and violate both NEPA and the ESA [Endangered Species Act].

Response: The human health risk assessments and ecological risk assessments considered various potential receptors and exposure pathways for each herbicide, including risks associated with aerial spraying. It is difficult to quantitatively evaluate synergistic effects of herbicides, since the toxicology studies are done on individual herbicides. Also see response to Comment RMC-0159-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives, in Appendix C of the Final PEIS under Degradates, Inert Ingredients, Adjuvants, and Tank Mixtures in the Uncertainty Analysis section, and in Appendix D of the Final PEIS.

RMC-0222-097
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The evaluations of herbicide risks in the DEIS [Draft PEIS] fall short of NEPA's mandate to include accurate scientific analyses of the following topics: nonlethal effects on fish; nonlethal effects on amphibians; nonlethal effects on plants; effects on birds of herbicide damage to habitat; hazards of inert ingredients; occupational hazards; and synergistic hazards.

Response: The comment is incorrect; sublethal effects were evaluated and used for these receptors. None of the effects are based on mortality; instead, BLM ecological risk assessments are based no-observed-adverse-effect levels, which are even more conservative than sublethal effects.

RMC-0222-104
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for

Comment: Hazards of inert (unidentified) ingredients in herbicides: The DEIS [Draft PEIS] ([page] C-84 [of Appendix C of the PEIS]) states that "minimal impacts to the environment would result from these inert ingredients." However, the DEIS [Draft PEIS] ignores recent research showing that the combination of inert ingredients with the herbicidal ingredients in a commercial herbicide product can pose hazards not identified when ingredients are tested singly. For example, scientists from the

Alternatives to Pesticides), and O'Brien, Mary

University of Caen showed that the combination of inerts and herbicidal ingredients in Roundup is toxic to human placental cells and disrupts the synthesis of sex hormones. This research was published in the journal *Environmental Health Perspectives.* (Richard et al 2005) In another example, researchers from the University of Minnesota showed that the combination of inert ingredients and herbicidal ingredients in two commercial 2,4-D products acts like estrogen in breast cancer cells. This research was published in the *Journal of Toxicology and Environmental Health.* (Lin and Garry 2000).

Response: The BLM is aware of these reports. The BLM has provided new information in the Final PEIS in Appendix D on the potential for herbicides to affect the endocrine system.

RMC-0222-107
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Synergistic effects: the cumulative effects analysis in the DEIS [Draft PEIS] does not consider effects of exposure to multiple herbicides. For example, it was shown over 20 years ago that picloram and 2,4-D are synergistically toxic to trout. This research was conducted by Daniel Woodward at the U.S. Fish and Wildlife Service and published in the Journal of Range Management. (Woodward 1982) In addition, imazapic herbicides and commonly used organophosphate insecticides are synergistically toxic to non-target plants, according to imazapic's manufacturer. (BASF Corporation 2004).

Response: Herbicide manufacturers have combined active ingredients where they have been shown to be effective either in products or tank mixes. The BLM evaluated mixed products and tank mixes. The BLM rarely uses insecticides and would not simultaneously apply insecticides and herbicides. There is no record of the BLM ever having prepared a tank mix of an organophosphate insecticide with an herbicide. As a proposed mitigation measure, the BLM will either avoid using any formulations of glyphosate with POEA, which may be the toxic component in glyphosate, or seek to use the formulation with the lowest amount of POEA available. Also see responses to Comments RMC-0221-070 and RMC-0159-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

Environmental Consequences, Non-herbicide Effects Analysis

EMC-0566-004
Western Society of Weed Science

Comment: It is important to note the exclusion of risks associated with non-chemical alternatives mentioned in this alternative. There is no mention of the risk to workers using mechanical, fire or other methods to control invasive plants particularly in Alternative C: No Use of Herbicides. This ignores the dangers to workers using these methods such as the inhalation of vehicle exhaust or smoke from prescribed fires, risks associated with fire escape, physical injuries from over-exertion or injuries as a resulting from operation of heavy equipment. In Alternative D: No Aerial Applications, it should be noted that aerial applications of herbicides are often the method of control that offers the least disturbance to an area. Mechanical methods, as is mentioned in the PEIS, will often disturb the ground cover which opens the area to new weed infestations, and actually facilitates the spread of invasive plants into new habitats. Also in this alternative it is mentioned that the most sensitive factor for aerial applications is the potential for spray drift. This assumes that the application will be made with a liquid spray solution; however, there are granular formulations of many herbicides which greatly reduce or eliminate drift onto non-target areas.

Response: There is some discussion of the risks of non-chemical treatments in the PEIS, primarily under Alternative C for each of the resource areas covered in Chapter

4. However, most of this information was provided in the PER, since the PER covered all treatment methods.

RMC-0057-010
California Wilderness Coalition

Comment: The DPEIS [Draft PER] states "There would be some short-term scenic degradation, as well as distractions to users (e.g., noise from machinery), from treatments" ([page] 4-117). However the DPEIS [Draft PER] does not acknowledge the potential for mechanical treatments, and the use of heavy machinery required for such treatments, to create future routes for unauthorized off road vehicle use. Such use will encourage the spread of noxious weeds and undermine the intent of the treatments. Furthermore, unauthorized off road vehicle use in areas managed for non-motorized recreation will degrade habitat and wilderness values on BLM lands. These impacts are not analyzed in the DPEIS [Draft PER].

Response: Based on the page number and quotation provided in this comment, it is assumed that the comment refers to the Draft PER rather than the Draft PEIS. The text of the Final PER has been modified in response to this concern. See the discussion on Effects of Mechanical Treatments, under the Recreation subheading, in Chapter 4 of the PER.

RMC-0217-033
Sierra Club Utah Chapter

Comment: The draft PEIS needs to be fleshed out with a lot more information about all of the aspects of altered fire regimes, the causes of exotic plant invasions, and realistic and effective methods of changing the current trends of increasing exotics (both in numbers and in areas affected).

Response: The PEIS assesses the impacts of proposed herbicides on human health, ecological risk, vegetation and other public lands resources. Information on altered fire regimes, causes of exotic plant invasions, and effective treatment methods is provided in the PER.

RMC-0222-045
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Regardless, the DEIS [Draft PEIS] never analyzes the consequences of using "a combination of methods to combat undesirable species," let alone the consequences of herbicide use with and without native seedings in a range of settings.

Response: The BLM operates under an integrated pest management (IPM) framework in regard to vegetation treatments. Under IPM, methods and combinations of methods are utilized to achieve the greatest effectiveness to meet vegetation management objectives identified in local land use and activity plans. The analysis of impacts in Chapter 4 of the PEIS assumes that IPM methods and combinations of methods are used to reduce impacts to the natural and social environment. We have included text in Chapter 4 of the Final PEIS under How the Effects of the Alternatives were Estimated to note that use of IPM methods and combinations of methods were considered in the analysis.

Environmental Consequences, Air Quality

EMC-0001-002
Sachau, B.

Comment: Spray drifts can drift thousands of miles. Spraying out west come east.

Response: See the discussion on spray drift in Chapter 4 of the PEIS under Air Quality. The ecological risk assessments evaluated spray drift when determining risks from herbicide use. The reader should consult the individual risks assessments found on the CD that accompanies the PEIS for more information. An analysis of site-specific factors that could influence treatment success and impacts would be conducted for each project at the local level.

EMC-0013-002
Keppelman, Tony

Comment: It is especially dangerous to apply anything like [an herbicide] by air so that it pollutes the air all the animals, including us, breath. It is a known fact that such airborne chemicals can travel hundreds of miles to be breathed by hundreds of thousands of people.

Response: See response to Comment EMC-0001-002 under PEIS Environmental Consequences, Air Quality.

EMC-0050-002
EMC-0051-002
EMC-0055- 002
EMC-0067-007
Rietsema, C.J.
Peckman, Kristin
Love, Joe
Womens Global Green Action Network

Comment: An integral part of this proposal involves aerial spraying of toxic pesticides, which increases negative impacts on non-targeted vegetation, wildlife, and people, including recreationalists, tourists, and native peoples (pesticide application areas include Alaska, where native fishing and plant gathering is widespread). Although the proposal claims care would be taken in applying the pesticides in a controlled manner, these chemicals are known to drift much further than anticipated and cause unexpected health and ecological impacts. The pesticides that would be used include persistent and mobile chemicals, including known developmental and reproductive toxins.

Response: See response to Comment EMC-0001-002 under PEIS Environmental Consequences, Air Quality.

EMC-0059-002
Cranley, Mary

Comment: The aerial spraying of toxic pesticides is unacceptable, posing serious risks to non-targeted vegetation, wildlife, and people, including forest users such as tourists, and native peoples. In addition to acute or short-term health effects, many of these pesticides are also known to cause reproductive and developmental problems including birth defects; neurological problems; and cancer. Aerial application is particularly problematic, since only a small fraction of the pesticides actually land on the target pest; the rest drifting off-site causing "unanticipated" health and ecological impacts.

Response: See response to Comment EMC-0001-002 under PEIS Environmental Consequences, Air Quality.

EMC-0061-002
Stuckman, Scott

Comment: The aerial application of pesticides poses certain risks because the application is not targeted; rather, much of the pesticide can drift off-site, creating unanticipated health and ecological problems.

Response: See response to Comment EMC-0001-002 under PEIS Environmental Consequences, Air Quality.

EMC-0078-002
Ore, Ed

Comment: You cannot think that nobody is affected by the spraying of hazardous materials into our environment. Every time a hazardous material is sprayed it travels many miles through the air and onto non target areas. Someone will be affected somewhere. The elderly and children are most affected.

Response: See response to Comment EMC-0001-002 under PEIS Environmental Consequences, Air Quality.

EMC-0101-007
Terry, Noalani

Comment: Since we are downwind of pesticides sprayed in Nevada, I really object to spraying herbicides in huge amounts and think other measures are more appropriate. And in case you think, the herbicides can't travel this far, be aware that we get smoke from fires in California, Arizona, Utah, and yes, Nevada, in our valley.

Response: See response to Comment EMC-0001-002 under PEIS Environmental Consequences, Air Quality.

EMC-0140-004
Small, Jack W. and Joyce C.

Comment: The hazards to the people that do the spraying, or who live in the area of spraying, are often shrugged off The effects are not immediately apparent (the guy doesn't immediately drop dead). What needs a lot more attention is many ways these agents can be spread. Spraying from the air, or on windy days, easily gets spread beyond the specific area being treated. Chemicals getting into the water table adds up over time, and in some cases goes down hill a long way, often turning up in places where people rarely think to look or test for it.

Response: See response to Comment EMC-0001-002 under PEIS Environmental Consequences, Air Quality.

EMC-0173-003
Leavenworth Audubon Adopt-a-Forest (LEAF)

Comment: The Diffuse Knapweed recovers the soils in a number of ways. First, it extracts nitrogen so that native plants, that cannot tolerate much nitrogen, can thrive. Removing the handpulled knapweed skeletons from the site then removes the nitrogen, leading to reduced nitrogen in the soils, and a great boost in native plant growth. Second, the handpulling of the knapweed initiates a rush of microbial activity when the root is pulled out, stimulating recovery of soils and boosting native plant recovery. Third, knapweed helps to develop biological soil crust, as it shades the crust in the hot summer, helping it to develop, much as blue bunch wheatgrass does in their symbiotic relationship.

Response: Diffuse knapweed provides some benefits to the environment. However, it also displaces native vegetation and the species that depend upon native vegetation and may lead to soil erosion. Studies in Montana have shown that sedimentation and erosion rates were 50% to 200% greater on sampling plots dominated by spotted knapweed than on plots dominated by native bunchgrasses (Lacey et al. 1989).

EMC-0190-003
Kanne, Claudia

Comment: Aerial spraying of toxic pesticides could kill me. The BLM has no control of where the toxic chemicals will be carried in the wind. There is no place for me to escape the toxic chemicals you may use.

Response: Although the BLM cannot control where herbicides will be carried, the agency can take steps to reduce the potential for herbicide drift. These steps include applying herbicides during periods with little wind, or using drift reduction agents. These Standard Operating Procedures (SOPs) are discussed in Chapter 4 of the PEIS under SOPs. In addition, the BLM modeled the effects of herbicide drift when analyzing the risks of using herbicides. Based on this analysis, the BLM developed buffer guidelines to avoid or reduce risks to non-target vegetation and fish and wildlife that may be found on lands adjacent to public lands. Also see response to Comment RMC-0200-012 under PEIS Environmental Consequences, Air Quality.

EMC-0267-003
Medbery, Angela

Comment: Recognition should be given that wind gusts, variable vegetative covers and heights, and changing weather and climate patterns may impact drift and chemical effectiveness in unpredictable manners.

Response: These variables were evaluated when conducting the ecological and human health risk assessments to assess the risks from the use of herbicides. Please review the risk assessments (available on the CD that accompanies the PEIS) and Appendixes B and C of the PEIS. In addition, herbicide drift is evaluated in Chapter 4 of the PEIS under Air Quality.

EMC-0316-001
Hardebeck, Larry J.

Comment: I am writing to oppose the BLM's plan to significantly increase herbicide use in 17 western states. I am especially concerned about the aerial applications you have planned, which will cause the chemicals to be spread far and wide. Just look at what happened on the BLM test plots in Idaho where they used OUST, a supposedly safe chemical manufactured by Du Pont.

Response: Alternative D, as explained in Chapter 2 of the PEIS and evaluated in Chapter 4, looked the risks and benefits of only conducting herbicide spray treatments using ground-based methods. The BLM conducted modeling to determine the likelihood of herbicides drifting and impacting humans, non-target vegetation, and other resources. Based on this assessment, the BLM developed Standard Operating Procedures and mitigation measures to reduce the likelihood of drift impacts to humans and the environment.

EMC-0324-002
Rachel Carson Council

Comment: We question whether there has been sufficient consideration of the drift laws, that apply to commercial pesticide applicators, existing in the individual states. For example, under these local regulations 2,4-D is not allowed to be applied in areas where certain crops (Tomatoes, grapes, and others) are being grown.

Response: See response to Comment RMC-0200-012 under PEIS Environmental Consequences, Air Quality.

EMC-0324-005
Rachel Carson Council

Comment: Pesticide drift, the unintentional airborne movement of pesticides beyond the target area where pesticides are applied, can occur through the unpredictable weather and wind patterns, human error and/or equipment failure. It is most common with aerial pesticide spraying. Regulations pertaining to pesticide drift are administered by states and have varying degrees of severity and scope. Some prohibit applications of 2,4-D to commercial areas due to the sensitivity of certain crops such as tomatoes, and grapes. (Feitshans, Theodore A. "An Analysis of State Pesticide Drift Laws," San Joaquin Agricultural Law Review, No. 1, 1999). We question whether sufficient consideration has been given to this issue.

Response: See response to Comment RMC-0200-012 under PEIS Environmental Consequences, Air Quality.

EMC-0336-003
Tipps, Betsy L.

Comment: By proposing to apply much of the herbicides using aerial means, the plan virtually guarantees maximum dispersal of these toxic agents, into areas and places there the chemicals are not wanted such as our homes, our schools, our parks, our farms and ranches, and places where my family and I like to hike and camp on remote BLM lands.

Response: Approximately 400,000 acres would be treated aerially using herbicides. The BLM will post herbicide treatment areas, as discussed in Chapter 2 of the PEIS under Coordination and Education. The BLM also modeled spray drift to determine what the risks were to non-target vegetation and humans and animals from spray drift, and to develop appropriate Standard Operating Procedures and mitigation to eliminate or reduce these risks.

EMC-0446-023
The Nature Conservancy

Comment: Some ALS [acetolactate synthase]-inhibiting herbicides have higher potential for off-site movement than other effective herbicides. The PEIS should provide guidance on how to weigh the benefits of increased effectiveness against the increased risk of off-site movement that certain ALS[-inhibiting] herbicides could pose. We believe that use of ALS-inhibiting chemicals should be allowed, but only in

justifiable circumstances and within the context of an adaptive management plan.

Response: The risks and benefits of not using ALS-inhibiting herbicides were evaluated under Alternative E – No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients. Use of these herbicides was evaluated under Alternative B – Expand Herbicide Use and Allow for Use of New Herbicides in 17 Western States (Preferred Alternative). The risks associated with off-site movement of these chemicals are discussed under Alternative E in the Vegetation section of Chapter 4 of the PEIS. As noted in that section, these herbicides carry risks because they are very potent, but their use in small amounts helps to mitigate risks. To reduce the risks associated with off-site drift of herbicides, the BLM would comply with buffer guidelines presented in Tables 4-12 and 4-14 in Chapter 4 under Vegetation.

EMC-0505-026
U.S. Environmental Protection Agency

Comment: In a report of this nature, it is typical to address the individual and total uncertainties in the analysis. There are many uncertainties in the emission rates, the meteorology, model formulation and choice of background values and these should be addressed and evaluated.

Response: Both the PEIS and PER indicated that, "The number of acres [to be] treated in each state is an approximation, based on field data compiled for this analysis." The USEPA's *Compilation of Air Pollution Emission Factors, AP-42, Fifth Edition* details the uncertainty of each emission factor used to develop the annual air pollutant emissions by state and alternative. ENSR (2005a) described the methodology (including uncertainties) used to estimate direct particulate matter impacts for typical, but hypothetical (example) emission scenarios. As directed by Council on Environmental Quality regulations, where uncertainties exists, and obtaining "certain" information is not readily possible, the BLM uses reasonable but conservative assumptions so that actual impacts would be less than those predicted to occur.

EMC-0505-028
U.S. Environmental Protection Agency

Comment: The Agency recommends using area specific background information instead of the default background concentrations. Historically, most PM10 modeling analyses have been done with dispersion and/or receptor models. Since these models don't account for all sources, a background concentration needs to be used to account for other sources. The "PM10 SIP [particulate matter less than 10 microns in diameter State Implementation Plan] Development Guideline" (June 1987) recommends using nearby monitoring data to develop reasonable background values. The BLM report referred to documents from Arizona and Montana which contained default background concentrations. Our recommendation would be to not use default values and to develop values that were relevant to the specific area being modeled. By using default values, it appears that the values may be overly conservative. BLM used values of 30 ug/m3 and 8 ug/m3 as 24-hour and annual average background values for both PM10 and PM2.5 [particulate matter less than 2.5 microns in diameter]. These values for PMl0 may be overly conservative for many areas in the West. The values for PM2.5 are almost certainly higher than background concentrations in most areas of the West. There are annual average PM2.5 concentrations in some urban locations in the West that are as low as 4 ug/m3; rural areas would be even lower.

Response: When developing concentration estimates of particulate matter for typical, but hypothetical (example) emission scenarios, the *Annual Emissions Inventory for BLM Vegetation Treatment Methods – Final Report* (ENSR 2005a) clearly states, "To compare modeled particulate concentrations due to each treatment method to the National Ambient Air Quality Standard, a regional background concentration is needed to represent ambient particulate concentrations due to background sources in

the vicinity of the treatment area." In addition, "This analysis assumed that vegetation treatment takes place in rural areas, therefore concentrations measure[d] at most monitors would yield an overly conservative estimate of ambient particulate concentrations in the vicinity of the treatment areas." Therefore, the analysis assumed rural background particulate matter concentrations based on documented guidance (New Mexico Air Quality Bureau 1998, and Montana Department of Environmental Quality 2002; see ENSR 2205a for full citations). However, given the lack of specific proposed activities (location, timing, amount, conditions, etc.), it is not possible to further quantify background conditions.

EMC-0544-003
Public Lands Advocacy

Comment: [The following concern should be addressed:] Air quality impacts from vegetation treatments and their affect on oil and gas operations.

Response: Potential air quality impacts from future herbicide use are described in the Final PEIS in Chapter 4 under Air Quality, and air quality impacts from other future vegetation treatment methods are described in the Final PER in Chapter 4 under Air Quality. Potential air quality impacts described in these documents would not have any unique implications for oil and gas operations.

EMC-0585-176
Western Watersheds Project

Comment: BLM ignores analysis of the variation between states in legal limits on wind speeds where aerial application is allowed. How does Idaho differ from California? BLM must establish a conservative wind speed that maximizes public safety and the health of the land, air and water, not rely on whatever is allowed in any particular state. BLM can not assess risk without evaluating application and drift under various wind speeds.

Response: Management practices that the BLM would follow to minimize the potential adverse effects of herbicides on air quality, and to minimize herbicide drift, are presented under Standard Operating Procedures in the Air Quality section of Chapter 4 of the PEIS. These practices were established to protect human and environmental health on public lands, and may be more or less conservative than state requirements. However, the BLM would also comply with state requirements pertaining to herbicide applications if they are more restrictive than BLM requirements.

EMC-0590-017
Western Slope Environmental Resource Council

Comment: Under the vegetation management programs proposed by the BLM, the area of public lands that will be treated with herbicides in the 17 Western States could cover over 932,000 acres. Proposed methods of herbicide application across the BLM land programs include aerial-, ground-, or boat-based applications. Proposed application vehicles include airplane, helicopter, all-terrain vehicle, boat, horse or humans. Application methods include aerial deposition, boom/broadcast, and spot applications. While all of these components of application are of concern to WSERC [Western Slope Environmental Resources Council], we are especially concerned with the potentials for spray drift from aerial and boom/broadcast applications, with the volatilization of pesticides in the days following applications, with the potential transport of chemicals on particulate matter, and with exposure of workers and citizens to the chemicals during and following applications.

Response: As expected, the risk assessments showed higher risks associated with aerial and boom applications than other types of herbicide applications. Generally, risk drops dramatically with distance, and there are no residents on BLM-administered lands. Also see responses to Comment EMC-0336-003 under PEIS Environmental Consequences, Air Quality, and Comment EMC-0185-002 under PEIS Environmental

Consequences, Human Health and Safety on spray drift.

EMC-0597(a)-007
Beeland, DeLene

Comment: Finally, how can BLM propose aerial herbicide spraying in arid climates where pesticide "drift" is becoming well-documented as an air-polluter and as a root cause for asthma, endocrine-disruptor diseases and cancers? Even if BLM hits their intended targets, some of the herbicide will remain air borne and drift, or – it will settle and in dry months with little rain, it will become airborne once more and drift to nearby communities, or watersheds.

Response: The BLM evaluated the risks associated with drift in Appendixes B (Human Health Risk Assessment) and C (Ecological Risk Assessment). Based on this analysis, the BLM proposed protective buffers to reduce or avoid risks to humans, non-target vegetation, and other resources from herbicide drift. Many of the herbicides proposed for use by the BLM have short half-lives and biodegrade relatively quickly, as discussed under Soil Resources and Water Resources and Quality in Chapter 4 of the PEIS.

EMC-0630-012
Porter, Mark C.
(Wallowa Resources)

Comment: The [P]EIS shows very little cognition of the sophisticated understanding of drift in aerial applications that is available today. Though I cannot give you a reference for this type of material I know it exists as I have seen several presentations on the matter. From personal experience I can say that aerial applications can be extremely precise, very small scale, with new technologies and tight application standards impacts of drift can be very well mitigated. New GIS technologies also allow the precise mapping of targets prior to treatment and on board helicopters allow the same technologies accurately map spray swaths.

Response: See response to Comment RMC-0200-012 under PEIS Environmental Consequences, Air Quality.

RMC-0129-004
Noble, E.A.

Comment: What investigation, if any in these days of cover-up of unwanted reality, has been made to establish any correlation between rapid spread of "unwanted" grasses and greenhouse warming? If all of this vegetation is killed. What will there be to keep dust down in case of continued drought?

Response: We are not aware of studies that look at the spread of invasive vegetation and global warming. After invasive vegetation is removed, sites would be revegetated with native vegetation or other suitable vegetation to stabilize soils and minimize dust and erosion.

RMC-0200-012
Lindsay, Dianne

Comment: The PEIS fails to adequately address drift problems with aerial spraying.

Response: Both the PER and the PEIS in the Air Quality sections of Chapters 3 and 4 address potential "drift" of herbicide from aerial spraying, including several management practices the BLM has developed to minimize potential adverse effects of herbicide use on air quality. The BLM also modeled drift to determine the effects to non-target vegetation and other resources from the drift of herbicides applied aerially or by boom sprayers.

RMC-0208-061
California Oak
Foundation

Comment: Here, the Draft PEIS calls for a survey of the "project site" for special status species before any treatment occurs. (Draft PEIS, at p. [page] 2-16.) This local-level requirement, however, fails to account for herbicide drift, which, as the above-referenced studies show, carries the active ingredients to ecosystems outside of the target site. Accordingly, the Draft PEIS is deficient in assessing the true impact to

special status species from the use of herbicides on BLM land. This requirement also fails to ecosystems outside of the target site. Accordingly, the Draft PEIS is deficient in assessing the true impact to special status species from the use of herbicides on BLM land. This requirement also fails to account for impacts on populations of species that cannot be identified except at larger "landscape" scales.

Response: Both the PER and the PEIS in the Air Quality sections of Chapters 3 and 4 address potential "drift" of herbicides during aerial spraying, as well as several management practices the BLM has developed to minimize the potential adverse effects of herbicide use on air quality. In addition, the BLM identified Standard Operating Procedures and Guidelines (see Chapter 2 under Herbicide Treatment Standard Operating Procedures) and mitigation measures (see Chapter 2 under Mitigation; also see mitigation sections for each resource area discussed in Chapter 4 of the PEIS) in the PEIS, and for species of concern in the PEIS and Biological Assessment (BA; see Conservation Measures in BA) to reduce the potential for risks to species of concern from herbicide drift. At the project level, direct and indirect effects from the proposed action will be analyzed, and if it is determined that the project "May Affect" Endangered Species Act-listed species, Section 7 consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service will be initiated.

RMC-0204-008
Wroncy, Jan (Gaia Vision/Canaries Who Sing)

Comment: The Bureau of Land Management may be unaware of how much pesticides drift, leach, vaporize, generally move about, and persist, but the BLM certainly can not deny that the smoke (and any additional chemicals in it) created by the intentionally set fires on BLM lands does in fact travel off the site to other properties not belonging to the BLM. The members of the public, individually, need to be asked whether they will give their informed consent to such expose and to the trespass onto their land.

Response: Potential air quality impacts from future herbicide use are described in the Final PEIS in Chapter 4 under Air Quality, and impacts from other future vegetation treatment methods (including smoke from prescribed fires) are discussed in the Final PER in Chapter 4 under Air Quality. The BLM's actions (including use authorizations) must comply with applicable local, state, tribal, and federal air quality laws, regulations, standards, and implementation plans. Therefore, potential air quality impacts are managed below scientifically based and legally enforced regulatory significance thresholds, and no interference with personal property rights are likely to occur.

Environmental Consequences, Soil Resources

EMC-0042-001
Altshool, Elsa

Comment: Herbicides are not selective. When you spray, plants we want are too often killed. Why shouldn't there be plants on government land. They are harmless, and help to hold soil; We need no more flying soil.

Response: Some herbicides are selective, as shown in Table 2-3 of the PEIS. The BLM would use selective herbicides and establish buffers adjacent to treatment areas to reduce the risk of herbicides impacting non-target vegetation. Following removal of invasive vegetation, sites would be revegetated with native vegetation or other suitable vegetation to stabilize soils and minimize dust and erosion.

EMC-0145-003
Wahl, Mark

Comment: They [herbicides] also sterilize soils -- thus inviting more invasives in succeeding years thus creating an endless escalating cycle of pesticide dependence. This has been seen in numerous locations throughout the country and these sensitive

wild systems are certainly no exception.

Response: Herbicides do not sterilize the soil. When herbicides are applied, they may reduce the vigor of or kill non-target plant species that come in contact with the herbicide prior to its breakdown. Upon the breakdown of the active ingredients of the herbicide, which occurs at a rate that has been discussed in this PEIS for each herbicide proposed for use, plants that would have been susceptible to the herbicide are able to re-establish, naturally or artificially, and prosper on the site. The main consideration for reducing reinvasion is the establishment of adequate plant cover on the site after treatment to reduce opportunities for invasive plant establishment. This is a function of proper post-treatment management and not sterilization of the site by herbicides. Also see response to Comment EMC-0173-004 under PEIS Environmental Consequences, Soil Resources.

EMC-0173-004
Leavenworth Audubon Adopt-a-Forest (LEAF)

Comment: It is clear that the massive spraying of herbicides that you propose will degrade the soils and invite knapweed to come in and do its soil healing work. You will actually create knapweed fields. That is the opposite of what you are supposed to do. Your job is to prevent weeds by maintaining healthy soils. To maintain healthy soils you will need to stop your soil disturbing activities. Overgrazing weakens the ecosystem, weakens the soils, weakens the native plants. Overgrazing compacts the soils. Knapweed is not the only weed that is a response to soil degradation. If you want to stop weeds, quit inviting them in. Restore degraded soils, then you will not have weeds. Healthy soils lead to healthy plants and those healthy soils and plants keep out weeds.

Response: The PEIS includes a description of how invasive species, including knapweed, damage soil quality and health. Accelerated wind and water erosion, production of chemicals that negatively affect soil quality, altered fire frequency and nutrient cycling, reduced water availability, altered soil physical characteristics, and reduced soil food web function can result from dominance of a site by invasive species. It is further explained that negative short-term impacts to the soil resource are minor and will be minimized by use of Standard Operating Procedures. The clearly stated net result of the proposed herbicide use would be the restoration of healthy soil and ecosystem function.

EMC-0248-003
Harrer, Roger

Comment: And what about erosion of denuded areas? Isn't that likely and doesn't that even cause more problems?

Response: Stabilization of soils is an important component of restoring vegetation after treatment or wildfire. It would never be the intent of a project to leave an area susceptible to erosion after treatment. BLM policies do not allow for that. Stabilization would be an important step in any project with erosion concerns. Revegetation Standard Operating Procedures are discussed under Revegetation in Chapter 2 of the PER.

EMC-0316-003
RMC-0089-002
Hardebeck, Larry J.

Comment: In addition to concerns I have about breathing these herbicides as they float by in the air, I believe there is good science to demonstrate how these chemicals will eventually end up contaminating our water and soils, and ultimately, our food supply. Once they are in our soil and water, how will they be removed? Chlordane, which was banned in 1988, continues to contaminate our food and water and make some of our foods and fish unsafe to eat. Why? It lingers in the soil for 14 years after application and we do not know how to remove it. How many of the herbicides that the BLM is planning to use will linger this long, or longer?

Response: As shown in Table 4-7 in Chapter 4 of the PEIS, all but two of the herbicides the BLM proposes to use have half-lives (the amount of time needed for half of the chemical to disappear) of a few weeks to months; diuron and tebuthiuron may persists for one or more years. The BLM would avoid using persistent herbicides in areas near croplands or drinking water supplies.

EMC-0585-106
Western Watersheds Project

Comment: As another example, under Cumulative Impacts ([page] ES-6 [of the Draft PEIS]) BLM claims that treatments that slow erosion would benefit water quality. Unfortunately, most of the treatments being proposed to be used (and where these herbicides would be applied), result in exposure of large areas of soil to wind and water erosion. Treatments remove both protective vegetation as well as kill or harm microbiotic crusts, on top of the poor or degraded conditions of lands that causes weed problems/need for "restoration" --- in the first place. Soil erosion in the short and mid-term may create gullying and loss of remaining topsoil that will cause long-term problems. Unless causes of degradation are addressed and assessed, and taken into consideration before any treatments are conducted so that the appropriate type of treatment can be applied, outcomes of treatments can not be so rosily predicted. The [P]EIS consistently fails to provide effectiveness or other monitoring information, scientific data, references and analysis to support such claims.

Response: The assumption that most of the treatments proposed result in exposure of large areas of soil to wind and water erosion is inaccurate. The PEIS does not propose any treatments. Treatments discussed in the PEIS and PER relative to the cumulative impacts of herbicide use range from vegetative control with herbicides to activities such as reseeding and site stabilization; mechanical treatment in the form of disking, chopping, or cutting; biological controls; and use of prescribed fire. Many of these techniques, including herbicide application, do not necessarily result in large areas of soil exposure. For example, herbicides may be applied after a catastrophic fire, where vegetation has been removed through burning, as a pre-emergent to reduce competition of cheatgrass in preparation for reseeding with soil stabilizing grasses and forbs. In cases where soil is exposed, reseeding or other stabilization measures are implemented to stabilize soils and control erosion. Initial treatments of vegetation should not be viewed as stand-alone activities that do not include site preparation and follow-up stabilization measures and monitoring. The commenter provides no information to lead the BLM to the conclusion that treatments designed to slow erosion would not benefit water quality.

Impacts of herbicide application to microbiotic crusts would depend on the specific herbicide used, application rate, and number of repeat treatments. In a study using two glyphosate herbicides on moss-dominated microbiotic crusts, the herbicides had no short-term negative impact on the crusts (Youtie, B., J. Ponzetti, and D. Salzer. 1999. Fire and herbicides for exotic annual grass control: effects on native plants and microbiotic soil organisms. *In* D. Eldridge and D. Freudenberger, eds. Proceedings of the VI International Rangeland Congress, Aitkenvale, Queensland, Australia. Pages 590-591). In fact, litter buildup on heavy annual grass dominated sites can significantly reduce microbiotic crust cover (Belnap, J., J. Hilty Kaltenecker, R. Rosentreter, J. Williams, S. Leonard, and D. Eldridge. 2001. Biological Soil Crusts: Ecology and Management. U.S. Dept. of Interior, Bureau of Land Management. Technical Reference 1730-2). Prescribed burning under proper conditions would result in low intensity fires that would not be harmful to microbiotic crusts and could actually be beneficial to the crusts by reducing the risk of hot wildfires that would damage the crusts.

Mechanical treatment can impact microbiotic crusts, depending on the degree of surface disturbance. Treatment design could help mitigate any impacts to sites with highly developed microbiotic crust communities.

EMC-0585-169
Western Watersheds Project

Comment: The rosy predicted Preferred Alternative outcomes of Table 2-8 [of the Draft PEIS] are based on little or no data. Here, BLM predicts "minor effects" to soil under the Preferred Alternative. Yet, [P]EIS/PER is based on large increases in defoliation including of non-target vegetation interspersed with herbicided areas – especially acute with large-scale aerial applications, and great expansion of 'treatments' on BLM lands. Nowhere is an adequate analysis of herbicide or treatment impacts to microbiotic crusts provided.

Response: Vegetation treatments could result in the loss of vegetation over large areas. However, without treatments, areas with large amounts of hazardous fuels would be prone to large-scale wildfires, while large areas of invasive vegetation may make these areas unattractive to wildlife for habitat and humans for social and recreational values. Treatments would be designed to minimize the loss of non-target vegetation (in contrast to wildfires, which would destroy nearly all vegetation in their path), and sites would be revegetated to restore more desirable vegetation to the site. As noted in Chapter 4 of the PEIS under Soil Resources, Impacts by Treatment, there is limited information on herbicide effects on biological soil crusts. Caution would be used in applying herbicides to soils supporting biological soil crusts.

EMC-0585-170
Western Watersheds Project

Comment: BLM's analysis ignores the poor condition of many soils and microbiotic crusts across BLM lands, especially the poor condition or arid lands most likely to be treated using herbicides or other treatment disturbances.

Response: The analysis of the PEIS discusses the reduced soil function and health of sites dominated by invasive species, which are those that would be treated. Accelerated wind and water erosion, production of chemicals that negatively effect soil quality, altered fire frequency and nutrient cycling, altered physical characteristics, and reduced soil food web function can result from dominance of a site by invasive species, as explained in this document. The analysis cites a study by Youtie et al. ((Youtie, B., J. Ponzetti, and D. Salzer. 1999. Fire and herbicides for exotic annual grass control: effects on native plants and microbiotic soil organisms. *In* D. Eldridge and D. Freudenberger, eds. Proceedings of the VI International Rangeland Congress, Aitkenvale, Queensland, Australia. Pages 590-591), which observes that biological soil crust was reduced where annual grass leaf litter accumulated. The analysis also describes the increased fire frequency on sites dominated by some invasive species, such as downy brome and hoary cress, and states that fire can result in severe damage to biological soil crusts.

EMC-0601-004
Kampmeyer, Al

Comment: Issue two with spraying; after spraying and the weeds are gone (you know, only the vegetation goes, the weed seed source will always be in the soil) you have bare ground. Lovely, another spring storm, heavy snow, fluke rainfall, with episodic runoff, and no vegetation to hold the sediment. Has anyone at BLM ever seen erosion before? Sediment deposition in waterways is also pollution. You can not control erosion when you have bare ground, there has to be some vegetative cover to control it. Are you prepared to spray and plant? Good luck, in the arid West that won't meet with any success.

Response: Vegetation treatments are not designed to result in bare ground without any follow-up reseeding or planting, unless bare ground is the management objective (e.g.

facility management). The goal of emergency stabilization and rehabilitation following fire is to prevent erosion, and seeding, reseeding, or planting is included in follow-up actions to stabilize soils. Where possible, seeding is accomplished prior to wet season precipitation events such as snow or rainfall, to facilitate germination and sprouting in the spring season, ensure soil stabilization to prevent erosion, and encourage growth.

EMC-0643-067
California Indian Basketweavers Association

Comment: The DEIS [Draft PEIS] does not provide scientific documentation from field collected data demonstrating that its plan to utilize herbicides and clearing of native trees such as juniper and pinyon and other types of vegetation manipulations will result in "reduce[ing] the negative effects of invasive species on soil" (p. [page] 4-20 [of the Draft PEIS]).

Response: The space limitations of the PEIS prohibit an exhaustive documentation of all available field collected data on benefits to soil resources from invasive species control. The PEIS makes reference to numerous studies that document the negative effects of invasive species on soil resources. The proposed treatments would greatly reduce or eliminate invasive species on the treated sites and allow for restoration of native species on these sites. Thus, ecosystem function would be restored on these site and the negative effects of invasive species on the soil would be reduced.

RMC-0106-018
Public Employees for Environmental Responsibility

Comment: Discussion of the behavior of herbicides in soil is incomplete. It is obvious from contamination of groundwater that at least some of the herbicides (e.g., 2,4-D, Diquat, Glyphosate, Bromacil, Dicamba, Diuron, Hexazinone, Atrazine, and Simazine) are capable of transport through soils unchanged to groundwater. There is no correlation between occurrence of groundwater contamination and the Soil Adsorption Coefficient, which for known groundwater contaminants ranges from 2 mL/g to 1 million mL/g. The BLM should assess the occurrence of groundwater contamination with soil type(s) and vertical distance to the water table in contaminant source areas to better understand transport mechanisms through the unsaturated zone.

Response: There are numerous factors that can influence the potential leaching of herbicides through soil and into the groundwater, as discussed in the PEIS. The importance of the soil adsorption coefficient as one of these factors is well established by studies, and clearly stated in the PEIS. The influence of herbicide use patterns; chemical half-life; rainfall amount, intensity, and duration; and depth to the water table can vary greatly, but does not negate the influence of soil adsorption. The very broad scale of the PEIS does not allow the BLM to assess the potential occurrence of groundwater contamination for each soil type and possible vertical distance to the water table in treated areas. More detailed environmental analysis will be conducted at the local level during the activity planning stage.

RMC-0106-019
Public Employees for Environmental Responsibility

Comment: [On] p. [page] 4-11 [of the Draft PEIS. It is not clear how the SOPs [Standard Operating Procedures] will help. The herbicides are more likely to penetrate soil on lower slopes where contact is maintained over longer periods.

Response: As discussed in the SOPs portion of the soil impact analysis, herbicide transport to non-target areas can occur via solution in runoff water, erosion of soil particles to which herbicides are adsorbed, and water transport of granular herbicides. The SOPs are designed to reduce the risk of these modes of herbicide transport. In fact, the purpose of the SOPs is to reduce the mobility of the herbicides and the soil particles to which the herbicides are adsorbed.

RMC-0106-020
Public Employees for Environmental Responsibility

Comment: [On] p. [page] 4-12 [of the Draft PEIS]. The statement on Factors that Influence the Fate, Transport, and Persistence of Herbicides in Soil is simplistic and wholly inadequate.

Response: The statement on factors that influence the fate, transport and persistence of herbicides in soil is an introductory statement for a complex process. This statement is followed by more detailed information on the 1) chemical processes of a) adsorption to soil particles and soil organic matter and b) photochemical decomposition and chemical reactions with soil constituents; 2) physical processes of a) leaching, b) volatility, and c) transport with water or wind; and 3) biological processes.

RMC-0106-021
Public Employees for Environmental Responsibility

Comment: [On] p. [page] 4-13 [of the Draft PEIS]. Table 4-7 [of the Draft PEIS] should take into account half-life and adsorption characteristics of degradates and "inert" components.

Response: Herbicide degradates and "inert" components are generally not determined to be biologically active or environmental hazards. Thus, only the active ingredients of the herbicides proposed for use were included in Table 4-7 of the PEIS.

RMC-0106-023
Public Employees for Environmental Responsibility

Comment: p. [Page] 4-13 [of the Draft PEIS]. The statement that "...removal of annual grasses requires repeated applications of herbicides and that long-term effects were not known" (emphasis added) says a lot more than is dealt with in this D[raft] PEIS.

Response: This statement is based on comments from Youtie et al. (1999; see full citation in Chapter 6, References, in PEIS), who studied the effects of glyphosate on soil crusts and bunchgrass communities. They were concerned about the effects of multiple treatments, but noted that multiple treatments were needed to remove annual grasses, and removal of annual grasses slowed the loss of the soil crust. As noted under Mitigation in Chapter 2 of the PEIS, the BLM would limit glyphosate applications to the typical application rate, and would use spot applications, where feasible, to reduce the amount of glyphosate applied to any one area.

RMC-0106-024
Public Employees for Environmental Responsibility

Comment: [Pages] 4-14 to 4-19 [of the Draft PEIS]. Of the 18 herbicides assessed, practically no discussion of breakdown products (and this only to say there is no information available), none of inerts; no information is provided on number of formulations assessed. The D[raft] PEIS admits that very little information is available on effects on soil organisms. One might ask what the BLM was doing over the past 20 years of herbicidal treatments of public lands!

Response: See response to Comment EMC-0585-192 under PEIS Environmental Consequences, Herbicide Effects Analysis for information on inert ingredients. See responses to Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment, and Comment EMC-0623-017 and Comment RMC-0191-009 under PEIS Environmental Consequences, Herbicide Effects Analysis for information on degradates and formulations.

RMC-0106-025
Public Employees for Environmental Responsibility

Comment: Page 4-16. The statement that "Runoff would be negligible in relatively arid environments is wrong.

Response: As stated in Chapter 4 under Soil Resources, runoff of imazapic would be less in areas with little rainfall and sandy soils than in areas with clay soils and heavy rain.

RMC-0106-027
Public Employees for Environmental Responsibility

Comment: This description [of groundwater impacts] is inadequate—are they not known to contaminate groundwater because they were sought and not detected, or were they not sought and therefore not detected?

Response: The chemicals were not found to contaminate groundwater. They were sought and may have been found in a few groundwater samples, or in surface water, but not often enough or at high enough concentrations to warrant concern.

RMC-0205-017
Oregon Department of Agriculture

Comment: Many of the pesticides on the proposed list have been detected in surface or groundwaters in the U.S. Geological Survey National Ambient Water Quality Assessment (NAWQA) studies. These include 2,4D, atrazine, bromacil, dicamba, diuron, glyphosate, simazine, and triclopyr (http://pubs.usgs.gov/circ/circ1161/nawqa91.d.dtml These data suggest that standard application practices may result in measurable concentrations of these compounds in surface waters near application areas, sometimes above water quality standards. These results emphasize the need to limit use of chemical herbicide controls whenever feasible. Occurrence in Oregon of other BLM proposed herbicides, including asulam, chlorsulfuron, clopyralid, fosamine, hexazinone, imazapyr, mefluidide, picloram and tebuthiuron, are unknown due to lack of water quality data.

Response: Detection limits have decreased dramatically during the last decade. It is now possible to detect parts per billion, where parts per million was the standard before. The ability of laboratory methods to detect such low levels has resulted in documented pesticide occurrence in waters over a wider area than was realized in the past. However, concentrations are rarely above recommended exposure limits for humans or aquatic species. The detection of a pesticide in waters does necessarily mean that standard application procedures were used during the treatment. A properly developed treatment plan will consider measures to keep immediate and cumulative levels of pesticides safe. Water quality monitoring will be a requirement of every application of pesticide or herbicide. Chemical application plans will have the review and approval of hydrologists to ensure that the level of risk to human health and the environment is acceptable.

RMC-0205-023
Oregon Department of Agriculture

Comment: While we recognize that the application of herbicides is one of the most effective ways to prevent fires by destroying unwanted vegetation, the non-herbicidal options for addressing the vegetation should be considered in areas that potentially impact public water supplies. Herbicides can negatively impact the water quality in streams and groundwater serving as public water supply sources. Most herbicides are not monitored at the intakes or wells for public water supplies as part of the routine requirements to meet federal drinking water standards. Most communities and public water providers do not have the resources to increase their monitoring capabilities when significant areas are sprayed adjacent to or upstream of their intake or well.

Response: Public water supply sources, groundwater contamination potential and effects on water quality are considered in any herbicide use proposal. Mitigation for herbicide use in situations that may affect water resources or aquatic habitat includes application of Standard Operating Procedures (SOPs; see Table 2-5 in the PER for a description of SOPs) including, but not limited to, the use of mandatory or discretionary buffers, application rates, and drift management. Alternative non-herbicide treatment methods are also considered. Just as mechanical or manual techniques would likely be used in lieu of prescribed fire in a wildland urban interface situation, non-herbicide methods would be considered in situations where public water supplies and/or groundwater or surface water quality may be affected.

RMC-0220c-001
Save Our ecoSystems, Inc.

Comment: The attached maps show small segments of BLM and USFS [U.S. Forest Service] public lands, not necessarily the ones you are proposing to spray, but they are representative. The blue lines showing waterways are everywhere. One can see at a glance that it would be virtually impossible to spray such areas without contaminating their waters. Forest streams flow down into rivers and eventually oceans. They create drinking water for humans and other animals (who would be even more directly affected).

Response: In areas with many waterways, the BLM could use several Standard Operating Procedures or mitigation measures listed in Chapter 2 of the PEIS to reduce or avoid impacts to aquatic bodies. These measures include selecting herbicides with minimal adverse affects on water or aquatic organisms, using treatment methods (hand spraying, mechanical treatments) that have little or no potential to contaminate water, and ensuring that buffers are maintained between treatment areas and aquatic bodies.

Environmental Consequences, Water Resources and Quality

EMC-0123-001
MacKillop, Kenneth

Comment: The contamination of groundwater is one that I will focus on. A massive influx of toxins will overload an already stressed ecosystem. The health costs of contaminated water have not been properly evaluated. Our behavior in placing toxins into the aquifers will be considered criminal by future generations, who face further increases in cancer and reproductive harm.

Response: The application of pesticides/herbicides will not result in a massive influx of toxins into aquifers. Careful adherence to recommended application procedures will prevent exceedence of recommended concentration levels. Further, degradation processes in soils and aquifers will decrease concentrations to levels that are not deleterious to wildlife or human health.

EMC-0484-001
Safe Alternatives for Our Forest Environment

Comment: The Bureau of Land Management should not be considering herbicide use in steep mountainous areas such as Trinity County, California. Here, the terrain includes an abundance of watercourses. These watercourses are heavily used for domestic water supplies and are the principal water supply for the majority of people here in Trinity County. Most herbicide labels instructions have warnings, "do not apply where runoff is likely". There is almost nowhere in this kind of terrain that herbicides can be safely or legally used.

Response: The BLM will take into consideration slope, soil type, infiltration capacity and stream patterns when applying herbicides. Provisions in the Wellhead Protection Act will protect local drinking water supplies from potential contamination, as there is a requirement for buffer zones around municipal water supply wells. If the application procedures for an herbicide state "do not apply where runoff is likely," these instructions will be followed.

EMC-0585-123
Western Watersheds Project

Comment: In addition, many hikers are accompanied by domestic dogs that invariably drink water encountered, and the effects of various chemicals or treatments on these animals has not been assessed. Treatments that increase algal concentrations in wild land waters may have particularly harmful impacts not only to domestic dogs, but also to wildlife. Bighorn sheep in the Oregon Owyhee (as well as domestic dogs) have died from algal blooms caused by excessive nutrients and temperatures.

Response: The impact assessment to wildlife, livestock, and wild horses and burros is applicable to domestic dogs. An Activity Plan covering the use of chemicals and

treatments on specific federal lands considers the vegetation that will take advantage of the void existing after treatment. The native and/or invasive plants that can likely fill this void are considered, along with their adverse and beneficial effects. The BLM notes the commentor's statement that the effects of algal blooms should be considered, along with other replacement species.

Pesticides/herbicides do not stimulate algal growth. Pesticides/herbicides will be applied in accordance with manufacturers' recommendations, and will not result in concentrations in water bodies that are harmful to aquatic life, wildlife, or domestic animals.

EMC-0585-177
Western Watersheds Project

Comment: Aquatic application is particularly alarming – as there is no assurance that chemicals will not be quickly transported into areas where the public is recreating. The limited wild land surface waters often tied to limited aquifers in the arid West are critical for survival of many species of wildlife and wild horses that have nowhere else to drink. Pollution/contamination of sources of drinking water by aquatic chemicals, especially if animals inhabiting degraded lands are also coping with degraded habitats subject to grazing, fragmentation, energy development, etc. with suboptimal cover or food or where they are otherwise stressed from human disturbances, may increase harmful responses to chemicals.

Response: Degradation of pesticides and/or herbicides by biodegradation, adsorption and dispersion processes will minimize risks to shallow aquifers. Assessment of the surrounding environmental conditions, rainfall data, flow patterns, human use patterns, and the nature of degradation of the chemical all come into play when planning for a reasonable level of assurance that chemicals will not be quickly transported into areas where the public is recreating. Strict adherence to guidance on application procedures will protect wildlife by maintaining concentrations at a low level, and degradation processes will further decrease concentrations.

RMC-0069-013
Desert Survivors

Comment: The herbicides and their break-down residues are dangerous to both animals and humans, and the application of these pesticides to water sources or riparian vegetation is a criminal act. All the more so because there is no notification, no signs at the water sources, no "skull and crossbones" danger signs erected at "treated" sites. If these herbicides or their break-down products get into the groundwater at a "treated site", such pollution of the groundwater is impossible to remove, and the water source and its downstream waters then become toxic.

Response: See responses to Comment EMC-0525-012 under PEIS Proposed Action and Purpose and Need, Scope of Analysis, Comment EMC-0584-110 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated, and Comment EMC-0623-016 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

RMC-0106-028
Public Employees for Environmental Responsibility

Comment: [On] p. [page] 4-28, 4-31 [of the PEIS]. It is stated that "little is known about [the] occurrence, fate, or transport" of 16 percent of the 18 herbicides proposed for use (Imazapyr, Imazapic, and Sulfometuron Methyl). This should be ample grounds for prohibiting their use.

Response: Although little is known about the occurrence, fate, or transport of these herbicides in water, the PEIS also notes that these herbicides are not known to be groundwater contaminants and are not known (imazapic) or rarely known (imazapyr and sulfometuron methyl) to be surface water contaminants.

RMC-0106-029
Public Employees for Environmental Responsibility

Comment: No information is provided on the occurrence of potentially harmful inerts or degradates. The inadequate state of knowledge about impacts of the 18 herbicides on water resources is such as to require banning of their use anywhere that a potential for contaminating water, including groundwater, exists.

Response: See response to Comment EMC-0585-192 under PEIS Environmental Consequences, Herbicide Effects Analysis for information on inert ingredients. See responses to Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment, Comment EMC-0623-017 under PEIS Environmental Consequences, Herbicide Effects Analysis, and Comment RMC-0191-009 under PEIS Environmental Consequences, Herbicide Effects Analysis for information on degradates and formulations. There is considerable knowledge about the impacts of the proposed herbicides on water resources and their fate and transport in water and soil, as discussed in Chapter 4 of the PEIS under Soil Resources and Water Resources and Quality.

RMC-0144-021
Wyoming Game and Fish Department

Comment: We recommend BLM consult with state agency fishery personnel on the need for ephemeral stream buffers. Buffer strips should be an option in the SOP [Standard Operating Procedure] following appropriate consultation.

Response: The development of more restrictive, or additional, SOPs is always an option for local offices. The SOPs identified in the PEIS are suggested requirements to be followed during project implementation. The Biological Assessment prepared for the PEIS states that local consultation with National Marine Fisheries Service and/or U.S. Fish and Wildlife Service on the potential impacts on threatened, endangered, and other special status fish species will be required for use of herbicides in riparian areas. At such time, the SOPs may be modified, based on local conditions and information.

RMC-0191-013
Ertz, Brian

Comment: I would have hoped that the BLM would have at least taken the time to determine present levels of potentially harmful compounds in waters that may be compounded by the Preferred Alternative then incorporated those findings into their considerations of acceptable toxicity levels given the addition of the Preferred Alternative treatments to ecosystems, RTE [rare, threatened, and endangered] species, and human health.

Response: As discussed in Chapter 3 of the PEIS under Water Resources and Quality, water quality on lands administered by the BLM is generally good, except in areas where past mining activity has taken place, and in areas near agricultural or urbanized areas where pesticides and other pollutants have entered the surface water or groundwater. As part of its risk assessments, the BLM evaluated the potential for herbicides to be transported from overland runoff, erosion, and root-zone groundwater runoff (see Concentration Models in the Uncertainty Section of Appendix C of the PEIS). Using this information, the BLM developed application methods, Standard Operating Procedures, and mitigation measures to avoid or minimize risks to aquatic bodies and their organisms from herbicides. No studies by U.S. Geological Survey or others have identified the migration of BLM herbicides into surface water or groundwater in or on BLM lands. Also see responses to Comment RMC-0069-009 under PEIS Alternatives, Monitoring and Comments RMC-0191-009 and RMC-0159-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

RMC-0210-045
MCS Task Force of New Mexico

Comment: No herbicides should be applied directly to water.

Response: See responses to Comment EMC-0585-185 and Comment EMC-0585-178 under PEIS Environmental Consequences, Herbicide Effects Analysis.

RMC-0228-009
Metropolitan Water District of Southern California

Comment: The Preferred Alternative (Alternative B) presents a substantial increase in herbicide application, which poses a concurrent increased risk to water quality. Metropolitan is concerned about these risks. The specific impacts to the lower Colorado River and watershed are not clearly delineated in the Draft PEIS. The Colorado River represents a major source of water for Southern California, as well as Nevada and Arizona. Metropolitan requests that practices that can impact drinking water sources be monitored carefully. Thus the monitoring plan must include evaluation feedback to direct, halt, or change herbicide applications that are deleteriously affecting water quality or other resources.

Response: The application of pesticides and herbicides will always be in accordance with manufacturer's recommendations, including careful attention to weather conditions so that applications are not made during windy periods. Percolation into groundwater systems is not likely to occur, due to low infiltration rates and adsorption of chemicals onto soil and clay particles. The slow rate of groundwater flow (a few inches per year to a few feet per year) will allow degradation processes to take place, and lower concentrations to the level that are below recommended limits for the various chemicals. Likewise, surface water protection is assured through proper use of buffers and other measures to keep pesticides out of streams and allow degradation processes.

Environmental Consequences, Wetland and Riparian Areas

EMC-0559-004
Daniel, Bill

Comment: There should be no aerial spraying of herbicides or use in riparian areas. Amphibian species are experiencing a global decline, as are natural fish populations. Use of the proposed herbicides would negatively impact many aquatic species in the region, including Threatened or Endangered species.

Response: See response to Comment EMC-0641-004 under PEIS Environmental Consequences, Wetland and Riparian Areas.

EMC-0641-004
Idaho Conservation League

Comment: Although we support the judicious use of herbicides where safe and appropriate, we are concerned about potential adverse effects of aerial spraying on aquatic environments, particularly on small streams and other shallow water bodies. We do not feel confident that the proposed buffer zones will prevent contamination. We strongly encourage the BLM to consider adopting an alternative that strictly limits the use of aerial and broadcast application in regions containing water bodies.

Response: Based on the data call to field offices and as discussed in Chapter 4 of the PEIS under Wetland and Riparian Areas, only about 10,000 of the 932,000 acres treated using herbicides would be found in wetland and riparian habitats. Of these 10,000 acres, 98% would be treated using ground-based methods. Also see response to Comment RMC-0220c-001 under PEIS Environmental Consequences, Soil Resources.

Environmental Consequences, Vegetation

EMC-0088-003
Mentzer, Fred

Comment: If economical uses can be found for these 'Weeds', wildcrafting can keep them in check. Other plants can also be planted in their space. Milk Thistle has

economic value and is a powerful plant for taking over other 'weeds'. I use it to take over buttercup. Milk Thistle is easy to kill and adds much nutrients and organic matter to the soil. Please do more experimenting before using toxic chemicals as a solution. More jobs are also needed.

Response: See response to Comment RMC-0049-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated. Vegetation treatments are often followed by reseeding or planting of other vegetation, however, the BLM does not endorse the planting of known invasive weeds to outcompete other invasive species. The BLM will provide permits for the public to gather plants for personal use.

EMC-0191-001
Frazier, Penny (Goods From The Woods)

Comment: I do not believe the plan has taken into account those who harvest non-timber forest products and the impacts spraying will have upon that land use.

Response: The PEIS addresses use of public lands for harvest of non-timber forest products, and assesses the impacts of herbicide use on this land use, as well as on the health of those who could potentially be exposed to herbicides as a result of this land use. This information can be found in Chapter 4 of the PEIS, under the subheadings Paleontological and Cultural Resources, Recreation, and Human Health and Safety. Additional information may also be found in Appendix B of the PEIS, which provides information on the human health risk assessment.

EMC-0203-007
Institute For Culture and Ecology

Comment: The ecological and biological assessments for the draft [P]EIS do not include a discussion of the impacts of spraying herbicides on nontimber forest product productivity. Developing such a discussion requires developing adequate inventories of species being harvested. The agency must consider management alternatives that could be taken to simultaneously achieve the goals for vegetation management with herbicides and the sustainability of harvesting cultures, traditions, and economies.

Response: Vegetation management alternatives will be considered before any vegetation treatments analyzed in the Draft EIS and PER are initiated. These alternatives will be developed in accordance with decisions and land allocations contained in the applicable land use plan (see Chapter 1 of the PEIS under NEPA Requirements of the Program). Approximately 8% of all proposed herbicide treatments would occur in Oregon (See Chapter 4 of the section on Social and Economic Values, Economic Activity and Public Revenues Generated from BLM Lands), where the preponderance of non-timber forest products are harvested from BLM-administered forests. Effects on harvesting other (non-timber) vegetation products would depend on the product and the design of specific herbicide treatment projects. Indiscriminate application of herbicides could damage resources or reduce their value. Alternatively, herbicidal control of undesirable, invasive plants could enhance the habitat for desirable species. Public involvement in project planning and environmental review will be encouraged to minimize adverse effects and maximize benefits. Herbicide treatments would follow BLM procedures outlined in BLM Handbook H-9011-1 (*Chemical Pest Control*), and Manuals 1112 (*Safety*), 9011 (*Chemical Pest Control*), and 9015 (*Integrated Weed Management*), and would meet or exceed states' label standards. Herbicide application schedules are designed to minimize potential impacts to non-target plants and animals, while remaining consistent with the objective of the vegetation treatment program. (see Chapter 2 of the PEIS under Herbicide Modes of Action and Treatment Methods).

EMC-0203-009
Institute For Culture and Ecology

Comment: In reviewing the reference section only two references for nontimber forest products are listed, neither of which pertain to public lands in the western United States specifically. This suggests the agency has neglected to review the current and historical scholarly literature regarding nontimber forest products.

Response: As stated in Chapter 1, this PER does not evaluate vegetation management that is focused primarily on commercial timber or other forest product enhancement or use activities that are not related to improving forest health, hazardous fuel reduction, or work authorized under the Healthy Forests Restoration Act. Herbicide application will be conducted to target invasive and otherwise undesirable plant species and limit impacts on non-target species. Potential impacts to particular plants used locally as special forest products will be considered and addressed when site-specific treatments are proposed. Appendix D (Native American and Alaska Native Resource Uses) and Appendix E (Cultural Resources) of the PER discuss Native Peoples uses of nontimber and other vegetation products.

EMC-0274-002
Noble, Emily A.

Comment: How will herbicide affect four-wing saltbush, for instance? That particular plant is supposedly helpful as an actual "fire retardant" I have heard although I do not know about it from personal experience.

Response: Four-wing saltbush, *Atriplex canescens* is a native woody shrub. It would react to the mode of action of the selected herbicide and the rate of application. Some woody shrubs are more tolerant of low rates of herbicide than are herbaceous plants. Some four-wing saltbush populations may be vigorous sprouters after top-kill, but studies on rhizomatous fourwing saltbush are lacking.

EMC-0278-015
Lutjens, William (BLM)

Comment: How effective will the BLM be in preventing an increase in expansion rate without the aide of herbicides, especially with weeds like leafy spurge and medusahead which are impractical or impossible to control by mechanical means in many situations?

Response: The BLM's Proposed Action and Preferred Alternative (Alternative B) include the use of herbicides to reduce the expansion rate of invasive species. The alternative analysis for Alternative C indicates that without the use of herbicides, control of noxious weeds and invasive species will be more difficult over the long term.

EMC-0338-005
Dow AgroSciences

Comment: In Alternative D: No Aerial Applications, it should be noted that aerial applications of herbicides are often the method of control that offers the least disturbance of the area. Mechanical methods, as is mentioned in the PEIS, will often disturb the ground cover, which opens the area to new infestations, and actually facilitates the spread of invasive plants into new habitats.

Response: We have included wording indicating that mechanical disturbance could lead to the spread of invasive plants in Chapter 4 of the PEIS under Vegetation, Alternative D – No Aerial Applications.

EMC-0338-009
Dow AgroSciences

Comment: These comparisons are not reasonable in some cases, for example comparing buffer distances for drift of imazapic (Table 4-12 [of the Draft PEIS] Buffer Distances to Minimize Vegetation from Off-site Drift of BLM Evaluated Herbicides) and clopyralid (Table 4-14 [of the Draft PEIS] Buffer Distances to Minimize Vegetation from Off-site Drift of Forest Service Evaluated Herbicides) it is apparent that different criteria were used as a basis for these comparisons. The potential for drift

is mostly a factor of application equipment including nozzle size, pressure, volume applied per acre and weather conditions at the time of application. How can there be a difference between the typical application rates of 900 ft [feet] for these two compounds (0 ft for imazapic and 900 ft for clopyralid) for sensitive plants? If applied correctly there should be no difference at all between the risks. It is the applicator that makes sure the application targets the site with no or a minimal amount of drift.

Response: The AgDrift model did predict similar proportions of each active ingredient remaining at each distance modeled. In other words, a similar percent of the active ingredient drifted to 100 feet or to 900 feet from the application site. However, the amount of active ingredient (i.e., lb/acre) drifting from the application site was not the only factor used to estimate buffer distances. Buffer distances were determined by looking at the potential/predicted impact of the drifted herbicide on non-target species. For active ingredients with lower toxicity thresholds (i.e., more toxic herbicides), the buffer distance was greater than for those with higher toxicity thresholds (i.e., less toxic herbicides).

EMC-0338-010
Dow AgroSciences

Comment: Comments about clopyralid: Page 4-54 [of the Draft PEIS] indicates that a "maximum use rate" of clopyralid used in the analysis was 1 lb ai/A [pounds of active ingredient per acre]. There are no uses on the current labels over 0.5 lb ae/A [acid equivalent per acre]. Even though 0.5 lb a.i./A is the maximum amount allowed by the label most applicators use 0.375 lb a.i./A as the maximum amount needed to control many of the target weed species. Further the "typical use rate" of clopyralid is 0.25 lb a.i./A not the 0.375 lb a.i./A used in the calculations. Therefore, any restrictions (buffers, etc) on the use of clopyralid on BLM land should be re-calculated with the maximum amount per acre rate of 0.375 lb a.i. and a typical rate of 0.25 lb a.i./A. If this is not done then at the least the calculations should be re-done using the maximum label rate of 0.5 lb a.i./A.

Response: Clopyralid is one of the herbicide active ingredients that was assessed using information from the Forest Service Risk Assessments. Since the beginning of the PEIS, the Forest Service has updated their original clopyralid risk assessment. In the original risk assessment (dated 1999), the maximum application rate was 1.0 lb. a.e./acre. In the 2004 version of the clopyralid risk assessment, the maximum application rate is 0.5 lb. a.e./ac. at the current labels of the formulations that contain clopyralid—Curtail, Reclaim, Redeem, and Transline—state that the maximum application rate allowed on a per acre basis is between 0.375 and 0.5 lb. a.e./A./year. For the Final PEIS, and based on this commentor's concerns, we recalculated the risks associated with a maximum clopyralid application rate of 0.5 lb. a.e/acre. Based on this analysis, the levels of risk (low, medium, high) were the same as those for applications at 1 lb. a.e./acre.

Regarding the typical application rate, 0.375 lb. a.e./A. is the value selected by the Forest Service and fits within our program limits.

EMC-0338-011
Dow AgroSciences

Comment: Comments about triclopyr: In Chapter 4, on page 4-59 [of the Draft PEIS] it is noted that a typical application rate of triclopyr would be 1 lb ai/a and that a maximum use rate of 10 lb a.i./A [pounds of active ingredient per acre] was used in some of the modeling. First, the maximum label use rate of either the triclopyr ester or amine labels is 8 lb a.i./A. Therefore any calculations using a rate of 10 lb a.i./A should be re-calculated to be in line with the labels. Second, we wish to make clear the maximum use rate for broadcast use of triclopyr on rangeland sites. The US EPA Reregistration Eligibility Decision (RED, October 1998) set the maximum use rate at 1

lb/A; however that was quickly changed to 2 lb ae/A in the attached communication from US EPA to Dow AgroSciences. The 2 lb ae/A [acid equivalent per acre] rate, required that the tolerances in forage grass be raised from 500 ppm to 700 ppm. Data were gathered and submitted to accomplish this change and to support this new use rate, and was published in the Federal Register in 2004. The RED documents are never updated, but the regulation of the molecule continues to evolve over time. Documentation of these changes are attached.

Response: Triclopyr is one of the herbicides that was assessed using information from the Forest Service risk assessments, with the March 15, 2003 document stating that the "maximum use rate" analyzed was 10 lbs. a.e./acre and the "average application rate" analyzed was 1.0 lb. a.e./acre. For the Draft PEIS, we concurred with these values, rather than running an analysis on values that would reflect the limits associated with the label. The commenter is correct in pointing out that the maximum use rate on the label is 8.0 lbs. a.e/acre. For the Final PEIS, we recalculated the risks, this time using a maximum application rate of 8.0 lbs. a.e/acre. Based on this analysis, the levels of risk (low, medium, high) were the same as those predicted for applications at 10 lbs. a.e./acre.

EMC-0338-012
Dow AgroSciences

Comment: An error was found on the Garlon 4 label where a limitation of 1.5 lb a.i./A was allowed on rangeland. This has been removed from the label since the maximum for broadcast use on rangeland is 2 lb a.i./A as noted above. The new label will allow for individual plant applications such as basal or cut surface treatments to be used on any use site listed on the label at a maximum use rate of 8 lb/A. These types of applications are made directly to ungrazed parts of plants and, therefore, are not restricted by the grazing maximum rate of 2 lb a.i./A but rather are limited only by the maximum label rate of 8 lb a.i./A.

Response: The BLM recognizes that labels of pesticides are fluid documents that can change over time as new research is submitted in support of proposed changes. The label on each particular container of pesticide is the label that that governs its use. As the newly labeled containers of pesticide make their way into the distribution channel, the label modifications will be part of the application procedures. Such is the case with the Garlon 4® formulation. End users with current labeled containers with the 1.5 quarts restriction are required, by law, to follow this restriction. As the new labeled container arrives in the users' hands, the modified restrictions will be followed.

EMC-0525-009
Western Watersheds Project

Comment: Desertification can be both a patchy destruction, often exacerbated by drought, as well as the impoverishment of ecosystems within deserts. The [P]EIS must assess the levels and degree of desertification that have occurred across the [P]EIS area. This is necessary to understand the capability and suitability of these lands for livestock grazing, the productivity and carrying capacity of these lands for grazing, the current or likely future extent of cheatgrass and other hazardous fuels problems linked to desertification and livestock or other degradation, the need for treatments and the type of treatments that may best be applied, the risks associated with treatments, and the likely effectiveness or success of any treatments undertaken under the [P]EIS/PER. The effects of alternatives, their ability to meet any objectives, and the ability of actions under the [P]EIS to maintain, enhance or restore habitats and populations of special status and other important species and native plant communities depend on the current environmental conditions of the lands where they would be applied. For example, how has the extensive depletion of understories in many areas of Wyoming big sagebrush vegetation or Utah juniper affected the degree and rate of desertification processes across the [P]EIS area, and altered the potential of a site to recover from any

treatment disturbance that may be imposed under the [P]EIS?

Response: The PEIS and PER provide an assessment of the adverse and beneficial effects of treatments under general land use and environmental scenarios likely to occur in the West. The ecological risk assessments evaluate more detailed land condition scenarios (e.g., soil type, moisture, vegetation type, slope, erodibility); the reader should consult these assessments to understand how herbicide treatments might behave under conditions of drought, limited vegetation, etc. Also see response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0525-177
Western Watersheds Project

Comment: BLM's [P]EIS/PER aggressive treatment disturbance to mature and old growth plant communities will only serve to accelerate habitat fragmentation and degradation.

Response: See response to Comment EMC-0525-165 under PEIS Environmental Consequences, Wildlife Resources. The focus of the PEIS and PER was on treatments to control invasive species and weeds, and to reduce hazardous fuels. Efforts to reduce wildfire risk should help preserve mature and old growth plant communities while efforts to improve ecosystem health should reduce fragmentation and land degradation.

EMC-0525-178
Western Watersheds Project

Comment: The [P]EIS never reveals that the primary plant communities being dubbed hazardous fuels and targeted for 'treatment" across BLM and Forest Service lands across the West are primarily old growth and mature native vegetation communities upon which many rare and declining species rely. Thus, the treatment and herbicide actions that disturb these vegetation communities instead of having BLM's claimed rosy outcomes, will further endanger sagebrush and juniper dependent species, and have deleterious watershed-level impacts affecting such species as Lahontan cutthroat trout or bull trout. Without providing necessary data on not just broad vegetation types where it contemplates treatment, but also how it characterizes "hazardous fuels" and vegetation to be targeted, no honest Weed [P]EIS analysis or adequate BA [Biological Assessment] for spraying and treatments can be provided.

Response: The PEIS only addressed vegetation treatments on BLM-administered lands; the Forest Service is responsible for management of vegetation on Forest Service-administered lands. Over 85% of treatments would occur in the Temperate Desert and Temperate Steppe ecoregions, where nearly all treatments would focus on shrubs, grasses, and perennial forb weed species. The majority of treatments would focus on controlling and removing weeds and other invasive vegetation and reducing the risk of wildfire through hazardous fuels treatments. These treatments would generally benefit mature vegetation by removing competing vegetation and reducing the threat of a catastrophic wildfire that kills or harms mature vegetation. The definition of hazardous fuels is given in the PEIS and PER in Chapter 1 under Terminology. Information of specific types and ages of vegetation to be treated would be provided for individual projects at the local level.

EMC-0553-010
Callihan, Robert H.

Comment: The draft [P]EIS correctly points out the propensity of sulfometuron-methyl to injure sensitive crops, but fails to identify ways to manage risks posed by this exceptionally phytotoxic herbicide; it does deserve more attention than most other highly potent herbicides. Failure to exercise such cautions is the reason for the reaction against all Sulfonylurea herbicides. Whereas the unusual potency of sulfometuron, picloram, and certain other herbicides the BLM proposes to use, is such that they deserve authoritative prescriptions and extraordinary attention to job specifications to

avoid injury to off-target crop species, their use should not be abandoned. There are thousands of acres, particularly in isolated temperate desert and steppe regions, in which these could be aerially applied without endangering crops, but a quarter-mile upslope from row-crop farms is not among them. I recommend that the final decision address administration of the use of such tools.

Response: The PEIS identifies the rationale for analyzing the toxicity and environmental fate of sulfometuron methyl in this document. Chapter 4 of the PEIS, for each resource discussed, identifies specific ways to manage risks associated with the use of sulfometuron methyl.

EMC-0553-011
Callihan, Robert H.

Comment: The draft EIS wrongly implies that all ALS [acetolactate synthase] inhibitor herbicides are of comparable phytotoxicity (e.g. table 2-8; Vol [Volume] 1 p. [page] 4-115 [of the Draft PEIS]). They vary greatly in level of phytotoxicity and in spectrum of selectivity; the document should point out that fact.

Response: As noted under each herbicide discussion in the Vegetation section in Chapter 4 of the PEIS, the phytotoxicity and selectivity of ALS-inhibitor herbicides do vary.

EMC-0553-012
Callihan, Robert H.

Comment: No RQs [risk quotients] or LOCs [levels of concern] were cited or suggested for even one agricultural crop species; those crops are not so much as named in the document, though nearly 300 other plant species are, on pages A-1 to A-6 [of Appendix A of the Draft PEIS]; nor does the document acknowledge them even to the extent of mentioning exclusion of consideration of risks to crops. Perhaps this is because the preparer considered agricultural species of little significance in the environment, or to put it another way, not of any "special status" such as is designated to the list of nearly 2000 species of plants and animals on pages H-1 to H-44 [of Appendix H of the Draft PEIS]. Considering the close association of many BLM land with sensitive irrigated crops, the BLM's history of crop injury, and the nearly absolute human dependence on crops, more recognition should have been given to risks to crops of the irrigated West, as well as to ornamentals near farmsteads and urban areas. Granted, the BLM does not, in practice, entirely ignore that risk, but that's not the point; I recommend that the final draft or decision refer to this matter.

Response: The BLM did not evaluate crops because crops are not grown on BLM lands. However, the BLM did look at potential impacts to cropland plants as well as other non-target plants under Non-target Plants in the Vegetation section of Chapter 4 of the PEIS. Where agricultural crops are grown in proximity to BLM lands, they are typically hay and other grass species. The BLM's pesticide use proposal process has special considerations for use near crop areas. As part of the required Pesticide Use Proposal, any proposed herbicide application requires the BLM to identify "Sensitive Aspects and Precautions" associated with the proposed action, which would include cropland areas. Also see response to Comment EMC-0336-003 under PEIS Environmental Consequences, Air Quality. Note that private landowners use herbicides extensively for management of pasture and other agricultural crops.

EMC-0562-014
The Lands Council

Comment: The Lands Council members are concerned about the effect of herbicides on biodiversity as well as the aesthetic value of native plant species. Evidence exists that herbicides may create conditions more hospitable to invasive species than those that were present before the chemicals were used.

Response: See response to Comment EMC-0646-172 under PEIS Environmental Consequences, Vegetation.

EMC-0562-015
The Lands Council

Comment: Use of herbicides where non-native weed plants already occur frequently results in a reproductive advantage for non-native species, which then expand rapidly due to the lack of competition. In a short period, this can result in an exponential increase in non-native plants. *See* Wooten and Renwyck 2001; www.kettlerange.org/weeds. Support for this is found in literature and is very relevant to the issue at hand. For example in 1996, McDonald and Everest of the USFS Pacific Southwest Research Station, found that cheatgrass populations, not observed in the study plots at the beginning of a study, exploded in an herbicide-treated plot (at 743,667 plants per acre with 22% foliar cover) where it was 6 times greater in number of plants and more than 7 times greater in foliar cover than in the control plot (130,300 plants per acre, 3% foliar cover) two years after treatment. A study done by the British Columbia Ministry of Forests Research Program in the Upper McKay Creek near Lillooet, B.C. found that the choice of herbicides can have a profound effect on the plant species content and diversity many years after treatment. *See* http://www.for.gov.bc.ca/hfd/pubs/Docs/Lmh45.htm. ("The abundance of several low shrub species (black twinberry, black gooseberry, thimbleberry, trailing raspberry, red raspberry, birch-leaved spirea, and black huckleberry) was reduced for nine years following application of glyphosate.") As this report further observes, "Plant communities naturally change over time, but sudden shifts in structure and composition may negatively affect the availability of food for wildlife." The BLM must take these comments into evidence in consideration of its range of preferred alternatives.

Response: The following statement is made in the document cited by the commentor (Risky Business: Invasive Species Management on National Forests, Wooten and Renwyck 2001; www.kettlerange.org/weeds): "Invasive species management is a serious undertaking, with high potential for economic and resource losses and impacts. Such projects require prior disclosure of likely effects in order to insure that programs are effective, and remain within the limitations of policies and regulations."

The goal of the BLM's vegetation management program is not to create a situation where non-native species are enhanced through the application of an herbicide. Rather, as stated in Chapter 2 of the PER, the BLM's vegetation management program goals are, ". . . to manage vegetation to sustain the condition of healthy lands, and where land conditions have degraded, to restore desirable vegetation to more healthy conditions."

It is correct to expect that invasive species would become the dominant species if the management option resulted in only limited control of targeted species, while severely damaging the non-targeted species. If properly carried out, however, management of a non-native weed species stresses or controls the weed with minimal impact on the native or desirable species. The study noted in the commentor's response, a study done by the British Columbia Ministry of Forest Research Program on the use of an herbicide, stresses the importance of understanding three things: the species targeted for management, the site where the management activity is to take place, and the characteristics of the herbicide selected. Through the preparation of a site-specific analysis and Pesticide Use Proposal, the issues of concern brought up by the commenter will be addressed.

EMC-0566-005
Western Society of Weed Science

Comment: One implication for Alternative B that may cause concern is that the use of herbicides around Threatened & Endangered (T&E) species is always harmful to the organism. However, the judicious use of herbicides can benefit T&E species by controlling noxious and invasive weeds that adversely alter habitats making them less suitable for T&E organisms. There are herbicides that control specific noxious or invasive plants (selective herbicides) without harming T&E species. Generalizations that herbicides should not be used around T&E species ignore the potential value of herbicides to help restore T&E habitats. In addition, the spread of invasive plants is a greater threat to some T&E species than the use of a selective herbicide. For example, use of herbicides that control sensitive invasive broadleaf species could be used around T&E grass species. Both Dr. Rod Lym, North Dakota State University, and Dr. Joe DiTomaso, University of California, have conducted field research that support this beneficial effect of herbicides in improving or preserving T&E habitat quality. Additionally, some measure of unintentional damage to T&E species should be articulated where non-herbicidal approaches are taken. Mechanical removal of invasive plants will likely disturb habitats and possibly physically damage T&E species.

Response: The discussion of potential effects to special status species (including threatened and endangered species) in the PEIS includes negative effects as well as benefits. Additional analysis of potential positive and negative effects of proposed treatments on threatened and endangered species, and species proposed for listing (TEP), is provided in the Biological Assessment (BA). The PER and BA also address the potential negative effects to these species associated with non-herbicide treatment methods. The BLM recognizes that many of these species can benefit from vegetation treatments, but at the same time steps must be taken to ensure that the treatments do not harm populations of these species. As applicable, the threats associated with invasive plants are discussed in background sections for individual species in the BA. Conservation measures developed in the BA consider the benefits to TEP species from treatments that improve habitat quality while not harming populations. For example, some conservation measures restrict certain types of treatments, except under circumstances in which the treatments are specifically designed to maintain or improve the existing population. Treatments specifically designed to improve TEP species populations will be analyzed in more detail at the local level.

EMC-0585-121
Western Watersheds Project

Comment: Nowhere has BLM ever assessed the environmental impacts, including cumulative effects, of the large-scale removal of vegetation for use in biomass/biofuel. Any export of nutrients as biomass must also be assessed in relation to annual nutrient export and removal by domestic livestock from nearly all BLM lands. There is also greater risk of no long term restoration, or recovery of native vegetation occurring with nutrient export in biomass.

Response: See response to Comment EMC-0584-066 under PER Effects of Vegetation Treatments, Vegetation.

EMC-0585-214
Western Watersheds Project

Comment: BLM ignores a critical link between forbs/broad-leaved plants and insect production. In the arid West, many more species of insects and a much greater diversity of insects are produced in association with forbs. By killing broad-leaved insect-producing plants with herbicides, BLM not only would alter protective vegetative cover (increasing likelihood of predation of parent, and nestlings/eggs, as well as greatly diminish food supplies for insect-dependent young birds (both altricial passerines or precocial young such as sage grouse.

Response: The scenario described in the comment is possible. However, invasive species are not native diets for native insects, and invasive plants are crowding out native forbs, which are the diet of native insects and support a food chain for avian species. The BLM seeks to replace invasive weeds with native or non-native, non-invasive plants. A discussion of the risks to grouse and their chicks is provided in the Wildlife Resources section of Chapter 4 of the PEIS.

EMC-0585-220
Western Watersheds Project

Comment: BLM also ignores link between pollinators and rare plants. Rare plant species dependent on insect pollinators may be significantly harmed by herbicide use.

Response: The text of the PEIS has been changed in response to this concern. See the analysis of effects to vegetation in Chapter 4, under the Special Status Species subheading.

EMC-0619-004
Bellovary, Christopher

Comment: The PEIS for this project entirely fails to adequately identify and address the potential impacts to native plants and animals from the proposed herbicide spraying, despite the fact that the proposed action could devastate many native plants and animal species, and could easily result in detrimental changes to entire ecosystems. The directly affected habitats include many rare, threatened and endangered species, and due to wind drift, watershed drainage, and other ecological connections, the effects will likely extend far beyond the areas being sprayed. 16 USC [United States Code] § 1532(3) [a.k.a. Endangered Species Act § 3(3)] requires that federal agencies use "all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary."

Response: The BLM has adequately identified and addressed the potential impacts to native plants and animals in Chapter 4 of the PEIS. Ecological risk assessments were used to predict risks to native plant and animal species, and were used to develop appropriate conservation and mitigation measures. Conservation measures for threatened and endangered species, which are presented in the Biological Assessment, are especially protective, and are intended to avoid adverse health effects to threatened endangered species as a result of herbicide application.

EMC-0621-006
Alliance of Forest Workers and Harvesters

Comment: The ecological and biological assessments for the Draft PEIS do not include a discussion of the impacts of spraying herbicides on nontimber forest product productivity. Such a discussion requires developing adequate inventories of species being harvested. The agency must consider management alternatives that could be taken to simultaneously achieve the goals for vegetation management with herbicides and the sustainability of harvesting cultures, traditions, and economies.

Response: The focus of the PEIS and PER was on treatments to control invasive species and weeds, and to reduce hazardous fuels. The PEIS discusses impacts to different vegetation groups in Chapter 4 under Vegetation and Wildlife Resources. The effects of herbicides on vegetation used by Native Americans and Alaska Natives are discussed in Chapter 4 of the PEIS under Paleontological and Cultural Resources. The ecological risk assessments evaluated risks to different vegetation groups, including forest vegetation, from application of herbicides. This information was used in preparing Chapter 4 of the PEIS and PER.

EMC-0621-008
Alliance of Forest Workers and Harvesters

Comment: In reviewing the reference section, only two references for nontimber forest products are listed, neither of which pertain specifically to public lands in the western United States. This suggests the agency has neglected to review the current and historical scholarly literature regarding nontimber forest products.

Response: A discussion of the importance of non-timber forest products on public lands was provided in Chapter 3 of the PEIS and PER under Vegetation, Non-timber Forest Products. Also see response to Comment EMC-0621-006 under PEIS Environmental Consequences, Vegetation. The PEIS attempted to provide a reasonable review of the literature on herbicide use that showed both the adverse and positive aspects of herbicide use.

EMC-0626-006
Scotts Miracle-Gro Company

Comment: In addition, the efficacy of imazapyr for grassland restoration has been documented and BLM should include this information in its PEIS. Masters and Nissen,[3] Masters et al.,[4] and Stougaard et al.[5] [references provided with comment response] evaluated the utility of imazapyr and other imidazolinone herbicides for the restoration of Great Plains grasslands and leafy spurge-infested rangelands.

Response: Within the PEIS, the use of imazapyr as an herbicide that has activity on aggressive invasive species, such as leafy spurge, is referenced in the Vegetation section of Chapter 4 of the PEIS. Within the imidazolinone chemistry, only imazapic, and imazapyr have current registrations that would allow for their use on BLM-administered lands, with imazapyr already approved for use and imazapic being part of the PEIS, as spelled out in Chapter 2.

EMC-0638-001
Kuczora, Carol

Comment: Defoliating defeats the purpose of protecting against wildfire. It invites sun-dependent flammable annual grasses and other invasive and less desirable plants such as poison oak, thistles, and other noxious weeds susceptible to ignition and spreading fire. This plan is a big mistake.

Response: Fuels treatments are not focused on defoliating vegetation (removing leaves), but at reducing the density of small diameter fuels, especially ladder fuels that can move fire into the canopy. The concept that when a stand is opened up it will result in reduced surface moisture and thus increased flammability is not necessarily true across all vegetation types, in all climate categories, at all times of the year. Land use and projects plans may propose site-specific management actions, including successive treatments or maintenance treatments, following an initial fuel treatment. In some areas, microclimatic conditions could temporarily become somewhat drier between successive treatments of a single project or during actual treatments. These site-specific changes are more transitory and occur at a smaller scale than changes that would occur following a wildfire.

It is true that invasive species can move into any disturbed or degraded plant community. That is why noxious weed assessments are done before treatments are implemented and revegetation after disturbance is determined during the site-specific project planning process. Poison oak is a native species that will be a component of plant communities where it is found, whether disturbed or not.

EMC-0640-022
Animal Welfare Institute

Comment: The PEIS, PER, and associated documents also fail to delineate what method of treatment (herbicidal or non-herbicidal) will be used in each identified ecoregion to address the specific management needs identified in the purpose and needs statement. For example, while the BLM estimates the number or percentage of acres that may be treated with herbicides in each ecoregion if the proposed action is

implemented, it fails to disclose what percentage of the ecoregion-specific area will be treated to address the reduction in hazardous fuels, restoration of fire damaged land, control of weeds and invasive species, and the manipulation of vegetation to benefit fish and wildlife habitat. Similarly, though reducing hazardous fuels in the wildland-urban interface is deemed to be of great importance to the BLM in its introductory information, there is no explanation of what management technique will be used and where it will be used to address this concern. While such specifics may be part of a regional or more localized plan, incorporating such data in programmatic documents – even if the data could only be presented as estimates – would be valuable to the public to better understand for what purpose each treatment technique will be used within the various ecoregions.

Response: Some of this information is available in the PER. We have included text in the Vegetation section of Chapter 4 of the Final PER and PEIS under Program Goals by Ecoregion that discusses the percentage of acres proposed for treatment by treatment goal by ecoregion.

EMC-0646-166
Californians for Alternatives to Toxics

Comment: The Draft PEIS/PER fails in its analysis of the effects of the treatments that may be used to combat invasive plants and conduct vegetation management. Evidence exists, for example, that herbicides use may create conditions more hospitable to invasive species than were present before the chemicals were applied. CATs [Californians for Alternatives to Toxics] is concerned that by spraying herbicides on almost a million acres (more than tripling current application acreage), the BLM will be increasing potential invasive species infestations, rather than reducing them. This is contrary to and exactly the opposite of the BLM's stated project objectives for the PEIS. This evidence and indirect/cumulative effects of the proposed actions must be analyzed by the BLM in the PEIS.

Response: See response to Comment EMC-0646-169 under PEIS Environmental Consequences, Vegetation.

EMC-0646-167
Californians for Alternatives to Toxics

Comment: Several studies have confirmed that increased nutrient availability, in the form of excessive dead organic matter, can favor non-indigenous annual species where natural nutrient levels may be insufficient. For example, increases in nitrogen (i.e. the widening of the C:N [carbon to nitrogen] ratio) have shown to provide a competitive advantage to annuals such as cheatgrass that germinate much earlier in the season than native grasses (personal communication USGS [U.S. Geological Survey], Corvallis, Oregon). If the BLM follows through with the proposed large scale increase of herbicide spraying, lots of plants will die, leaving an unnatural amount of dead organic matter on the ground, changing natural nutrient levels, and thus creating an unnatural advantage for unwanted exotic species.

Response: The spread, colonization, and establishment of an invasive/exotic species is a product of many differing factors, including the nutrient levels of the site being infested. When treating downy brome, one of the management options to consider would be the application of an herbicide. The management of invasive grass species under the BLM vegetation management program involves the use of preemergence herbicidal activity, which prevents the selected grass species from emerging, thereby reducing the total amount of dry matter present. Postemergence application of herbicides is done when the grasses are small, reducing the potential dry matter associated with mature and senescent plants. It is recognized that drying induced by herbicide use creates dry matter, but the vegetation will also end up dry and brittle as a result of its natural life cycle. The critical point is the correct use of the herbicides as a

component of an integrated management approach, taking into account the different management strategies associated with the particular target species.

EMC-0646-168
Californians for Alternatives to Toxics

Comment: Cheatgrass [downy brome], for example, is not necessarily only encouraged by soil disturbance. It is more sensitive to light availability (Zouhar 2003). Increased spraying, especially wide spread aerial spraying, will kill large swaths of vegetation and drastically increase light availability. Decreases in adjacent canopy cover will introduce the invasion promoter of light that would provide suitable habitat for cheatgrass establishment (Zouhar 2003). The BLM cannot allow any treatment method (like herbicide spraying) that will just increase invasive species infestations. The BLM is proposing to spray invasives, but the spraying may actually create conditions more favorable to invasives rather than native species. This has the potential to become a continuous spraying loop.

Response: Other references reviewed by the BLM provide information about downy brome that differs from the points from Zouhar 2003 raised in this comment:

1. Downy brome seeds germinate best in the dark or in diffuse light – Young, Jim. 2000. *Bromus tectorum* L. In: Bossard, Carla C.; Randall, John M.; Hoshovsky, Marc C., eds. Invasive plants of California's wildlands. Berkeley, CA: University of California Press: 76-80. [Reference Number 492]

2. In drier environments downy brome requires environmental conditions less harsh than those of bare soil and must be covered by soil or litter. Young, James A.; Evans, Raymond A.; Major, J. 1972. Alien plants in the Great Basin. Journal of Range Management. 25: 194-201. [Reference 488]; Evans, Raymond A.; Young, James A. 1972. Microsite requirements for establishment of annual rangeland weeds. Weed Science. 20(4): 350-356. [Reference 142]; Evans, Raymond A.; Young, James A. 1987. Seedbed microenvironment, seedling recruitment, and plant establishment on rangelands. In: Frasier, Gary W.; Evans, Raymond A., eds. Seed and seedbed ecology of rangeland plants: proceedings of symposium; 1987 April 21-23; Tucson, AZ. Washington, DC: U.S. Department of Agriculture, Agricultural Research Service: 212-220. [Reference 146]

3. Establishment of downy brome seedlings is favored by large amounts of plant mulch. Evans, Raymond A.; Young, James A. 1970. Plant litter and establishment of alien annual weed species in rangeland communities. Weed Science. 18(6): 697-703. [Reference 141]

4. Downy brome invasion may be accelerated by disturbance, but disturbance is not required for downy brome establishment. Goodrich, Sherel. 1999. Multiple use management based on diversity of capabilities and values within pinyon-juniper woodlands. In: Monsen, Stephen B.; Stevens, Richard, compilers. Proceedings: ecology and management of pinyon-juniper communities within the Interior West: Sustaining and restoring a diverse ecosystem; 1997 September 15-18; Provo, UT. Proceedings RMRS-P-9. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station: 164-171. [Reference 166]; Meyer, Susan E.; Garvin, Susan C.; Beckstead, Julie. 2001. Factors mediating cheatgrass invasion of intact salt desert shrubland. In: McArthur, E. Durant; Fairbanks, Daniel J., compilers. Shrubland ecosystem genetics and biodiversity: proceedings; 2000 June 13-15; Provo, UT. Proc. RMRS-P-21. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station: 224-232. [Reference 287]

5. Downy brome can also thrive in areas that have little or no history of cultivation or grazing by domestic livestock. Driscoll, Richard S. 1964. A relict area in the central Oregon juniper zone. Ecology. 45(2): 345-353. [Reference 126]; Emmerich, F. L.; Tipton, F. H.; Young, J. A. 1993. Cheatgrass: changing perspectives and management strategies. Rangelands. 15(1): 37-40. [Reference 137]; Goodrich, Sherel; Gale, Natalie.

1999. Cheatgrass frequency at two relic sites within the pinyon-juniper belt of Red Canyon. In: Monsen, Stephen B.; Stevens, Richard, compilers. Proceedings: ecology and management of pinyon-juniper communities within the Interior West: Sustaining and restoring a diverse ecosystem; 1997 September 15-18; Provo, UT. Proceedings RMRS-P-9. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station: 69-71. [Reference 167]; Goodrich, Sherel; McArthur, E. Durant; Winward, Alma H. 1999. Sagebrush ecotones and average annual precipitation. In: McArthur, E. Durant; Ostler, W. Kent; Wambolt, Carl L., compilers. Proceedings: shrubland ecotones; 1998 August 12-14; Ephraim, UT. Proceedings RMRS-P-11. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station: 88-94. [Reference 168]; Kindschy, Robert R. 1994. Pristine vegetation of the Jordan Crater kipukas: 1978-91. In: Monsen, Stephen B.; Kitchen, Stanley G., compilers. Proceedings – ecology and management of annual rangelands; 1992 May 18-22; Boise, ID. Gen. Tech. Rep. INT-GTR-313. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station: 85-88. [Reference 231]; Mosely, Jeffrey C.; Bunting, Stephen C.; Manoukian, Mark E. 1999. Cheatgrass. In: Sheley, Roger L.; Petroff, Janet K., eds. Biology and management of noxious rangeland weeds. Corvallis, OR: Oregon State University Press: 175-188. [Reference 307]; Svejcar, Tony; Tausch, Robin. 1991. Anaho Island, Nevada: a relict area dominated by annual invader species. Rangelands. 13(5): 233-236. [Reference 410]; Tausch, Robin J.; Svejcar, Tony; Burkhardt, J. Wayne. 1994. Patterns of annual grass dominance on Anaho Island: implications for Great Basin vegetation management. In: Monsen, Stephen B.; Kitchen, Stanley G., compilers. Proceedings – ecology and management of annual rangelands; 1992 May 18-22; Boise, ID. Gen. Tech. Rep. INT- GTR-313. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station: 120-125. [Reference 415]

As with downy brome, the management of invasive species involves an understanding of the ecological characteristics of the species identified for management. By correctly identifying such characteristics an effective management plan can be developed. The purpose of the PEIS is to provide a broad comprehensive background source of information on which any necessary subsequent environmental analysis can be tiered. Specific concerns regarding the use of a particular herbicide will be addressed during the site-specific analysis. Chapter 2 of the PER further addresses how the different management options will be integrated into an overall management program in order to meet the goals of the vegetation management program.

EMC-0646-169
Californians for Alternatives to Toxics

Comment: Use of herbicides where non-native weed plants already occur frequently results in a reproductive advantage for non-native species, which then expand rapidly due to the lack of competition. In a short period of time, this can result in an exponential increase in non-native plants (Wooten and Renwyck 2001). The BLM fails to provide analysis of such information in the Draft PEIS, and it is found in the literature and very relevant to the issue at hand.

Response: Any treatment (not just herbicide) to remove non-natives may stimulate non-natives to expand, mostly due to disturbance of the seedbank in the soil. Herbicide treatment actually is less disturbing in this regard. It is true that continuous use of a broadcast herbicide can aid in selection for herbicide tolerant species, which may or may not be invasive, but the initial step in planning any vegetation project is to assess and plan for revegetation of openings created by the proposed treatment. Revegetation Standard Operating Procedures are discussed under Revegetation in Chapter 2 of the PER.

EMC-0646-172
Californians for
Alternatives to Toxics

Comment: That herbicides appear to be a disturbance factor that actually encourages invasive species to colonize and spread in herbicide-treated areas clearly must be analyzed in the PEIS.

Response: The colonization and spread of a particular invasive species is the product of several factors, including, but not limited to, the species in question and the environmental characteristics of the site of potential infestation. Certain invasive species are aggressive and will invade an area regardless of whether it has had a disturbance event or not. In addition, different vegetation communities vary in their natural ability to resist invasion by non-native species. The analysis of potential for associated impacts from herbicide applications would occur at the site-specific level prior to treatment.

EMC-0646-175
Californians for
Alternatives to Toxics

Comment: CATs [Californians for Alternatives to Toxics] contends that the proposed action of widespread spraying of herbicides to kill unwanted vegetation will result in increased fired dangers from standing dead biomass and exotic species invasions post spraying. Killing large amounts of the brush and other weeds with herbicides will undoubtedly increase light availability in heavy brush areas and thus increase potential noxious weed and invasive species habitat.

Response: Following integrated weed management procedures, most herbicide treatments will be combined with other methods, including removal of treated fuels mechanically or by prescribed fire. These methods include revegetation of areas where gaps have been created to prevent invasive species establishment. If herbicides can control invasive plants that have disrupted fire regimes and provide a competitive edge to native species that do not disrupt fire regimes, then wildland fire risk will be reduced.

EMC-0646-176
Californians for
Alternatives to Toxics

Comment: The BLM has failed to discuss in the PEIS cheatgrass' ability to indirectly benefit from herbicides and proliferate in disturbed herbicide sprayed areas, and then to create an additional major fire threats.

Response: As the commentor notes, downy brome (cheatgrass) is an aggressive colonizer of disturbed sites. Should an area dominated by downy brome be sprayed with an herbicide, it would be one formulated specifically for treating annual grasses. If no native plants are available to reinhabit the site, then downy brome is quite likely to become reestablished. That is why spraying of downy brome is done to release existing native plants, especially in areas where a native seedbank still exists, or natives are seeded after the downy brome has been killed. Revegetating a site with native plants is a primary goal following the spraying of downy brome with an herbicide.

EMC-0646-177
Californians for
Alternatives to Toxics

Comment: The BLM needs to take a long and honest look at the potential for creating that which they say they are trying to avoid, tinder dry forests and grasslands, thick with both living and dead ladder fuels. In essence that is exactly what will be created by the preferred alternative. In truth the only way to avoid this is to cut unwanted brush, either mechanically, or by hand, leave it on the ground to discourage new brush growth and noxious weed invasion, and restock the area the following planting season. This would provide jobs, give greater protection to wildlife, provide erosion protection, and create a healthier soil profile. The brush would decompose faster than dead brush left standing. A selective re-cut 2 to 3 years later would allow for release. The beneficial aspects of brush (soil and nitrogen production, wildlife feed and habitat) would allow for a faster growing and healthier forest.

Response: When vegetation is treated and killed during a fuels treatment, a secondary treatment is planned to remove any remaining dead plant material. Depending on site-specific habitat requirements needed to meet objectives for other resources, such as wildlife, some level of woody debris is left. This debris provides the beneficial aspects mentioned in the comment. Brush not needed to meet these objectives would create the same level of fuel hazard as if left standing, but would be drier. The only difference is the change in placement of the fuel. An analysis of the site variables involved during local level project design will determine to what extent fuels must be removed, chipped, or handpiled and burned, as well as the need for planting. The potential to provide jobs will exist no matter what the follow-up treatment may be.

EMC-0646-179
Californians for Alternatives to Toxics

Comment: With cheatgrass spread comes the lengthening of the fire season and increase in numbers of fires, the very same fires that the BLM's PEIS is suppose to avoid. This invasive greatly impacts ecosystem functioning causing changes in fire regimes including increased fire frequency and extent, often to the point where native species cannot recover (D'Antonio et al 2002, Brooks et al 2004, Young and Clements 2005). The Tahoe National Forest wrote in the Cottonwood FEIS (2005) "The biggest threat the project area faces from cheatgrass is repeated stand replacing fires...Cheatgrass dominated communities tend to burn more frequently and can shorten the fire return interval, thus effectively hampering the recovery of native vegetation (Personal communication, Young, 2002)."

Response: See responses to Comment FXC-0071-021 under PEIS Proposed Action and Purpose and Need, Scope of Analysis, and Comment RMC-0042-054 under PEIS Proposed Action and Purpose and Need, Purpose and Need for the Proposed Action.

EMC0646-180
Californians for Alternatives to Toxics

Comment: The probability of increased fires due to cheatgrass [downy brome] proliferation is not part of the effects or alternative analysis and thus fails to fully inform the decision maker. The frequent fires associated with cheatgrass infestations, as well as all the dead brush left standing from the herbicide spraying has the likely potential to wipe out a vast areas of public lands, and render this project a huge waste of BLM resources and tax payer money.

Response: See Fire Ecology for the Temperate Desert Ecoregion under Fire Ecology and Vegetation by Ecoregion in the PER for a description of the downy brome affected environment. See Table 4-5 under Vegetation in Chapter 4 of the PER for a discussion on the effects of fire treatments on downy brome. When vegetation is treated and killed during a fuels treatment, regardless of the method used, a secondary treatment is planned to remove any remaining dead plant material.

EMC-0646-182
Californians for Alternatives to Toxics

Comment: The factors contributing to the proliferation of existing weed populations and the establishment of new populations have been described above. The advent of increased light availability and soil disturbance to sprayed areas sets the stage for this advancement of invasive weeds. The use of herbicides is unwarranted as its current proposed application would not accomplish the desired goals. In addition, it is feared that the proposed fuels reduction treatments would promote further weed establishment and increase the area of existing weed populations, resulting in future proposals for even more widespread herbicide treatment to control an escalating weed problem. Until further exploration of intensive weed management is considered, the use of herbicide, as described in the PEIS, is futile, insufficient and exposes the public lands to vast amounts of toxics unnecessarily.

Response: Integrated weed management is expanded on in Chapter 2 of the PEIS and PER under Vegetation Treatment Standard Operating Procedures and Guidelines. The Prevention of Weeds and Early Detection and Rapid Response section reiterates that the BLM is required to develop a noxious weed risk assessment when an action may introduce or spread noxious weeds, that modification of actions must take place to reduce likelihood of infestations when the risk is determined to be moderate or high, and that control measures to be implemented be identified if weeds do infest the site. This direction is required under BLM Manual 9015 (*Integrated Weed Management*). Direction on determining treatment method is found in BLM policy in BLM Manual 9011 (*Chemical Pest Control*). Integrated weed management will be used as the decision process for determining appropriate treatments and appropriate revegetation at the site-specific, local level. The very factors mentioned in the comment will be taken into account when designing a treatment project.

EMC-0646-222
Californians for Alternatives to Toxics

Comment: In addition to the proliferation of vegetation, the fuels treatment areas will experience reduced surface fuel moisture and increased flammability (Countryman 1955 as cited in Weatherspoon 1996). The greater the stand opening, the more pronounced the change in microclimate is likely to be. Increased ladder fuels and decreased surface fuel moisture can be a catastrophic combination. These effects must be analyzed within the PEIS (or PER).

Response: The concept that when a stand is opened up it will result in reduced surface moisture and thus increased flammability is not necessarily true across all vegetation types, all climate categories, or all times of the year. Land use and project plans may propose site-specific management actions, including successive treatments or maintenance treatments, following an initial fuel treatment. In some areas, microclimatic conditions could temporarily become somewhat drier between successive treatments of a single project or during actual treatments. These site-specific changes are more transitory and occur at a smaller scale than changes that would occur following a wildfire.

The concept is less applicable to dry site ponderosa pine stands in the inland northwest that have been encroached upon by short-needled conifers. In these areas, in late summer and early fall before the onset of fall rains, the forest floor is dry regardless of whether short-needled conifers are present. Should a fire occur, these short needled conifers would contribute to the fire's intensity because they are ladder fuels. Therefore, the goal of many treatments in dry-site ponderosa pine areas is to reduce encroachment by short-needled conifers, in order to lessen wildfire intensity and preserve the pines. Effects of short-needled conifer removal would be evaluated in a site-specific environmental assessment.

RMC-0040(2)-004
Resource Concepts, Inc.

Comment: Pg [Page] 4-123 [of the Draft PEIS], in the fourth paragraph on this page, herbicide treatments are being proposed to reduce the risk of future catastrophic wildfire for weeds of concern including downy brome, Russian thistle, kochia, oak, and pinyon/juniper. Herbicide applications of tebuthiuron or other herbicides could actually increase the risk of catastrophic wildfire. Leaving standing dead trees and tree branches on-site after application of herbicide treatment could result in higher quantities of low-moisture fuels that carry fire faster and hotter than live vegetation. Reducing the percentage of live pinyon and juniper trees in an area through chemical treatment should result in less competition for native grass and forb species, which is a benefit of treatment. However, increases in grass, forb, and shrub fuels are expected and can negate the supposed fuel reduction purpose behind the treatment.

Response: The BLM does not agree with this comment. In some cases herbicides are applied to prevent emergence of the plant to begin with. In cases where plants are treated and killed, a secondary treatment is planned to remove any remaining dead plant material. After the initial treatments, monitoring and follow-up treatments (which can be of any type, not necessarily chemical), if necessary, will occur. Also see response to Comment RMC-0069-016 under PEIS Proposed Action and Purpose and Need, Purpose and Need for the Proposed Action.

RMC-0042-084
Asher, Jerry

Comment: "Today, the rapid expansion of invasive species (that includes animals. Do you mean plants?) across public lands is one of the primary threats to ecosystem health…". (first para [paragraph] pg [page] 4-42 [of the Draft PEIS]). The word threat tells the reader that maybe the weeds will keep expanding. Is there any doubt that they will keep expanding.

Response: The text of the PEIS has been changed for clarity in response to this comment. See the section on Vegetation in Chapter 4.

RMC-0042-085
Asher, Jerry

Comment: Delete threat and change sentence to read: "Today the rapid expansion of invasive plants across public lands is causing massive and often permanent (with today's economics and technology) damage to ecosystem health and is one of the greatest challenges to ecosystem management"

Response: The text of the PEIS has been changed for clarity in response to this comment. See the section on Vegetation in Chapter 4.

RMC-0042-086
Asher, Jerry

Comment: The first [P]EIS full para. [paragraph] pg. [page] 4-65, needs to be more accurate. Replace likely spread with will spread. Insert "permanent" before "damage".… And, add "steep rocky terrain" in the "e.g. parenthetical para.

Response: The text of the PEIS has been revised in response to this comment. See the discussion of impacts to vegetation under Alternative C, in Chapter 4, under the Vegetation subheading.

RMC-0106-030
Public Employees for Environmental Responsibility

Comment: It is stated that "In the majority of cases, toxicological data do not exist for the specific plant receptors of concern. Consequently, toxicological data for surrogate species…were evaluated and used to establish quantitative benchmarks…for the ecological receptors of concern." In addition (p. [page] 4-45 [of the Draft PEIS]) most of the assessments relate to crop plants, not native species. Considering the fact that the BLM and the USFS [U.S. Forest Service] have been conducting herbicidal treatments on public lands for two decades, this indirect approach to risk assessment for the particular herbicides in question should by now have been replaced with real, relevant data.

Response: There are several thousands of species on public lands in the western U.S. Toxicity studies are typically performed on a few species of principal economic interest; for herbicide toxicity studies these species include crops and selected animal species. Interspecies extrapolation is a standard practice in toxicology and risk assessment. See responses to Comment EMC-0640-037 and Comment EMC-0585-199 under PEIS Environmental Consequences, Herbicide Effects Analysis.

RMC-0106-032
Public Employees for Environmental Responsibility

Comment: p. [Page] 4-45 [of the Draft PEIS]. Under Non-target Plants, an incident of extensive crop damage from use of Sulfometuron Methyl (Oust® formulation) is described as resulting from drift. This is apparently incorrect as reports indicate it was caused by wind erosion of sprayed burn areas, spreading ash contaminated by the herbicide. Label instructions apparently call for application before rain, but, although the season was right, the weather did not cooperate. This event should provide a heads-up warning that use of this herbicide in burn areas should not be allowed—unless the BLM improves its weather forecasting.

Response: The text under Impacts Common to All Treatments (Non-target Plants) in the Vegetation Section of Chapter 4 of the PEIS has been revised to correctly describe the factors that resulted in crop damage. Further guidance on the application of Oust® under Impacts of BLM-evaluated Herbicides, Sulfometuron Methyl.

RMC-0144-022
Wyoming Game and Fish Department

Comment: [Page] 4-45 [of the Draft PEIS]: We recommend adding post treatment management as another factor relative to the success of the treatments over both the short and long-term.

Response: See text added to Impacts Common to All Treatments in the Vegetation section of Chapter 4 of the Final PEIS concerning the role of post-treatment maintenance activities in short- and long-term success of vegetation treatments.

RMC-0200-011
Lindsay, Dianne

Comment: The PEIS fails to use the most recent information regarding forest health. The use of herbicides to kill all but the conifers greatly reduces the soil building capabilities of other very important trees and plants.

Response: The use of herbicides to kill all but conifers is not the BLM's main intent. Under the proposed program of work outlined in the PEIS and PER, herbicides would be used primarily to control non-native species, such as downy brome and tamarisk, and invasive native species that have invaded native shrub and grasslands due to the exclusion of fire, such as juniper. Also, see Vegetation Treatment Planning and Management in Chapter 2 of the PEIS. Land use plans guide land use and vegetation management decisions within the geographic area they cover, and provide specific goals, standards, and objectives to apply to vegetation treatment projects and activities. The overriding goal is to treat vegetation on lands only where necessary, and to prioritize treatment methods based on their effectiveness and likelihood of having minimal impacts on the environment. Also see response to Comment EMC-0584-066 under PER Effects of Vegetation Treatments, Vegetation.

RMC-0208-018
California Oak Foundation

Comment: The BLM's proposal to increase the use of herbicides on its lands adjacent to oak woodlands will only further accelerate the loss of this essential habitat.

Response: See response to Comment RMC-0208-003 under PEIS Alternatives, Vegetation Treatment Planning and Management.

RMC-0208-023
California Oak Foundation

Comment: The PEIS fails to disclose the extent to which the BLM's use of herbicides on its lands in California will impact the state's oak woodland habitats. Indeed, the PEIS provides the public with virtually no information by which it can determine the extent to which the BLM's proposed use of herbicides will impact this vital resource. And, although the Draft PEIS contemplates additional NEPA documents will be prepared at the local level that will address specific areas to be treated and assess potential effects, the time to assess these impacts at the regional level is now. Otherwise, the current NEPA review process is an empty exercise that allows the BLM

to charge ahead with a massive program to vastly increased use of herbicides but without assessing whether that increased use could potentially effect resources, including oak woodlands, and specifically including oak woodlands in California.

Response: The PEIS discusses potential impacts from the program to oak woodlands in California and other western states in Chapter 4 under Vegetation Resources. In California, treatments would be limited in oak woodlands and would focus on weedy species. However, more detailed information on impacts to woodlands is best assessed once the project is developed and potential treatment methods identified. This information would be addressed on a site-specific basis, using information that is provided in this broad programmatic document.

RMC-0213-006
California Native Plant Society

Comment: The sulfonylurea herbicides such as sulfometuron methyl (Oust®) and chlorsulfuron (Glean©) are known to cause significant reductions in fruit and seed production in a variety of plant species, even at 1000 times lower than the recommended application rate. Current EPA registration requirements do not include testing for reproductive effects, yet more than 230 formulations containing these chemicals had been registered by 1987. Reproductive damage to rare plant populations could severely threaten rare and endangered species' long-term survival. Although rare plant species have been directly impacted by this herbicide, no monitoring has been done to determine whether surviving individuals have been reproductively affected, even though these impacts could lead to severe impacts to the species as a whole.

Response: Actually, USEPA-mandated registration tests do measure plant reproductive endpoints, including germination and seed emergence. While improper herbicide use may pose a risk to rare plants, these plants are being crowded out by invasive weeds; proper herbicide application is intended to help restore native plants. The Biological Assessment discusses the risks to threatened and endangered plants from herbicide use, and provides Standard Operating Procedures and mitigation measures to help avoid or reduce these risks.

RMC-0213-013
California Native Plant Society

Comment: CNPS [California Native Plant Society] is concerned about native plants that provide important food sources for birds, deer, and other wildlife. The impacts to rare plants described above, especially from chlorsulfuron and sulfometuron methyl, are of concern because reproductive damage to food-source plants is likely to have detrimental effects for animal species that rely on these plants for food. Of particular concern are threatened, endangered, and sensitive species, and we believe that these potential negative impacts must be considered in any proposed use of herbicides, but especially aerial and broadcast ground spray plans.

Response: The potential indirect effects to wildlife associated with impacts to plants that serve as a source of food are discussed in Chapter 4 of the PEIS, under the Wildlife Resources subheading. In addition, the Biological Assessment provides background information on all threatened, endangered, and proposed for listing (TEP) wildlife species, including specific diet needs that must be maintained in order for the species to survive. Protection of habitat was considered when developing conservation measures for special status species. In addition, there are conservation measures specific to rare plant species, including those that are important components of wildlife habitat. At the local level, development of treatment programs and the analysis of their potential effects will be more detailed as far as which special status species and associated habitat could potentially be affected by treatments. This information will be used to develop additional conservation measures, as appropriate.

RMC-0218-045
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: We are also concerned that there are references in the DEIS [Draft PEIS] to setting back the successional stage of "rangeland" and forest to an earlier successional stage through the use of herbicides – for what? So that livestock graze on grasses rather than sagebrush and the sage grouse is eliminated as a restriction on livestock use? So that trees are more "vigorous" to grow for timber uses and "decadent" old growth habitat is eliminated, along with old growth-dependent species? This is not fulfilling the full public use and enjoyment mandate for public lands, which should not be managed as commercial private enterprises.

Response: A large percentage of BLM-administered lands evolved with repeated fires. Fire was a predominant factor in creating successional stages that provided the broad mosaic of habitat to which many native wildlife species are adapted. Where the exclusion of fire has altered the native plant community mosaic, treatments may be used to create conditions that more closely resemble the native plant community, including early several stages where they are uncharacteristically underrepresented, as compared to the native plant community.

RMC-0222-100
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Nonlethal effects on plants (effects on plants other than mortality): Although the DEIS [Draft PEIS] claims that in the evaluation of herbicide effects on nontarget plants the assessment endpoints include "adverse direct effects on growth, reproduction, or other ecologically important sublethal processes," the DEIS [Draft PEIS] omits important recent research in this area. For example, the DEIS [Draft PEIS] omits evaluation of recent research showing nonlethal effects of 2,4-D occur at exposure levels far below normal application rates. A recent study published in the journal *Mutation Research* showed that concentrations of 2,4-D "that did not have any visible physiological effects" caused genetic damage in plants. The study was conducted by biologists at the University of Lethbridge. (Folkowski et al 2003)

Response: The BLM relied on the Forest Service's ecological risk assessment (ERA) for 2,4-D (Syracuse Environmental Research Associates, Inc. 1998; full reference in PEIS Reference section). The study referred to in the comment was published after the Forest Service's ERA. However, the toxicity analyses in the PEIS focus on sublethal effects that are likely to reduce plant populations (e.g., growth and reproduction impacts). It is difficult to determine whether observations of genetic effects would produce adverse impacts to the individual plants (since no physiological impacts were observed) or to the larger plant population.

RMC-0222-101
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The DEIS [Draft PEIS] omits evaluation of a series of studies that showed glyphosate increases the frequency of disease in a variety of non-target plants. These diseases include fusarium head blight in cereal crops, sudden death syndrome in soybeans, root rot in sugarcane, and white mold in soybeans. The studies were conducted by scientists at Agriculture and Agri-Food Canada, Iowa State University, Louisiana State University, and Michigan State University, and were published in the *Canadian Journal of Plant Pathology*, *Phytopathology*, and the *Agronomy Journal*. (Hanson and Fernandez 2003, Sanogo, Yang, and Scherm 2000, Dissanayake, Hoy, and Griffin 1998, and Nelson, Renner, and Hammerschmidt 2002)

Response: The plant toxicity analyses in the PEIS focus on sublethal effects such as growth and reproduction. It is recognized that land managers may need to consider other potential adverse effects (e.g., fungal infection) in the timing and selection of herbicide to be applied.

Environmental Consequences, Fish and Other Aquatic Organisms

EMC-0585-221
Western Watersheds Project

Comment: BLM fails to provide data and analysis of impacts to springsnails and aquatic insects.

Response: Springsnails and aquatic insects are aquatic invertebrates. At the programmatic level, the BLM provides risk assessment data for aquatic invertebrates in Appendix C and analyzes potential impacts to aquatic invertebrates from herbicide treatments in Chapter 4 of the PEIS, under the subheading Fish and Other Aquatic Organisms. In addition, the Biological Assessment addresses the potential effects of treatments on threatened, endangered, and proposed for listing aquatic invertebrates.

EMC-0601-002
Kampmeyer, Al

Comment: Do you know about fish uptake of herbicides and pesticides when these chemicals are introduced into their waters?

Response: Chemical-specific effects information can be found in Chapter 4 of the PEIS under Fish and Other Aquatic Organisms, as well as on the USEPA's website at http://www.epa.gov/pesticides/ecosystem/ecorisk.htm. The Ecological Risk Assessment in Appendix C of the PEIS includes a detailed discussion of the ecological effects of these chemicals on fish and the aquatic environment. The Biological Assessment that was prepared for the PEIS describes the effects of herbicide treatments on federally-listed endangered and threatened fish and aquatic invertebrates and their critical habitats.

EMC-0643-079
California Indian Basketweavers Association

Comment: Triclopyr BEE [butoxyethyl ester], diuron, and tebuthiuron products are among those under a court ordered restriction for use in listed salmonid habitat; similar precaution is needed for non-listed species. Court ordered restrictions on the use of these products are not found on product labels and were not addressed in the D[raft] EIS. Currently, these three herbicides cannot be applied within 20 yards of federally listed salmonid bearing streams or within 100 yards in the case of aerial application. *Washington Toxics Coalition et al. v. EPA, Ninth Circuit Court of Appeals, 2005.* Similar cautionary restrictions are necessary for non-listed aquatic species, including amphibians.

Response: Buffers for non special status species fish and aquatic invertebrates are identified in Chapter 4 of the PEIS in Table 4-19. The buffers identified are as conservative as those for special status fish species (see Table 4-21) for all herbicide applications, except for diuron at the maximum application rate via high boom. In this case, the high-boom buffer for special status fish is more conservative than the buffer for non special status fish.

The ecological risk assessments developed for this PEIS typically did not assess risks to amphibians from herbicide treatments. Based on guidance from the Council on Environmental Quality, when information is incomplete or unavailable, the PEIS states the level of information available, the relevance of the information, and the potential impacts derived from that information. The PEIS assumed that risks to fish represent risks to aquatic amphibians (see Chapter 4 under Special Status Wildlife Species in the Wildlife Resources section). This assumption is supported by a study by Berrill and Bertram (Berrill, M., and S. Bertram. 1997. Effects of Pesticides on Amphibian Embryos and Larvae. Pages 233-245 *in* Amphibians in Decline: Canadian Studies of a Global Problem (D.M. Greene, ed.). Society for the Study of Amphibians and Reptiles), which states that "aquatic stages of amphibians are generally comparable to fresh-water fish in their vulnerability to exposure to low levels of pesticides." Under

the Preferred Alternative, more herbicide options are available to the BLM for use, which increases the ability of the BLM to use herbicides with less potential for impact to amphibians and their habitat. In addition, the BLM could use other treatment methods, such as mechanical or manual methods, in areas with sensitive species.

EMC-0646-084
Californians for Alternatives to Toxics

Comment: A 2005 study from Marc has verified their earlier findings. POEA [polyoxyethylene-alkylamine] facilitates the toxic effects of the AI [active ingredient] glyphosate, as well as providing it's own toxicity.

"The adverse effect on transcription involves the commercial product and therefore is the result of a combination of the formulation products. The contribution of glyphosate to the adverse effect of Roundup was investigated and demonstrated by two lines of evidence. On the one hand, four different glyphosate-based formulations provoked a delay in hatching at glyphosate concentration within similar range. On the second hand, an additional effect on hatching was observed when a threshold amount of Roundup was supplemented with pure glyphosate. However, our results do not exclude a contribution of the formulation products to the Roundup effect: first, because permeabilizing agents are required for glyphosate effect as a herbicide (Williams et al., 2000) or as a cell cycle deregulator (Marc et al., 2002), for the intracellular access of the chemical to its molecular targets. Second, because the major component of Roundup, polyoxyethylene amine (POEA), was found to be highly toxic to the embryos and led to lethality. Such higher toxicity of POEA compared to Roundup has been observed on other aquatic organisms (Tsui and Chu, 2003). Altogether, the adverse effect of Roundup on hatching is due, at least in part, to the active herbicide component glyphosate, which reaches its intracellular molecular target through the synergic effects of the formulation ingredients. Regarding the potential human health concern, it is important to note that glyphosate is never sprayed for herbicide usage without the formulation compounds (Williams et al., 2000)" (Marc et al 2005). There is a wealth of studies and information available concerning the toxicity of the inert surfactant POEA in certain glyphosate formulations. What has been presented here is only the tip of the iceberg.

Response: Based on public comment and additional analysis, the BLM proposes to either avoid using any glyphosate formulations with POEA, which may be the toxic component in glyphosate, or seek to use the formulation with the lowest amount of POEA available. Also see response to Comment RMC-0106-037 under PEIS Environmental Consequences, Fish and Other Aquatic Organisms.

RMC-0106-034
Public Employees for Environmental Responsibility

Comment: [Pages] 4-74 to 4-75 [of the Draft PEIS]. The characterization of risk assessment (Step [bullet] 4) as "quantitative" is grossly misleading as the resultant risk category assignment is the result of artificial manipulation of toxicological unknowns, surrogates, and guesswork about predicted environmental concentrations. The whole assessment protocol covers only part of the potential problems—leaving out inerts and degradates. It further assumes that SOPs [Standard Operating Procedures], label instructions will be followed, and that applications will be "typical."

Response: The risk assessments are quantitative; they project numeric estimates of risk. See response to Comment EMC-0585-192 under PEIS Environmental Consequences, Herbicide Effects Analysis for information on inert ingredients. See responses to Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment, Comment EMC-0623-017 under PEIS Environmental Consequences, Herbicide Effects Analysis, and Comment RMC-0191-009 under PEIS Environmental Consequences, Herbicide Effects Analysis for information on degradates and

formulations. The mitigating and performance measures in herbicide application, including training, site reviews on application rates and delivery, and contractor oversight, are designed to ensure proper use, as discussed in response to Comment EMC-0267-002 under PEIS Proposed Action and Purpose and Need, Federal Laws, Regulations, and Policies that Influence Vegetation Treatments.

RMC-0106-035
Public Employees for Environmental Responsibility

Comment [Page] 4-72 to 4-87 [of the Draft PEIS], Impacts of individual herbicides. No information is provided on herbicide formulations to be used, or on inerts and degradates. The assessments are larded with qualitative terms such as tendency, appreciable, likelihood, minimal, majority, normal use, appropriate use, typical application, normal application scenario, relative toxicity, plausible, appear, and the like.

Response: See response to Comment EMC-0585-192 under PEIS Environmental Consequences, Herbicide Effects Analysis for information on inert ingredients. See responses to Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment, Comment EMC-0623-017 under PEIS Environmental Consequences, Herbicide Effects Analysis, and Comment RMC-0191-009 under PEIS Environmental Consequences, Herbicide Effects Analysis for information on degradates and formulations.

RMC-0106-036
Public Employees for Environmental Responsibility

Comment: p. 4-81. Under Overdrive, benefits to aquatic organisms are claimed "...if it is used...selectively...provided herbicide use is seen as an acceptable vegetation treatment method in these sensitive areas." This proviso indicates that Overdrive should not be used at all.

Response: The BLM examined Overdrive®, which is comprised of two active ingredients—diflufenzopyr and dicamba. The herbicide is selective and systemic, and has a low residence time in water bodies and a low bioconcentration potential. Diflufenzopyr and dicamba application does not pose a risk to fish or aquatic invertebrates under the application scenarios analyzed in the ecological risk assessments prepared for these herbicides (see the ecological risk assessments on the CD included with the Final PEIS). In addition, there is no implication that this herbicide will be applied directly to water, since it is not USEPA-registered for aquatic applications at this time. The risks analyzed were associated with the potential for this herbicide to be exposed to an aquatic environment through some unforeseen pathway, as identified in the PEIS Appendix C, Ecological Risk Assessment.

RMC-0106-037
Public Employees for Environmental Responsibility

Comment: [Page] 4-83 [of the Draft PEIS]. It is stated that "some formulations (of glyphosate) are more toxic to fish than technical grade glyphosate." It is incumbent on the DPEIS [Draft PEIS] to identify these and to provide direction on selection of the least harmful formulation. It is likely that this problem applies also to various commercial formulations of other herbicides. The DPEIS [Draft PEIS] must a) evaluate all commercial formulations to establish least harmful mixtures, and b) provide unequivocal guidance on selection.

Response: Polyoxyethylene-alkylamine (POEA) is the only inert compound of known aquatic toxicity in glyphosate formulations. The BLM has evaluated a number of glyphosate formulations for content of POEA; see Appendix D in the Final PEIS. The BLM proposes to either avoid using any glyphosate formulations with POEA or use glyphosate formulations that have the least amount of POEA.

RMC-0222-098
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Nonlethal effects on fish (effects on fish other than mortality): the DEIS [Draft PEIS] ([page] 4-82) states, in reference to 2,4-D, "Routine acute and chronic exposure scenarios do not result in risk to fish." However, the DEIS [Draft PEIS] omits research published in the journal *Marine Environmental Research* by scientists from the University of Maryland showing concentrations as low as ten parts per billion cause proliferation of peroxisomes in fish. (Ackers, Johnston, and Haasch, 2000) In addition, the DEIS [Draft PEIS] (4-86) states with respect to picloram, "An acute LC50 value for trout ranges from 0.8 mg/L to 19.3 mg/L." However, the DEIS [Draft PEIS] omits research showing that concentrations as low as 0.04 mg/L reduce the size and survival of trout fry. This research was published by D. F. Woodward at the U.S. Fish and Wildlife Service in the Journal of the Fisheries Research Board of Canada. (Woodward, 1976)

Response: The BLM relied on the Forest Service's ERA [ecological risk assessment] for 2,4-D (Syracuse Environmental Research Associates, Inc. 1998; full reference in PEIS Reference section). The study referred to in the comment was published after the Forest Service's ERA. However, toxicity analyses in the PEIS focus on sublethal effects that are likely to reduce fish populations (e.g., growth and reproduction impacts). Although peroxisome proliferation was observed at the 10 ppb [parts per billion] level after 21 days, the study did not determine whether this level would produce long-term or irreversible adverse impacts to the individual fish or to the larger fish population. The Woodward study was referenced and considered in the toxicity review for fish in the picloram ERA conducted for the Forest Service (Syracuse Environmental Research Associates, Inc. 2003b; full reference in PEIS Reference section). The data presented by Woodward was not considered in the 1995 Re-registration Eligibility Decision (RED) for picloram and was not necessarily consistent with other studies reviewed in the Forest Service ERA. Woodward prepared stock solutions in acetone rather than water, did not monitor picloram concentrations in all test solutions, and did not include an acetone control in the evaluation. USEPA Office of Prevention, Pesticides, and Toxic Substances (U.S. Environmental Protection Agency. 1996. Ecological Effects Test Guidelines OPPTS 850.1400 Fish Early-Life Stage Toxicity Test. Office of Prevention, Pesticides and Toxic Substances. EPA 712–C–96–121. April. Available at: http://www.epa.gov/opptsfrs/publications/OPPTS_Harmonized/850_Ecological_Effects_Test_Guidelines/Drafts/850-1400.pdf). Test guidelines for fish early life stage toxicity studies require the use of a solvent-only control because the solvent can impact the test organism directly and can impact the uptake of the test compound by the organism. The Woodward study would not be classified as acceptable using the test criteria and was therefore not used as the basis of the fish toxicity value in the Forest Service ERA.

Environmental Consequences, Wildlife Resources

EMC-0046-002
Picone, Chris

Comment: The pesticides that would be used include persistent and mobile chemicals, including known developmental and reproductive toxins. Recent research on amphibians has shown that these same pesticides can cause developmental abnormalities and mortality at concentrations formerly thought safe, such as 1 part per billion. I assume you are aware of the recent literature in this area.

Response: The BLM is aware of these studies, including studies that have shown effects at 0.1 parts per billion (atrazine). Two herbicides used by the BLM or available for use, atrazine and glyphosate, have been identified as being potentially harmful to amphibians. However, the BLM has not used atrazine since 1990s, and under

Alternatives B (Preferred Alternative), D, and E (see Chapter 2 of the PEIS, Description of the Alternatives), the BLM would not use atrazine on BLM-administered lands in the future. Risks to amphibians associated with glyphosate are primarily associated with two adjuvants: R-11 and polyoxyethylene-alkylamine (POEA). As discussed under Mitigation in Chapter 2, and Wildlife Resources in Chapter 4, the BLM proposes to not use glyphosate formulations that include R-11 in the future, and would either avoid using any formulations with POEA, or seek to use the formulation with the lowest amount of POEA available, to reduce risks to amphibians. We have expanded the discussion of effects of herbicides on amphibians in the Final PEIS under Wildlife Resources and Cumulative Effects Analysis (Wildlife Resources) in Chapter 4 of the PEIS to address concerns related to the use of herbicides on BLM-administered lands and the potential for herbicides to adversely affect amphibians.

EMC-0214-015
Vollmer, Jennifer
(BASF)

Comment: The claim that "All treatments could kill or harm wildlife and adversely impact their habitats," is false, unless it is the actual application – tractor running over grouse or planes crashing in to herds of elk – that is being referred to. What incidences can be sited where any of the purposed terrestrial herbicides, used according to label directions, have killed or harmed wildlife? Examples for herbicide benefits to wildlife are numerous and are mainly attributed to increasing or rehabilitating habitat. Benefits versus adverse impacts are misleading for all alternatives. Example: No action alternative would have greater impact than the Purposed alternative due to the number of applications that would be needed to accomplish the same vegetation management. In addition, less acres treated means greater adverse impact to those lands that are left to further degrade due to lack of tools for beneficial treatment. The section also neglects to quantify the benefits versus adverse effects. Example: on a scale of 0 to 100, Where Wildlife Benefits for the Purposed action may be "87", adverse effects may be "4", as compared to No Action Alternative where Benefits may be "34", adverse effects "3.9".

Response: As stated, herbicide treatments could kill or harm wildlife and adversely impact their habitats, as demonstrated for most herbicides in the risk assessments (although risks were very small for some herbicides). By the very nature of the treatment, vegetation will be altered by herbicide treatments, thus impacting habitat that was used by wildlife prior to treatment. Although it is difficult to quantify the costs and benefits of treatments, a comparison of costs and benefits for all treatment methods, including herbicides, was provided in the PER, and also discussed in detail in the Cumulative Effects Analysis of the PEIS. As noted in the text, treatments could be quite beneficial for some wildlife species, and may be much greater under the Preferred Alternative than the No Action Alternative. However, for species that depend upon the vegetation that is treated, costs would likely outweigh benefits and would be greater under the Preferred Alternative than the No Action Alternative.

EMC-0238-004
California Partners in
Flight

Comment: While CalPIF [California Partners in Flight] does not support the adoption of Alternative E [in the Draft PEIS], we share some of the concerns over the widespread use of herbicides that Alternative E attempts to address. One component of Alternative E that we believe should be incorporated as part of Alternative B is the adoption of amphibian area avoidance measures. Under Alternative E, herbicide use is not encouraged in areas populated by amphibians. We believe that is a wise measure to adopt as part of any Alternative. There is concern today about significant declines in numbers of amphibians encountered on public lands and elsewhere. One of the potential causes for those declines is the chemicals that amphibians are exposed to. CalPIF believes the evidence that chemical exposure contributes to declines in

amphibian populations is significant enough to justify avoiding the use of herbicides in and around riparian and wetland areas that support amphibians. Areas supporting amphibians are also important feeding and nesting areas for land birds that may also be vulnerable to herbicide exposure. Amphibians also represent a prey base that supports birds and other terrestrial species. For those reasons and others we think it a wise and modest measure to incorporate Alternative E's amphibian area avoidance measures into the final planning document.

At the same time, CalPIF is not espousing the elimination of herbicides in areas where amphibians may reside. Riparian areas are some of the most severely invaded habitats in the West. To completely exclude herbicides as a tool is not prudent when it can be shown for specific project areas that other tools are not practical, are likely to be unsuccessful, or may cause more damage to the habitat than can be justified. We recommend that the final planning document emphasize the avoidance of herbicide use in areas populated by amphibians. Manual or mechanical measures to remove invasive species should be given priority, and only when such measures are shown to be ineffective or not practical should herbicides be used in those areas – and then only by crews using a targeted approach. In that respect we agree with the emphasis in Alternative E that herbicide treatments must be of lower priority than non-chemical treatments in areas where the use of herbicide may impact riparian or wetland areas. Under no circumstance should chemicals be applied aerially in areas known to be populated by amphibians. We recommend that the final planning document emphasize the use of non-aerial application techniques where there is a risk that herbicides will be applied to water, either directly or through drift.

Response: The PEIS recommends buffer zones near aquatic bodies to protect plants, fish, and wildlife in the Standard Operating Procedures from ground-based and aerial spraying. Additional measures to protect amphibians are given in Table 2-9, Mitigation Measures. These measures include providing additional protection to all terrestrial animals by following mitigation identified in the Biological Assessment to protect species of concern. As noted in Chapter 4 of the PEIS under Wetland and Riparian Areas, Alternative D, 98% of all treatments associated with wetland and riparian areas would be ground-based, based on information provided by field offices. Thus, risks from aerial spraying would minor. In addition, the BLM only plans to treat about 10,000 acres of wetland and riparian habitat using herbicides annually; another 20,000 acres would be treated annually using other methods.

EMC-0238-007
California Partners in Flight

Comment: The use of 2-4D is of concern for CalPIF, perhaps more so than with any other of the active ingredients listed for use under the Alternatives. 2-4D poses a high exposure risk for some categories of wildlife. We recommend that 2-4D not be applied aerially unless there is absolutely no other practical means for its application, and where the use of the other available active ingredients has little chance for success.

Response: See response to Comment RMC-0159-014 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives. As discussed under Site Selection Priorities in Chapter 2 of the PEIS, the BLM would first use non-chemical methods where feasible, and would use herbicides only after considering their effectiveness and potential for impacts on the environment. The BLM would also follow Standard Operating Procedures and mitigation discussed in Chapter 2 to minimize or avoid risks associated with the use of 2,4-D and other herbicides proposed for use by the BLM.

EMC-0239-002
Kimmel, Reida

Comment: Researchers are now finding that herbicides, even the older, "safer" chemicals like atrazine and Roundup, have adverse, or deadly, effects on wildlife, especially invertebrate species and cold blooded vertebrates. In addition, the use of herbicides will harm native species struggling to compete with the invasive plants.

Response: All chemicals may potentially have adverse effects on organisms; it is the dose that determines whether it is adverse or not. Herbicide application is done in such a way to minimize the exposure (the dose) of herbicide on non-target organisms. Herbicides are intended to protect native species from the competition from invasive species. This is done using careful application of herbicides so that they target invasive plants.

EMC-0257-005
Lockridge, Ross

Comment: Weed Out Round-Up: The worldwide die-off of amphibians has been partly attributed to the "properly applied" and "safe" Monsanto herbicide, Round-up (see article, study & discussions in the Notes). Yet Round-up mixed with Arsenal is said to be "successful". The recent discovery in 2005 that there are far-reaching impacts from the use of Round-up upon frogs is evidence that caution is needed. What don't we yet know about Garlon 4 and Arsenal?

Response: RoundUp® contains the herbicide active ingredient glyphosate. As suggested by the commentor, glyphosate may be harmful to amphibians, although harmful effects may be attributable to two compounds, R-11 and POEA, found in formulations containing glyphosate. As discussed under Comment EMC-0046-002 under PEIS Environmental Consequences, Wildlife Resources, the BLM would severely limit or prohibit use of glyphosate formulations containing R-11 or polyoxyethylene-alkylamine (POEA). Garlon 4® contains the herbicide active ingredient triclopyr, while Arsenal® contains the active ingredient imazapyr. Although risk assessments done for the PEIS found that imazapyr should not be harmful to aquatic organisms under most application scenarios, risks were greater with applications of triclopyr. As discussed under Mitigation in Chapter 2 of the PEIS, the BLM would strive to apply triclopyr at typical rather than maximum application rates, and would continue to monitor the scientific literature to determine if triclopyr, imazapyr, or other herbicides used or proposed for use by the BLM cause harm to amphibians. Under Alternative B, the BLM would treat only about 10,000 acres of wetlands annually using herbicides under the Preferred Alternative, and 2,4-D, glyphosate, picloram, and tebuthiuron would comprise the majority of herbicide use.

EMC-0324-007
Rachel Carson Council

Comment: When present in a formulation with surfactants, glyphosate can be highly toxic to certain frog species. Frogs or toad populations living and reproducing in the areas treated by aerial spraying of glyphosate formulations could be adversely affected by such applications. Amphibians can reproduce in shallow pools that can be vulnerable to overspraying with glyphosate formulations. According to Dr. R. Relyea, "Anyone spraying pesticides from an airplane would probably not avoid such puddles because they appear to be inconsequential." (Hileman, B., "Common Herbicide Kills Tadpoles," Ecotoxicology, V83, #15, April 11, 2005) Much more testing needs to be performed on all formulations and their additives before they can be considered as not posing a threat to these types of wildlife.

Response: See response to Comment EMC-0046-002 under PEIS Environmental Consequences, Wildlife Resources.

EMC-0324-018
Rachel Carson Council

Comment: The immune system is very important for wildlife in protecting them from disease, including some conditions that can spread to humans, the so-called zoonoses.

There is evidence that exposure to 2,4-D in combination with picloram can decrease the mammalian immune response. Combinations of 2,4-D and picloram have been used to control vegetation and both are listed as intended for use by BLM. The combination has been tested for adverse effects on immune function in laboratory animals. The exposure of laboratory mice to a product mixture with active ingredients consisting of 94% 2,4-D and 6% picloram by weight was found to generate results suggesting that chronic exposure to the formulation at normal application levels may cause immune dysfunction. (Blakley, BR, "Effect of Roundup and Tordon 202C Herbicides on Antibody Production in Mice," Vet Human Toxicol., 39 (4), August 1997). Livestock may be at risk from such applications on their grazing lands.

Response: See responses to Comment EMC-0640-036 under Environmental Consequences, Wildlife Resources, and Comment RMC-0222-104 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0338-013
Dow AgroSciences

Comment: In the risk characterization it appears that tebuthiuron is generally assumed to be applied as a liquid spray, yet the formulation most commonly applied to rangeland is a granular pellet, Spike 20P™. The use of a pellet dramatically affects the risk assessment regarding drift and off-site effects to non-target organisms. Drift would be minimal with Spike 20P, and pellets would not pose any risk to pollinating insects since the pellets fall onto the soil allowing for little deposition on foliage. The LD_{50} [lethal dose at which half of organisms die] on honeybees is > 100ug/bee, which is in the least toxic [US] EPA category for insect toxicity. Therefore, it is incorrect to assume low to moderate risk for pollinating insects from tebuthiuron.

Response: The BLM recognizes that there is a difference between the liquid and granular formulations of the tebuthiuron as it relates to many application parameters. In order to assess risk, however, the situation posing the greatest risk was selected for analysis (i.e., the liquid formulation, rather than the granular formulation of tebuthiuron). Results of the analysis are presented in Appendix C of the PEIS under the heading Non-target Species Risk Characterization for Tebuthiuron. As the commenter points out, data from USEPA indicates that the LD_{50} for the honeybee is greater than 100 micrograms/bee. This information is acknowledged in the tebuthiuron ecological risk assessment, which cites a report from the Department of Energy stating that the $LD_{50}$for the honeybee is 30 micrograms/bee. In order to run a more conservative risk analysis, the 30 micrograms/bee value was selected as the Toxic Reference Value (TRV) for tebuthiuron and the honeybee.

EMC-0364-003
Noble, Emily

Comment: I am also concerned about the immune systems of birds now that they can be vectors for very serious diseases humans can catch. What is the official word out (if any) on this situation?

Response: This comment is beyond the scope of the PEIS.

EMC-0457-004
Ryan, Eleanor (North American Butterfly Association)

Comment: The Elimination of Dwarf Mistletoe. The elimination of trees with dwarf mistletoe is contrary the health of the butterfly population in the forest. Three species of butterflies use dwarf mistletoe as their obligatory host plant. Great Purple Hairstreak (Atildes halesus) Exists in CO, NM, NV, TX, OK, OR. The mistletoe species Phoradendron is the specific host plant for this butterfly. This is found especially on oaks and cottonwoods. Of greater concern in Conifer forests, the following butterflies use dwarf mistletoe on conifers as obligatory host plants. Thicket Hairstreak (Callophrys spinetorum). Exists in WA, OR, CA, ID, MT, NV, CO, UT, AZ, NM,. Obligate use of the mistletoe Arceuthobium of species vaginatium, americorum,

tsugense, abietum, and campylopoduim. Each of these mistletoes grows on a specific conifer including true firs (Abies), Ponderosa Pine, Lodgepole Pine, Western Yellow Pine, Douglas Fir, and Hemlock. Johnson's Hairstreak (Callophrys johnsoni) Only exists in WA, OR, and CA. The host mistletoe is Arceuthobium tsugense and abietinum growing on Hemlock and Abies fir. In WA and OR it has a habitat preference for ancient forest which has led to its extirpation in much of its former range. I didn't see this listed in the biologically sensitive species but clearly it is rare. These butterflies benefit from the preservation of the above mistletoe species on BLM land. Please include these butterflies in vegetative planning considerations.

Response: The BLM proposes to use the conservation measures outlined in the Biological Assessment to protect sensitive and federally-listed species. Potential impacts from individual projects will be subject to NEPA analysis, and impacts to BLM special status species will be assessed. Project design criteria will be used to minimize impacts. The BLM will also conduct local surveys for species of concern before implementing any vegetation treatment projects, as discussed under Special Precautions (Special Status Species) in Chapter 2 of the PEIS and PER.

EMC-0457-005
Ryan, Eleanor (North American Butterfly Association)

Comment: Twelve species of Blue Butterflies are "listed". You probably know that many of these butterflies are tended by ants. The Larva of the Butterflies may actually be cared for in the ant colony. What does herbicide spraying do to these important ant colonies?

Response: There is little extant information or studies on the effects of herbicides on ant colonies. Typically, insecticides lethally affect insects, but no insecticides are proposed for use to treat vegetation under this PEIS. The PEIS assesses the effects of herbicides on pollinating insects and aquatic invertebrates. Refer to Appendix C (Ecological Risk Assessment) of the PEIS. The honeybee was considered the most sensitive insect for the purposes of analysis in the risk assessment, which concludes that only imazapic poses a low toxicity hazard to terrestrial invertebrates. In general, herbicides act on vegetation and do not significantly affect insects as an insecticide would.

EMC-0525-053
Western Watersheds Project

Comment: Thus, for many of these birds, the very actions that BLM proposes under the [P]EIS and PER are Threats, and when conducted in the past, have destroyed, altered and fragmented habitats. These threats (livestock grazing, herbiciding, chaining, fire, mowing and other alteration of sagebrush and other native vegetation communities) have not been honestly addressed by BLM in the [P]EIS or PER. Since best Available Science recognizes them as Threats, (see also Knick et al. 2003, Connelly et al. 2004).

Response: The PEIS and PER discuss both the adverse effects and benefits of the treatments in Chapter 4. Also see response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0525-067
Western Watersheds Project

Comment: It is WWP's [Western Watershed Project's] experience that BLM constantly ignores the importance of these habitats, and knowingly conducts projects to purposefully destroy them so as to increase livestock forage on depleted lands. As an example, the very small areas of Utah juniper and Utah juniper and pinyon pine in SE Idaho are the only places in Idaho where several species of birds occur. A report (CD: Pinyon-juniper and Juniper Birds", prepared by Red Willow Research for the Idaho Department of Fish and Game), documented importance of intact riparian and

pinyon-juniper habitats for several bird species of concern.

Response: The PEIS and PER note in Chapter 4 under Wildlife Resources that pinyon-juniper woodlands provide important habitat for wildlife, but can also form dense stands, or crowd out more desirable vegetation, reducing their value to wildlife. The adverse effects and benefits of pinyon-juniper treatments would be evaluated at the local level before conducting pinyon-juniper removal.

EMC-0525-091
Western Watersheds Project

Comment: It is critical that BLM examine the already complex interspersion of plant communities across the landscape. Sagebrush communities often exist as complex mosaics with inherent natural diversity (Montana Department of Fish, Wildlife and Parks 1995, Welch and Criddle 2003). BLM fails to address the inherent complexity and complex interspersion of vegetation across the landscape, and instead claims that its artificially imposed chaining and other disturbance is necessary to create more of a mosaic, or for greater diversity.

Response: Much of the discussion in Chapter 4 of the PEIS and PER under Vegetation and Wildlife Resources focuses on the importance of a mosaic of cover types (e.g., openings interspersed with vegetation of varying size and species composition). Although Condition Class 1 lands likely have a good mosaic of cover types (see Vegetation Condition and Fire Regimes in the Vegetation section of Chapter 3 of the PEIS), lands that have been altered may be dominated by only 1 or a few cover types and may have poor vegetative structure and complexity. The purpose of treatments is to improve the complexity and structure of plant communities in degraded areas to improve habitat for wildlife.

EMC-0525-135
Western Watersheds Project

Comment: BLM must assess how the presence of cheatgrass may affect special status species. For example, how do cheatgrass-dominated understories and interspaces affect reptile species occurrence and abundance - (lizards may be prey species for small mammals)? How does cheatgrass affect the pygmy rabbit? Which of BLM's proposed treatment disturbances maximize chances of increased cheatgrass dominance of undestories?

Response: Because downy brome (cheatgrass) is not native to North America, it is expected to have limited habitat value for native special status species. Although weeds do provide seeds, other forage, and cover for some wildlife, the intent of BLM vegetation treatments is to reduce or eliminate invasive species to promote native plant species diversity and foster a healthy ecosystem. It is not the intent of the BLM to conduct any treatment activities that foster the growth of downy brome or other weeds and nonnative species.

EMC-0525-165
Western Watersheds Project

Comment: An increasing body of science demonstrates that fences are harmful to sage grouse and many other species of native wildlife, and that sage grouse may avoid use of areas near fences. BLM's post-treatment actions may in fact further fragment habitats beyond removal of vegetation, and rendering patches of remaining untreated or native vegetation unusable by grouse, while creating extended wasteland areas in their surroundings, causing expanded environmental harm.

Response: The Cumulative Effects Analysis, Wildlife Resources, in Chapter 4 of the PEIS discusses the need to restore native vegetation and link islands of habitat to reduce habitat fragmentation. This section also discusses the need to remove fencing and other barriers to encourage wildlife movement among habitats. It is possible that treatment actions may further fragment habitats short term, but as sites are revegetated

it would become less likely that islands of good habitat would be surrounded by less desirable habitat.

EMC-0559-003
Daniel, Bill

Comment: Protect the Sage grouse by banning herbicide use and sagebrush clearing in their habitats.

Response: Vegetation treatments that open up dense stands of sagebrush, including mechanical and prescribed fire treatments, benefit sage-grouse by providing areas for leks and increasing forb production that benefits adults and young. Use of herbicides can benefit sage-grouse if the treatments remove weeds and are followed by revegetation of treatment sites with forb and grass seed mixtures. A more detailed discussion of adverse effects and benefits of treatments to sage-grouse and other wildlife is given in Chapter 4 of the PER under Wildlife Resources.

EMC-0585-210
Western Watersheds Project

Comment: The sub-lethal effects of herbicide use on wildlife (biochemical disruption) may greatly increase their vulnerability to predation, their ability to find food, etc. BLM fails to describe the real environmental setting that exists for wildlife in wild land settings, and the many sub-lethal or mortality-related effects of herbicides or other chemical (degradates), and the great uncertainty that exists in understanding effects of chemical use o wild land settings. See, for example, "Factors influencing estimation of pesticide-related wildlife mortality" http://www.abcbirds.org/pesticides/Pesticidemortalityestimation.htm, "The influence of the natural history of the poisoned species on search intensity encompasses factors such as physiology, life cycle, and behavior. Laboratory and field studies show adult songbirds to be 2 to 137 times less sensitive to OP [organophosphate] insecticides than their nestlings". How are nestling songbirds affected by the various herbicides to be used??? How might herbicides inflict sub-lethal effects on adults, and reduce their ability to provide forage for nestlings?

Response: See Section 4.1.5 (Identification of Risk Characterization Endpoints) of the ecological risk assessments (available on the CD that accompanies the PEIS). It is typical that adults are less sensitive than juveniles, and some of the surrogate species used represent sub-adults. Herbicides could inflict sub-lethal effects on adults and reduce their ability to take care of their young. However, by not treating vegetation, habitat could be lost or degraded, or result in a catastrophic fire that would be harmful or cause death to young and adults. To protect juvenile birds, the BLM would avoid treating vegetation using herbicides during time-sensitive periods, such as nesting (see Table 2-8 in PEIS Chapter 2).

EMC-0585-211
Western Watersheds Project

Comment: BLM also fails to assess both: effects of loss or cover or food resulting from herbicide application (especially as BLM plans to use many non-specific herbicides). Not only may reproduction be directly impaired through chemical actions, loss of food and cover may result in fewer young being produced, and predation mortality being greater.

Response: The adverse effects and benefits of using herbicides on wildlife and their habitats are discussed in Chapter 4 of the PEIS under Wildlife Resources. For example, this section notes that herbicides may cause loss of nesting and brood habitat for sage-grouse, and that picloram can damage sensitive grasses as well as broadleaf plants, and can substantially alter wildlife diets. In general, non-specific herbicides would primarily be used in areas where removal of most or all vegetation is desirable, such as along rights-of-ways and roadways. Herbicides that treat only certain types of grasses, forbs, or shrubs would be used most often for habitat improvement treatments.

EMC-0585-213
Western Watersheds Project

Comment: BLM ignores analysis of impacts of herbicides (and all their components and breakdown products) on bird eggs. If birds eggs are sprayed (as would happen if incubating parents are flushed by spray application or are off foraging), how does this affect developing embryos? Will hatching success be affected? Will developing embryos be killed? What might the indirect effects of chemicals and their breakdown products be on eggs or nestlings?

Response: Certain pesticides can harm the developing embryo; however, no such information was found for the BLM herbicides. Vegetative cover would provide some protection to nests and eggs. The potential for loss of eggs and young could exist if loss of vegetative cover from herbicide treatment were to make eggs or young more susceptible to predation. Also see response to Comment EMC-0585-210 under PEIS Environmental Consequences, Wildlife Resources.

EMC-0585-216
Western Watersheds Project

Comment: If BLM was serious about protecting many wildlife and TES [threatened, endangered, and sensitive] species, this EIS would mandate no treatment during nesting/birthing season, or in specific targeted treatment of invasives only.

Response: Timing of vegetation treatments is determined at the project-specific level through site-specific NEPA analysis. Restrictions on treatments during critical breeding periods for wildlife are taken into consideration in the NEPA analysis. The BLM will follow all Standard Operating Procedures and mitigation identified in the PEIS, as well as any additional mitigation requirements identified through the site-specific NEPA analysis and any applicable Endangered Species Act consultation. In addition, BLM policies regarding migratory bird nesting would be followed to prevent unintentional disturbance to these species during critical periods in their life cycle.

EMC-0590-018
Western Slope Environmental Resource Council

Comment: The ENSR Exposure Assessment that is part of the PER identifies the components of an exposure pathway that results in human exposures at points of contact, following release of chemicals to the environment and transport via an environmental medium (e.g. air, water, soil). While the focus is on human "receptors", there exist in our county both plant and other animal "receptors" that are also at risk of exposures due to chemical applications. Pesticides have been shown to be harmful to a multitude of animals, including fish, turtles, amphibians, birds, butterflies and moths, mammals, reptiles, and beneficial insects. Animals can be exposed by eating other contaminated plants, insects or animals, by inhalation, absorption through skin, or drinking or bathing in contaminated water.

Response: The BLM conducted ecological risk assessments to assess the risks to plants and animals from the herbicides used and proposed for use by the BLM. Risk assessments were included on the CD that accompanied the Draft (and Final) PEIS. The BLM also used several risk assessments prepared by the Forest Service to assess risks to plants and animals. As part of the risk assessments, the BLM evaluated the different pathways by which plants and animals could be exposed to herbicides, including absorption through skin or leaves, consumption of contaminated plants, insects, or animals, inhalation, or ingestion of contaminated water.

EMC-0623-018
Defenders of Wildlife

Comment: Include better evaluation of wildlife impacts, including impacts to nontarget species that might be important wildlife habitat or feeding species. For instance there is evidence the tebuthiuron can negatively impact sage grouse for up to ten years following application. All herbicide use must consider potential direct and indirect impacts to the full suite of wildlife in the proposed area, particularly federal or state listed species, declining species and species of concern.

Response: A discussion of impacts to nontarget species, including vegetation, aquatic resources, and other wildlife is given in Chapter 4 of the PEIS under each of these respective sections. Information on the risks of each herbicide to different taxa of wildlife is given in the Wildlife Resources section of Chapter 4, and in more detail in the risk assessments prepared for each herbicide. Direct and indirect impacts to wildlife species of concern are discussed in Chapter 4 under Wildlife Resources, and in greater detail in the Biological Assessment that accompanied the PEIS and PER.

EMC-0640-030
Animal Welfare Institute

Comment: The BLM must clearly delineate, using the best available science, the impacts of invasive exotic species on wildlife (including protected species) and wildlife habitat before implementing management treatments to resolve the problem. These suggested evidentiary needs are not intended to hinder BLM management efforts or to promote the continued expansion of invasive exotic species across the western United States. Rather, they are intended to ensure that the invasive exotic species are indeed harming wildlife, to ensure that the BLM remains accountable for its actions, to focus BLM resources on areas where there is a specific and resolvable problem, and to ensure BLM considers the impact of its actions on native species who may have adapted to living with the invasive exotic species before implementing its proposed treatments.

Response: The PEIS and PER note in Chapter 4 under Wildlife Resources that invasive species harm some wildlife species, but also provide benefits for other species. The adverse effects and benefits of treating vegetation, including the removal of weeds or other invasive vegetation, would be considered when developing site-specific plans to ensure that there is a net benefit to wildlife from the vegetation treatment project.

EMC-0640-036
Animal Welfare Institute

Comment: The BLM's assessment of the potential impact of the proposed herbicides on wildlife (including fish, amphibians, invertebrates, and protected species) is insufficient and likely does not represent a full and fair evaluation of such impacts. These assessment data are the product primarily of toxicity tests apparently required by the EPA to register herbicidal products for use in the field, to determine application rates, and to determine impacts to both target and non-target species.

Response: The BLM conducted state-of-the-science ecological risk assessments (ERAs) to evaluate the potential impacts to wildlife from the use of herbicides. The BLM worked closely with risk assessment scientists with USEPA, National Marine Fisheries Service, and U.S. Fish and Wildlife Service to develop the BLM risk assessment methodology. Sources of information used in the ERAs included product registration information, the scientific literature, BLM local experience, and modeling. Information from the ERAs was used in the PEIS to assess adverse and beneficial impacts to wildlife and their habitat, including special status species, at a level of analysis appropriate for a PEIS. No fish or wildlife would be targeted for treatment, although their habitats would be treated. Additional analysis will be conducted at the field level prior to project implementation, where site characteristics and species can be better evaluated.

EMC-0640-34
Animal Welfare Institute

Comment: The BLM, at a minimum, should have attempted to construct models to assess the impact of its proposed program by vegetation treatment method used and by ecoregion to help those commenting on the PEIS and associated documents quantify the potential impact to species or other ecosystem components. As currently written, all the PEIS provides to facilitate an evaluation of the quantitative impact of herbicidal and non-herbicidal treatments on wildlife are scores of no effect, low effect, moderate

effect, high effect, or not evaluated. While such scores may be accurate, it would be more valuable to those reviewing the PEIS and associated documents to be able to quantify the meaning of, for example, a high effect of a particular herbicide in a particular environment.

Response: See response to Comment EMC-0525-111 under PEIS Proposed Action and Purpose and Need, Scope of Analysis.

EMC-0643-022
California Indian Basketweavers Association

Comment: Recently a team of scientists from University of California, Berkeley, found highly significant increases in adverse effects to tadpoles exposed to mixtures of pesticides at low concentrations. Frog tadpoles were exposed to nine pesticides and herbicides individually, and to mixtures with all nine chemicals. While an average of 4 percent of the tadpoles died when exposed to a single pesticide, an average of 35 percent of the tadpoles died when subjected to mixtures. The frogs developed an array of health problems also, including meningitis, because the chemicals suppressed their immune systems. They also took longer to complete the transformation from tadpole to frog, which reduces their chances of survival (Hayes et al. 2006). In the paper, published in January, 2006 in the journal *Environmental Health Perspectives*, the authors conclude: "the current study revealed that estimating ecological risk and the impact of pesticides on amphibians using studies that examine single pesticides at high concentrations, only, may lead to *gross underestimations of the role of pesticides in amphibian decline.*"(emphasis added).

Response: The Hayes et al. (2006) study did find that a mixture of nine pesticides resulted in greater effects than effects from each herbicide alone. However, when testing each herbicide alone, the authors used 0.1 parts per billion (ppb) of the herbicide. When testing the mixture, the authors combined 0.1 parts per billion of each herbicide, resulting in a mixture of 0.9 ppb herbicide. As suggested by LeBlanc and Wang (LeBlanc, G. A., and G. Wang. 2006; Chemical Mixtures: Greater-than-Additive Effects. Environmental Health Perspectives 114; available at: http://www.ehponline.org/docs/2006/9188/letter.html), adverse effects to herbicides associated with the mixture may have been the result of a higher concentration of herbicides, not due to a synergistic effect (but also see Hayes, T. 2006. Chemical Mixtures: Hayes Responds. Environmental Health Perspectives 114). Of interest, only one of the compounds tested, atrazine, has been used by the BLM in the past (atrazine has not been used by the BLM for several years) or is proposed for use in the future, and under alternatives B (Preferred Alternative), D, and E (see Chapter 2 of the PEIS, Description of the Alternatives) would not be used on BLM-administered lands. The discussion of effects of herbicides on amphibians has been expanded in the Final PEIS under Wildlife Resources and Cumulative Effects Analysis (Wildlife Resources) in Chapter 4 of the PEIS to address concerns related to the use of herbicides on BLM-administered lands and the potential to adversely affect amphibians.

EMC-0643-036
California Indian Basketweavers Association

Comment: The DEIS [Draft PEIS] did not include any research and analysis of impacts to wildlife from herbicides due to inter-species variability. Recent studies demonstrate the likelihood of serious harm resulting from extrapolation from a limited number of test organisms in laboratory settings. For example, researchers at University of Pennsylvania found that different species of frogs react differently to the same chemical exposures. For example, in Relyea 2005a, Roundup exposure at realistic concentrations killed all leopard and gray tree frog tadpoles and 98 percent of wood frog tadpoles, but did not significantly effect spring peeper and American toad tadpoles. The DEIS [Draft PEIS] did not include any analysis or provide evidence for this type of environmental impact.

Response: The toxicity reference values did encompass interspecies variability in several ways. For each ecological risk assessment (ERA), out of the17 ecological receptor categories, 10 used a Level of Concern (LOC) adjustment (also known as an uncertainty factor) from 2 to 20 to address uncertainties including interspecies variability (the ERAs are included on the CD that accompanies the PEIS; also see Appendix C of the PEIS). Of the remaining seven receptor categories that did not use an uncertainty factor, four were for plants, and three were for chronic risk to birds, mammals, and aquatic invertebrates, respectively, where there is less likelihood of underestimating effects levels. In addition, interspecies variability was evaluated in the uncertainty analyses of the risk assessments. An uncertainty factor of 10 generally addresses up to 95% of the variability among species.

EMC-0643-070
California Indian Basketweavers Association

Comment: The DEIS [Draft PEIS] fails to accurately document cumulative impacts from the use of pesticides at this scale. The [P]EIS must include an ecological risk assessment that captures the impacts to wildlife species from herbicide uses occurring on private lands and from other sources that may cumulatively pose a threat to their continued viability. The high amount of herbicides used on private timber lands, agricultural lands, from roadside or rights-of-way clearing, and private range lands presents a cumulative risk issue for all native frogs and amphibians, pollinators, avian shrub-dependent species, deer, and other wildlife.

Response: Because some wildlife travel long distances and may be exposed to herbicides from many areas, quantifying this effect is extremely difficult because the types, amounts, and characteristics of the herbicides that wildlife would be exposed to on non-public lands are unknown. The BLM would comply with Standard Operating Procedures and mitigation in the PEIS to reduce risks to wildlife while they use public lands. In addition, many of the herbicides used by the BLM degrade rapidly and/or are excreted by wildlife, and most do not bioaccumulate (see herbicide ecological risk assessments). We have included a discussion of these risks, however, in Chapter 4 of the Final PEIS, under Cumulative Effects Analysis, Wildlife Resources.

EMC-0643-076
California Indian Basketweavers Association

Comment: Insufficient data relative to species in project area. Research has shown that different species react very differently to the same chemical exposures. For example, in Relyea 2005a, Roundup exposure at realistic concentrations killed all leopard and gray tree frog tadpoles and 98 percent of wood frog tadpoles, but did not significantly effect spraying peeper and American toad tadpoles. The DEIS [Draft PEIS] relies upon laboratory to ecosystem extrapolation. The DEIS [Draft PEIS] does not contain available relevant data for assessing impacts for amphibians.

Response: There are several thousands of species present on BLM lands. It is impossible to perform risk assessments for them all, so indicator receptor categories were used based on taxonomic and trophic or feeding guild considerations. To address uncertainties from interspecies extrapolation, see response to Comment EMC-0585-199 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0643-077
California Indian Basketweavers Association

Comment: Berrill et al. (1993) tested the formulations of triclopyr to determine their impacts on frogs and concluded, "Ranid tadpoles are likely to be paralyzed or killed by residues of the ester formulation [BEE or Garlon 4] of triclopyr that could occur in small ponds as a result of forest management spraying programs. Paralysis is likely to render tadpoles more vulnerable to predation, and when it is associated with slower growth it could also reduce later reproductive fitness." The DEIS [Draft PEIS] fails to adequately mitigate for impacts to amphibians.

Response: In response to concerns brought up by the public during the Draft PEIS review, the discussion of effects of herbicides on amphibians has been expanded in the Final PEIS under Wildlife Resources and Cumulative Effects Analysis (Wildlife Resources) in Chapter 4 of the PEIS to address concerns related to the use of herbicides on BLM-administered lands and the potential to adversely affect amphibians. See responses to Comment RMC-0205-018 under PEIS Alternatives, Special Precautions, and Comment EMC-0257-005 under PEIS Environmental Consequences, Wildlife Resources for a discussion of the effects of triclopyr on amphibians and BLM practices that would be implemented to protect amphibians in areas where triclopyr is used. Interestingly, the authors cited in the comment found that hexazinone had no effect on frog embryos or tadpoles, which is consistent with the results of the risk assessment for hexazinone done by the Forest Service and summarized under Fish and Other Aquatic Resources in Chapter 4 of the PEIS. Also see Comment EMC-0643-079 under PEIS Environmental Consequences, Fish and Other Aquatic Organisms for information on a study by Berrill and Bertram (1997) in which they noted that "aquatic stages of amphibians are generally comparable to freshwater fish in their vulnerability to exposure to low levels of pesticides" and a discussion of measures the BLM would implement to protect fish and other aquatic organisms from herbicide applications.

RMC-0049-023
Wilson, Robert E.
(University of Nevada Cooperative Extension)

Comment Page 2-13 Alternative E [of the Draft PEIS] does not address effects on amphibians, but then none of the alternatives adequately address the effects of the invasive species on amphibian populations.

Response: The focus of the PEIS and PER were on the effects of treatments on the resources, rather than how the lack of treatment [i.e., spread of invasives] would affect resources (especially since all alternatives involve some level of treatment using several treatment methods). Additional information on the effects of herbicides and other treatment methods and the spread of invasive vegetation on amphibians has been included in the Final PEIS and PER in Chapter 4 under Wildlife Resources.

RMC-0095-005
New Mexico Department of Game and Fish

Comment: The first of these two major omissions is that the PDEIS fails to address the potential lethal impacts to amphibians from glyphosate, one of the herbicides proposed for use by the Preferred Alternative, and which is also currently used. Recent research has demonstrated that Roundup, a glyphosate formulation, applied at the manufacturer's recommended rate, may cause extremely high rates of mortality to anuran amphibians (frogs) at both the larval (aquatic tadpole) and post-metamorphic (terrestrial adult and juvenile) stages, which could lead to population declines (Relyea 2005*a, b, c).* Therefore, we request that additional information be included to address these potential impacts, and that modified or additional standard operating procedures and mitigation actions be considered in light of this research.

Response: See responses to Comment EMC-0643-077 under PEIS Environmental Consequences, Wildlife Resources, and Comment EMC-0643-079 under PEIS Environmental Consequences, Fish and Other Aquatic Organisms. Several references to the risks to amphibians, including tadpoles, from the use of herbicides, including glyphosate, were included in Chapter 4 of the PEIS under Wildlife Resources. The Final Biological Assessment and PEIS recommended under mitigation for herbicide treatment impacts that glyphosate be using sparingly or not at all in habitats used by amphibians. In addition, the BLM proposes to avoid using glyphosate formulations containing R-11 or polyoxyethylene-alkylamine (POEA), as discussed in Comment EMC-0257-005 under PEIS Environmental Consequences, Wildlife Resources.

RMC-0095-006
New Mexico Department of Game and Fish

Comment: Ecological research has also established that many pesticides (including herbicides) can adversely affect amphibian behavior, growth and reproduction (Bridges 1997, 1999, Hayes et al. 2002, *in* Relyea 2005*c*). However, the PDEIS does not identify, analyze or address any of these potential impacts of proposed herbicide uses on amphibians, as indicated by these studies.

Response: See responses to Comment EMC-0643-077 under PEIS Environmental Consequences, Wildlife Resources and Comment EMC-0643-079 under PEIS Environmental Consequences, Fish and Other Aquatic Organisms.

RMC-0106-011
Public Employees for Environmental Responsibility

Comment: It is appropriately recognized (p. [page] 4-99 [of the Draft PEIS]) that there is a potential for herbicides to "...harm wildlife individuals, populations, or species"—whether "used properly or improperly." [emphasis added]. It is further stated (p. [page] 4-24 [of the Draft PEIS]) that misapplications caused by failure to follow label instructions are the leading cause of impacts on nontarget resources. Therefore, assessments based entirely on the assumptions that herbicide label instructions and Standard Operating Procedures are followed, are incomplete (p. 4-190 to 4-191 [of the Draft PEIS]). Potential and likely impacts of improper use must be assessed—this goes well beyond the "accident" scenarios set up in the D[raft] PEIS. The analysis should address likely impacts if label and SOP [Standard Operating Procedure] instructions are not followed—presumably the herbicide manufacturer has quantitative information on which to base label limits. The extent of what is not known to make such assessments must be completely spelled out. This identifies the extent to which the BLM proposes to continue running uncontrolled experiments on the environment, and should greatly restrict application of all herbicides to situations of special, documented need for chemical treatment with legally defensible oversight.

Response: The BLM identified worst-case scenarios (accidental spill scenarios), evaluated their risks, and identified SOPs and mitigating measures to prevent spills and accidents. The worker accidental spill scenario for the human health risk assessment assumes that the worker's skin is exposed to the herbicide, while the public receptor spill scenario assumes that an individual is accidentally sprayed. Both scenarios are conservative. For more information, see Appendix B (Human Health Risk Assessment) of the PEIS under Occupation Receptors and Public Receptors in the Exposure Assessment section, and Appendix C (Ecological Risk Assessment) under Non-target Species Exposure Characterization.

RMC-0106-038
Public Employees for Environmental Responsibility

Comment: [What] if the SOPs [Standard Operating Procedures] are not adhered to [on pages 4-96 and 4-97 of the Draft PEIS]?

Response: The BLM intends to follow all SOPs listed in the PEIS that apply to treatment activities conducted by the BLM.

RMC-0106-039
Public Employees for Environmental Responsibility

Comment: [On] p. [page] 4-116 [of the Draft PEIS], 3 of 5 mitigations are permissive, which experience shows are rarely employed.

Response: Two of the five mitigations are permissive. Currently, the BLM can apply the herbicides identified in these two mitigations (except Overdrive®) over large areas and using broadcast methods. These mitigations allow this activity to continue, based on the analysis of risks to wildlife, but encourage the BLM to reduce risks to wildlife by limiting the application area and using spot treatment methods.

RMC-0113-003
Grewal, Martha

Comment: One of my most exciting bird sightings was when I saw a flock of pinyon jays working through a stand of pinyon/juniper trees near Buena Vista Colorado. The only other sighting I've had of the pinyon jay was a few weeks ago near my home in Cedaredge Colorado, as they were feeding on the junipers. So I am concerned to read that the BLM is going to remove the pinyon/juniper forest. Other birds I have found in the pj forest are the brown creeper, pygmy nuthatch and bushtit. I understand that they might be a fire hazard, but I am at a loss to justify the removal of these trees for that reason.

Response: As discussed in Chapter 4 of the PEIS under Impacts of Herbicide Treatments on Wildlife and Habitat by Ecoregion, Subtropical Desert, "healthy pinyon-juniper woodlands, with a full complement of understory grasses, forbs, and shrubs, provide excellent wildlife habitat. However, in many areas, pinyon-juniper has increased in density to the point that understory vegetation is excluded, to the detriment of wildlife." In addition, broad-scale herbicide use in pinyon-juniper woodlands has not been popular over the past several decades, especially when used to open up pinyon-juniper stands. The possibility of destroying midstory shrubs that are important food sources is a major disadvantage to herbicide use. As noted, the BLM would remove pinyon-juniper trees where there would be benefits to wildlife and would avoid treatments in healthy pinyon-juniper woodlands.

RMC-0115-002
Maple, Susan

Comment: My first thoughts are for the effects these sprays or powders?, will have on our wildlife and the reproduction of their young. Then there's the concerns of the grasses that a lot of these animals depend on for food and what do they use for sustenance when you kill it all off?

Response: The effects to wildlife from herbicide treatments were discussed in Chapter 4 of the PEIS under Vegetation and Wildlife Resources. Although the BLM recognizes there would be short-term impacts to wildlife and their habitats, the intent of treatments is to improve habitat for wildlife over the long term, leading to increases in wildlife production and numbers.

RMC-0129-003
Noble, E.A.

Comment: What do you estimate to be the costs incurred by effects of aerial Spraying on the immune systems of birds in this day of West Nile virus and bird flu? Has any scientific literature in Asia shown evidence of massive use of herbicide/pesticide? We know about the initial cover-up of the water supply for cities near the river in China. Do we have any known evidence of the causes of weakening birds' immune systems correlated with West Nile and the bird flu? DDT certainly affected birds: why not currently 'cides?

Response: The BLM is not aware of any such literature. This is speculation and is beyond the scope of the PEIS.

RMC-0159-003
Proctor, Gradey

Comment: Amphibians are already experiencing a global decline, in part, scientists say, due to herbicide exposure. (Amphibians uptake oxygen through the skin, which allows these chemicals to be spread throughout their bodies). This is also the case with fish. In fact, the Region 6 District of the US Forest Service found that 12 of the 18 herbicides the BLM plans to use "likely to adversely effect" almost all federally Threatened, Endangered, and Sensitive species.

Response: See responses to Comment EMC-0643-077 and Comment EMC-0046-002 under PEIS Environmental Consequences, Wildlife Resources and Comment EMC-0643-079 under PEIS Environmental Consequences, Fish and Other Aquatic

Organisms regarding effects of herbicides to amphibians and how this issue is addressed in the Final PEIS. The Biological Assessment (BA) prepared in support of the PEIS/PER addresses the potential effects of herbicides on threatened and endangered species. According to risk assessments, and as summarized in the BA, many of the herbicides proposed for use by the BLM would potentially have an adverse effect on listed species. For this reason, conservation measures have been developed to avoid risks associated with herbicide use. These conservation measures are presented in the BA and incorporated into the mitigation measures found in the PEIS. When determining conservation measures, the BA takes into account the declining populations of certain species, as well as the levels of herbicide exposure that would be harmful to these species. Additional conservation measures would be developed at the local level, as appropriate.

RMC-0200-010
Lindsay, Dianne

Comment: The PEIS fails to show value for animals. It follows that spraying wildlife forage areas is of little or no concern in this proposal; the consciousness is consistent with research that is cited from work that is completed by administering poisons to helpless research animals.

Response: Chapter 4 of the PEIS under Wildlife Resources discusses the adverse effects and benefits of herbicide treatments on wildlife habitat, including forage and cover. As discussed in Appendix C of the PEIS under Uncertainty Analysis, Toxicity Data Available, most toxicological data is for laboratory test organisms. The reasons for selecting these organisms rather than wildlife are provided in this section.

RMC-0208-028
California Oak Foundation

Comment: The Draft PEIS does not include all the state and federally protected species likely inhabiting BLM-owned land or land adjacent to BLM-owned land in its catalog of Special Status Species. (See Draft PEIS, App. H.) That short-coming indicates a failure by the BLM to adequately analyze the impacts of its proposed use of herbicides within California's oak woodland habitats. Based on this data, a far greater number of species are likely to be affected by the anticipated use of herbicides on BLM lands within oak woodland habitats, and the Draft PEIS does not sufficiently address this fact.

Response: The BLM received a list of federally-listed species and species proposed for listing from the U.S. Fish and Wildlife Service and National Marine Fisheries Service to use in consultation. This list contained all of the listed species known or suspected to occur on BLM-administered lands in the program area as of September 2005. The BLM also queried all BLM State Endangered Species Coordinators for any additional species that may have not been included on the lists provided by the Services. The Biological Assessment acknowledges that such a list can be fluid. It is important to recognize that because the PEIS and Biological Assessment are programmatic and addresses species over such a wide geographic range, information on species, listing status, and critical habitat is likely to change over time. However, the Biological Assessment is still able to provide guidance for local BLM offices, since effects analyses are done largely by group of species, rather than individual species. Most importantly, consultation is still required at the local, site-specific level. Therefore projects such as those suggested in the oak woodlands would require this additional level of consultation.

RMC-0208-034
California Oak Foundation

Comment: Moreover, all four of these active ingredients, hexazinone, 2.4-D, triclopyr, and [glyphosate] are specifically designed to kill plants, which certainly has the potential for significant environmental impacts in the short and long term to both native flora and wildlife species that rely on such flora for forage and habitat. This

impact is particularly pernicious for oaks, which in some cases are the direct targets of the herbicide use. (See e.g. Draft PEIS at pp. [pages] 4-63, 4- 1 12; Draft PER at p. [page] 4-42). Obviously, the intended destruction of native oaks will impact the oak woodland ecosystem, which, as discussed above, is home to numerous endangered, threatened, or protected species or species of concern. The effect of BLM's proposed herbicide use within or near these ecosystems must therefore be assessed in terms of potential to impact ESA [Endangered Species Act] species and their habitats.

Response: All herbicides are designed to kill vegetation, and thus can harm vegetation used as habitat for wildlife. However, most of the herbicides used by the BLM or proposed for use, are selective and kill only certain types of plants and would have less harm on wildlife habitat (except the habitat of those species that use the vegetation being treated). Herbicides would not be used to destroy oaks, but if used in oak woodlands, would likely be used to improve range habitat by reducing weed infestations.

RMC-0208-036
California Oak Foundation

Comment: The PEIS also is deficient for failing to assess the potential of different herbicides to interact cumulatively and/or synergistically in both the aquatic and terrestrial environments. (Exhibit 29. [exhibits provided with comment]) Research suggests that these cumulative and synergistic effects are responsible, at least in part, for the precipitous decline in yellow-legged frogs and the Yosemite toad over that last two decades. (Exhibits 30 & 31.) Indeed, these studies show that frogs and toads are susceptible to environmental contaminants, even at low Levels (Exhibits 11, 13, 22, 24, 32, 33, 34), and that environmental contaminants may disrupt amphibian endocrine functions (Exhibits 11 & 13), increase the risk of disease by harming amphibians' natural immune system from viruses, fungi and bacteria (Exhibit 24), and/or disrupt the natural food chain by killing algae or aquatic invertebrates (Exhibit 23).

Response: The BLM has reviewed these and other documents and recognizes that herbicides may be harmful to amphibians and other organisms. In response to concerns from the public, the discussion on effects of herbicides on amphibians has been expanded in Chapter 4 of the Final PEIS under Wildlife Resources and Cumulative Effects Analysis (Wildlife Resources) to include information cited above and from other sources on the potential for herbicides to act synergistically and cumulatively and harm amphibians. Also see responses to Comment EMC-0643-077 under PEIS Environmental Consequences, Wildlife Resources and Comment EMC-0643-079 under PEIS Environmental Consequences, Fish and Other Aquatic Organisms for a discussion of measures the BLM would use to protect amphibians from herbicides.

RMC-0208-037
California Oak Foundation

Comment: Additionally, the PEIS fails to adequately address the extent to which BLM's proposed herbicide use will effect regions outside of the application zone. Several studies on pesticide and herbicide drift reveal that application of these toxic active ingredients impacts more area than just the application target. For example, patterns of decline among the federally protected red-legged frog indicate that pesticide drift may be playing a role in that species' decline in the Sierra Nevada. (Exhibit 23 ["wind-born agrochemicals may be an important factor in declines of the California red-legged frog." Note: exhibits provided with comment].) Indeed, concern for herbicide impacts to amphibians led the U.S. Forest Service to conclude that herbicides may not be applied within 500 feet of any yellow-legged-frog and Yosemite toad habitat. (Exhibit 35.) Moreover, recent U.S. Forest Service decisions have declined to allow the use of hexazinone and atrazine due to the likelihood that these persistent and mobile chemicals will find their way into aquatic environments. *(Ibid.)*

Response: The BLM evaluated the potential for herbicides to drift off-site via air or water and impact non-target plants and other organisms. Based on this analysis, which was done as part of the ecological risk assessment for each herbicide, the BLM developed buffer guidance for each herbicide to minimize the risk of drift affecting organisms outside the treatment area. This information is also provided in the Vegetation, and Fish and Other Aquatic Organisms sections of Chapter 4 of the PEIS, and in the Biological Assessment. Under the Preferred Alternative and alternatives D and E in the PEIS, the BLM would not use atrazine.

RMC-0208-041
California Oak Foundation

Comment: And, while efforts at establishing buffer zones have been viewed as an appropriate solution – and indeed, is identified as a mitigation measure in the Draft PEIS (see e.g. Draft PEIS, at pp. [pages] 2-1 7 to 2-24: 4-23 to 4-35), "small lakes and ponds, often favored by amphibians as breeding sites, are not protected from contamination by buffer zones, and the eggs and tadpoles of the resident species are likely to be exposed to low concentrations of the sprayed chemicals." (Exhibit 25 [provided with the comment].) Therefore, even this accepted mitigation measure is ineffective in some instances.

Response: It is possible that some areas used by amphibians could be sprayed. However, effects to eggs and tadpoles could be avoided by conducting pre-project surveys to identify areas with amphibian populations that are susceptible to herbicide spraying; applying herbicides outside of the breeding period; using herbicides of little or no toxicity to amphibians; using herbicide treatment methods (e.g., spot applications) that minimize risks to amphibians; and using non-herbicide treatment methods. These Standard Operating Procedures were discussed in Chapter 2 under Herbicide Treatment Standard Operating Procedures Guide.

RMC-0208-053
California Oak Foundation

Comment: Despite this compelling evidence of the damaging effects of certain active ingredients on amphibians, the Draft PEIS "did not assess risks to amphibians from herbicide treatments." (Draft PEIS, at p. [page] 4-111.) Rather, the BLM appears to rely on the conclusion of the USEPA, which found the data "inconclusive regarding the risks to amphibians from atrazine." (*Ibid.*) That the USEPA found the data inconclusive, however, does not absolve the BLM from considering, as a policy matter, the potential effects of compounded herbicide use in environments inhabited by amphibians.

Response: See response to Comment RMC-0208-036 under PEIS Environmental Consequences, Wildlife Resources.

RMC-0213-012
California Native Plant Society

Comment: In addition to direct and cumulative impacts to rare plant species, pesticide use constitutes a significant threat to pollinators of rare plants. Research has shown that pesticide damage to native pollinators—either from direct exposure or from foraging on contaminated plants—can cause significant reductions in seed set. Pesticide use in rangelands and agricultural regions also threatens rare plant survival by reducing pollinator populations. In the case of butterflies and moths, detailed information on host (larval and nectar) food sources is crucial to assess impacts to plants that rely on these species for pollination services. Studies have found that herbicides negatively impact pollinators' eggs as well as their host plants. Herbicide use can have adverse impacts to pollinators necessary for reproduction in native plant populations. Studies have also found that use of herbicides over large landscapes can deplete pollinators that may depend upon exotic species for nectar and pollen in order to survive during migrations.

Response: Very little information is available on the effect of herbicides on native pollinators. Most information is on the non-native honeybee, which is the subject of most dose-response studies. The BLM proposes to use the conservation measures outlined in the Biological Assessment to protect special status species and federally-listed species. Some of those conservation measures relate to pollinators. At the project level, direct and indirect effects (including effects on pollinators and their larval plants that may be present in the project area) from the proposed action will be analyzed. If it is determined that the proposed action "May Affect" Endangered Species Act-listed species, Section 7 consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service will be initiated. Mitigation measures for non-listed special status species will also be incorporated into project designs in an effort to avoid the need to list these species in the future.

RMC-0218-014
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: We are especially concerned about the fate of amphibians, which are experiencing a global decline, in part, scientists suspect, due to herbicide exposure, and about herbicide threats to fish populations. Region Six of the Forest Service found their proposed use of 12 of the 18 herbicides the BLM plans to use would be "likely to adversely affect" almost all federally listed Endangered, Threatened and Sensitive fish species in the region and all commercially important fish species, including salmon, steelhead trout and Bull trout. There should be no herbicide use in riparian areas or aerially.

Response: See response to Comment RMC-0159-003 under PEIS Environmental Consequences, Wildlife Resources for a discussion of how herbicides impact amphibians, how this issue is dealt with in the Final PEIS, and what mitigation and other protection measures the BLM would follow to protect amphibians. Only about 1% of herbicide treatments would occur in riparian and other aquatic areas, and in many cases these treatments would occur in areas without amphibians, or involve spot applications that would have limited impact on amphibians.

RMC-0222-099
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Nonlethal effects on amphibians (effects on amphibians other than mortality): The DEIS [Draft PEIS] ([Appendix C on page] C-10) states that "mammals and birds were used as the surrogate species for reptiles and amphibians because of the lack of data for these taxa (fish were used as surrogates for juvenile amphibians)." However, scientific accuracy requires that, at a minimum, available data should be used. For example, a study showing that 2,4-D interferes with normal hormone function and maturation of eggs in frogs should not be omitted. Such a study was conducted by researchers at Willamette University and published in the journal *Molecular Reproduction and Development.* (Stebbins-Boaz et al. 2004) In addition, a study conducted by biologists at Trent University, and the University of Victoria and published in the journal *Environmental Toxicology and Chemistry* showed that environmentally relevant concentrations of Roundup (glyphosate) herbicides caused the development of intersex in frogs. (Howe et al. 2004)

Response: The BLM did not include an ecological risk assessment (ERA) of 2,4-D or Roundup® (glyphosate) in Appendix C of the PEIS. The BLM relied on the Forest Service's ERAs for these two herbicides and presented the results of the Forest Service assessments in Chapter 4 of the PEIS. The studies referred to in the comment were published after the Forest Service's ERAs. The BLM evaluated potential endocrine disrupting herbicides in Appendix D of the Final PEIS. Also see response to Comment RMC-0221-070 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

RMC-0222-102
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Effects on birds of herbicide damage to habitat: In reference to chlorsulfuron, the DEIS [Draft PEIS] ([page] 4-100) states, "Its use in forested rangeland and other wildlife habitat areas could benefit wildlife over the long term by controlling invasive plant species and promoting the establishment and growth of native plant species that may provide more suitable wildlife habitat and forage." However, the DEIS [Draft PEIS] omits discussion of a series of studies showing that minute of amounts of chlorsulfuron can disrupt the production of seeds and fruits by many species of plants, destroying an important food source for birds. The studies were conducted by researchers at the U.S. Environmental Protection Agency and the University of Oklahoma, and published in the journals *Environmental Science and Technology*, *Pysiologiia Plantarum*, and *Environmental Toxicology and Chemistry*. (Fletcher, Pfleeger, and Ratsch 1993, Fletcher, Pfleeger, and Ratsch 1995, Fletcher, J.S. et al 1996).

Response: As noted in Chapter 4 of the PEIS under Vegetation, chlorsulfuron is highly active with only small concentrations needed to kill target plants. It is primarily used on perennial broadleaf weeds and grasses, but can harm non-target vegetation. Thus, the PEIS recommends that chlorsulfuron be applied at the lowest possible dose and with buffer distances of at least 900 feet from non-target plant populations to protect plants used by birds and other wildlife.

RMC-0222-103
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: In addition, the DEIS [Draft PEIS] ([page] 4-102) states that "tebuthiuron is used to thin shrubs, creating a more favorable habitat for shrub-dependent species." However, the DEIS [Draft PEIS] ignores research showing, for example, that lesser prairie-chickens prefer untreated nesting areas to those treated with tebuthiuron. This research was done by scientists at Texas Tech University and published in the journal Great Basin Naturalist. (Haukos and Smith 1989).

Response: The PEIS attempted to provide a reasonable review of the literature on herbicide use that showed both the adverse and positive aspects of herbicide use. Thus, not all studies done on wildlife and herbicides were included in the PEIS. However, the PEIS does note in Chapter 4 under Wildlife Resources that tebuthiuron may persist in the soil for several years and injure understory grasses, and that broadcast applications are often not effective. The PEIS cites a study by Doerr and Guthery (1983) in which tebuthiuron controlled shinnery oak without harming forbs required by lesser prairie chickens.

RMC-0222-119
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The following information on the effects of herbicides on sage grouse is excerpted from Rowland (2004), which was not referenced in the DEIS [Draft PEIS].

> Until the 1980's, herbicides such as 2,4-D were the most common method of eliminating large blocks of sagebrush (Connelly et al. 2000b). Lands after treatment often were planted with crested wheatgrass or other non-native perennial grasses for livestock forage. Application of herbicides affects all seasonal ranges of sage-grouse (Connelly et al. 2000b), and its effects have been widely reported compared to other land management practices (e.g., Gill 1965, Martin 1970, Carr 1967, Klebenow 1970, Pyrah 1970, Braun and Beck 1976, Rowland and Wisdom 2002).

Response: This reference is not cited in the PEIS. However, the PEIS includes more specific information on the adverse and beneficial effects of 2,4-D and other herbicides on sage-grouse and other wildlife in Chapter 4 under Wildlife Resources, Impacts of Herbicide Treatments on Wildlife and Habitat by Ecoregion.

RMC-0222-120
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Spraying of herbicides primarily degrades habitat for sage-grouse by increasing fragmentation and removing shrubs used as nesting cover. Long-term studies in North Park, Colorado, revealed that applying 2,4-D resulted in reduced cover of sagebrush, fewer sagebrush plants and forbs, and lek abandonment (Braun and Beck 1976, 1996). Production of sage-grouse, as measured by percentage young in the harvest and chicks per hen, declined in the 5 yr following treatment but rebounded by 15 year post-treatment (Braun and Beck 1996). Hens with broods avoided sprayed blocks while moving toward traditional brood-rearing habitats (Carr 1967, Carr and Glover 1971). In another study in North Park, in which >120 flocks (>3,000 birds total) were observed during two winters, only 4 flocks were found in altered (by spraying with 2,4-D, plowing, burning, or seeding) sagebrush habitats, although >30% of the study area had been treated (Beck 1977).

Response: See response to Comment RMC-0222-103 under PEIS Environmental Consequences, Wildlife Resources.

RMC-0222-122
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Herbicides may also be toxic to sage grouse, although sage grouse are not mentioned once in the DEIS [Draft PEIS] Ecological Risk Assessment (DEIS [Draft PEIS] II, Appendix C) or draft Biological Assessment. Wallestad (1975) and Blus et al. (1989) have noted the detrimental effects on sage grouse populations from application of herbicides and pesticides. Besides their acute effects, many herbicides have chronic effects, and may act as endocrine disrupters. Further, sage grouse in areas that have been treated with tebuthiuron (Spike) have been observed engaging in atypical behaviors. For example, during a period when most males were flocking, "one male [was] consistently alone in an area where sagebrush has been treated with Spike" (Brigham 1995). Another male was observed sitting out "in the open" in "the heat of the day" even though a sagebrush provided shade only 50 meters away (Brigham 1995). Although anecdotal, such observations may reflect contaminant mediated behavioral alterations.

Response: Because sage-grouse are not federal threatened or endangered species, they were not covered in the Biological Assessment. The risk assessments primarily focused on impacts to animal guilds, including birds. Again, since sage-grouse are not afforded special protection, they were not included in the rare, threatened, or endangered sections of the risk assessments. However, Chapter 4 of the PEIS and PER under Wildlife Resources include information on the risks and benefits of herbicide and other treatment methods to sage-grouse and other wildlife.

RMC-0222-134
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: As described in these comments and other sources, habitat manipulation (by fire and mechanical methods), herbicides, and land uses, such as livestock grazing, harm sage grouse.

Response: Chapter 4 of the PER and PEIS under Wildlife Resources discusses the adverse and positive impacts of habitat manipulation, including use of fire and herbicides, on sage-grouse.

RMC-0230-003
Cushman, Robin

Comment: Open forest re-growth areas and roadsides are prime environments for butterflies and moths. These lepidoptera utilize a wide range of host and nectar plants, both of which are essential for the successful reproduction and continuation of these animals – in larval and mature stages. Many of the plants your agency deems as competing with trees, hence as being "weeds," are crucial for the life cycle – for

example, Chinkapin is the specific host plant for Golden Hairstreak in the larval stage. Other host plants include: willows, alders, bitter cherry, chokecherry, amelanchier, stinging nettles, salal, Oregon grape, ceanothus, manzanita, ribes, and bearberry. There are even more roadside species that function as host and nectar sources: coltsfoot, grasses, sedges, etc. Have you ever experienced seeing ceanothus vibrating with the feeding larvae? It is amazing!

Response: The BLM proposes to use the conservation measures outlined in the Biological Assessment to protect special status species and federally-listed species. Some of those conservation measures relate to pollinators. At the project level, direct and indirect effects (including effects on pollinators and their larval plants that may be present in the project area) from the proposed action will be analyzed, and if it is determined that the proposed action "May Affect" Endangered Species Act-listed species, Section 7 consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service will be initiated. Mitigation measures for non-listed special status species will also be incorporated into project design in an effort to avoid the need to list these species in the future. The PEIS/PER also includes a Standard Operating Procedure (see Chapter 2) that requires that damage be minimized to non-target plants by using a selective herbicide and a wick or backpack sprayer.

RMC-0230-004
Cushman, Robin

Comment: Massive, indiscriminant spraying in re-growth areas will deprive the lepidoptera of their habitat. A policy of backpack spraying of herbicides that target specific non-native plants would be a healthy compromise. Aerial spraying of more generic herbicides would be a death knell for many species within the sprayed areas.

Response: The BLM proposes to use the conservation measures outlined in the Biological Assessment sent to the USFWS as part of Endangered Species Act Section 7 consultation on the PEIS to protect special status and federally-listed species. Some of those conservation measures relate to Lepidoptera and have the potential to be incorporated into project design during the NEPA analysis at the local level. The PEIS/PER (see Chapter 2) also includes a Standard Operating Procedure that requires that damage be minimized to non-target plants by using a selective herbicide and a wick or backpack sprayer.

RMC-0233-011
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Migratory birds would be adversely impacted by these proposed projects, given the estimated 6 million acres proposed to be treated annually. To help meet responsibilities under Executive Order 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds), for the final PEIS/PER, we recommend the BLM evaluate each proposed project for its impacts on migratory birds, specifically the Service's list of Birds of Conservation Concern (2002) and the Partners in Flight priority list species. Specifically, for projects that occur within breeding seasons for migratory birds, we recommend the PER provide for pre-treatment surveys. These would support the pre- and post-monitoring that would be an integral part of the projects. Finally, for the final PEIS/PER, we recommend that a goal of avian habitat improvement be encouraged and designed for each of the proposed project designs. This conceptual approach could result in the development of various pro-active treatment prescriptions that would focus on improving bird habitat.

Response: Much of the discussion in Chapter 4 of the PEIS and PER, under Wildlife Resources, focuses on improving habitat for birds, mammals, reptiles and amphibians, and other wildlife. As noted in this section, treatments could have short-term adverse effects on birds, but should provide long-term benefits in terms of improved habitat and a reduced risk of weed infestation and loss of habitat due to wildfire. Standard

Operating Procedures and mitigation measures given in Chapter 2 of the PEIS and PER recommend that treatments occur outside of critical periods, including the breeding season for birds when feasible, and that monitoring be conducted to assess the successes and failures of treatments needed to improve treatments over time. The potential effects of vegetation treatments on migratory birds would be evaluated at the local level prior to implementing treatment activities.

RMC-0233-014
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Please use the following information on greater sage-grouse for your final analysis in the final PEIS/PER: Chemical control of sagebrush has resulted in declines of sage-grouse breeding populations through the loss of live sagebrush cover (Connelly et al. 2000). Herbicide treatment also can result in sage-grouse emigration from affected areas (Connelly et al. 2000), and has been documented to have a negative effect on nesting, brood carrying capacity (Klebenow 1970), and winter shrub cover essential for food and thermal cover.

Response: Similar information on the adverse effects of herbicides on sagebrush cover and sage-grouse habitat was included in Chapter 4 of the PEIS and PER under Wildlife Resources. However, we have included the Connelly et al. 2000 review mentioned above in the Final PER.

Environmental Consequences, Livestock

EMC-0214-016
Vollmer, Jennifer (BASF)

Comment: Effects on livestock, effects on wild horse and burros. As with the effects on wildlife section, these sections are very poorly represented and misleading.

Response: The general nature of this comment makes it very difficult to respond. One purpose of a PEIS is to disclose the "potential" impacts of an action that is being considered. In this case the potential impacts are identified, along with potential benefits and mitigation measures that could be useful for avoiding or reducing those impacts. All actions have some potential impact, and although potential impacts are disclosed that does not mean the agency is rejecting that alternative or is prohibited from accepting that alternative. The information in the PEIS is simply used to help the agency consider potential impacts, both adverse and beneficial, and allow the BLM to make an informed decision.

EMC-0338-014
Dow AgroSciences

Comment: Comments about risks to large herbivores and livestock: In various places throughout the PEIS, a concern is expressed regarding large herbivores and livestock grazing herbicide treated forage. There appears to be a general misunderstanding on exposure to large herbivores, including livestock, due to the presence of grazing or haying restrictions on the labels. Grazing and haying restrictions are in place to regulate pesticide residues in meat and milk tissue, they are not a function of the herbicide's toxicity to the grazing animal. Any grazing restriction is to ensure residue levels in meat tissue are within the tolerances established by USEPA. Therefore it is erroneous to imply a danger to livestock or large herbivores from grazing treated forage (within the label allowances for range and pasture applications) for triclopyr, picloram, tebuthiuron or other herbicides approved for use on grazed areas.

Response: For each chemical used, the label identifies the period of time after which it is safe for grazing animals to return to the treated area. The BLM will communicate with the grazing permittee and follow those label instructions, which require the temporary removal of livestock from the area following treatment. Although the amount of time varies for each chemical, typically livestock can return within 24 to 96 hours. Additional rest from livestock grazing over and above the amount listed for the

chemical may be necessary to allow recovery of non-target plants, and to reduce the opportunity for the treated vegetation to reestablish on the site. We have modified the discussions in the PEIS for specific chemicals to make it clear that livestock health would not be affected as a result of exposure to these chemicals at the recommended rates of application, but that restrictions are identified to regulate pesticide residues in meat and milk products.

EMC-0493-002
Blankenship, Jill

Comment: But anyways, my question is, I live near Beale Air Force Base in Smartville, California. I see a lot of cattle grazing on what I believe to be BLM land, if you spray after a waiting period will it be safe for the cattle to graze on that land again? Grazing land for ranches is getting scarce; I would hate to see any more lost.

Response: Yes. For each chemical used the label identifies the period of time after which it is safe for grazing animals to return to the treated area. The BLM would communicate with grazing permittees and follow label instructions, which could mean temporary removal of livestock from the area. Although the amount of time varies for each chemical, typically livestock can return within 24 to 96 hours.

EMC-0525-010
Western Watersheds Project

Comment: How has this depletion affected livestock patterns of use, acres per AUM [Animal Unit Month], invasion of hazardous fuels like cheatgrass, increased densities of woody vegetation, etc? What are the acres per AUM across vegetation types at present, and how do they compare to stocking rates of good or better ecological condition communities? How many acres per AUM are required to sustain cattle or sheep in the lower salt desert shrub or Wyoming big sagebrush communities, and how does this compare to current stocking rates on these lands?

Response: Because of the nature of the comment, it is only possible to respond in very general terms. If land health is degraded, livestock patterns do change. First of all, the livestock themselves may spend less time in degraded areas because forage, and possibly other resources like shade and water, may be less available. In addition, these conditions may result in modification to the permitted season of use and/or the total amount of use measured in AUMs. The question of how may acres per AUM are required to sustain cattle or sheep in lower salt desert shrub or Wyoming big sagebrush communities is difficult to answer because these allocations are very site-specific and can vary from one ecological site to the next depending on soil conditions, climate, slope, etc. The allocations on public lands are often more conservative and prescribe more acres per head of livestock than the suggested stocking rates for good or better ecological condition communities.

EMC-0533-018
EMC-0548-035
Colorado Farm Bureau
Utah Farm Bureau Federation

Comment: BLM should consider how it will carry out its multiple use mandate during treatments under this plan. The proposal to increase the area of treatment has the potential to disrupt or displace existing uses, such as livestock grazing. Suspension of grazing permits for the 2-3 years required for range restoration work could result in many livestock producers being forced out of business. Any proposals in the [P]EIS that consider displacement of livestock grazing permits for any period of time must also consider ways to keep permittees in business during the time that their allotments are treated. These proposals could include providing alternative pastures for grazing during the time that a permittee's allotment is being treated, using vacant allotments for alternative use, using a permittee's livestock to control weeds or reduce fire loads in a nearby sector, or other creative ways to not reduce livestock grazing.

Response: The BLM does communicate with grazing permittees when planning vegetation management treatments. Notifying the permittee, and providing alternative forage sites for livestock "if possible" were both identified as Standard Operating Procedures in Table 2-5 of the PER. The BLM does consider vacant pastures or allotments when planning vegetation treatment projects, but vacant allotments or forage reserve areas are often not available. The BLM recognizes the potential advantages of using forage reserve areas to help facilitate the needed rest following vegetation treatments, including the potential benefits to grazing permittees by providing more options during the rest period when allotments are unavailable due to vegetation treatment projects, or natural events such as wildfire or drought.

RMC-0040(2)-003
Resource Concepts, Inc.

Comment: Pg [Page] 4-123 [of the Draft PEIS], in the first full paragraph of the page, it is stated that spot treatments of vegetation could be applied at any time. Caution should be taken when treating vegetation adjacent to livestock water sources. Spot treatments should not be applied around water sources in pastures with limited water when livestock are grazing in the pasture. Instead, a standard operation procedure addition could include not allowing treatment of vegetation within close proximity to water sources (especially springs, tanks, ponds, and other developed water sources) while livestock are grazing in water, limited pastures.

Response: See response to Comment RMC-0061-003 under PEIS Environmental Consequences, Livestock.

RMC-0040(2)-005
Resource Concepts, Inc.

Comment: Pg 4-126 [of the Draft PEIS], in the paragraph concerning diquat, it was stated that the chemical could be of most concern if used in riparian areas where livestock are exclusively grazing. The document goes on to state that the unlikely scenario of this happening was not modeled. It should be a standard operating procedure, or part of the regulated use on diquat, that diquat will not be used in a riparian pasture while livestock are held in the same riparian pasture. Grazing duration is generally short in most riparian pastures and should allow sufficient time for livestock to be removed from the pasture before diquat treatments are applied.

Response: See response to Comment RMC-0061-005 under PEIS Environmental Consequences, Livestock.

RMC-0061-003
Resource Concepts, Inc.

Comment: Pg. [Page] 4-123 [of the Draft PEIS]. In the first full paragraph of the page, it is stated that spot treatments of vegetation could be applied at any time. Caution should be taken when treating vegetation adjacent to livestock water sources. Spot treatments should not be applied around water sources in pastures with limited water when livestock are grazing in the pasture. Instead, a standard operating procedure addition could include not allowing treatment of vegetation within close proximity to water sources (especially springs, tanks, ponds, and other developed water sources) while livestock are grazing in water, limited pastures. Another standard operating procedure for small infestations and large spot treatments should include temporary fencing to prevent livestock from grazing the weed infested area, when optimal herbicide treatment times conflict with grazing plan schedules.

Response: The BLM agrees with the majority of this comment, and the text has been revised to reflect the comment. The second suggestion of including temporary fencing as a Standard Operating Procedure has not been included in the text, however. Although temporary fencing may be useful in many situations, it is not appropriate for every situation and therefore is not included as a Standard Operating Procedure.

RMC-0061-004
Resource Concepts, Inc.

Comment: Pg [Page] 4-123 [of the PEIS] In the fourth paragraph on this page, herbicide treatments are being proposed to reduce the risk of future catastrophic wildfire for weeds of concern including downy brome, Russian thistle, kochia, oak, and pinyon juniper. Herbicide applications of tebuthiuron or other herbicides could actually increase the risk of catastrophic wildfire. Leaving standing dead trees and tree branches on-site after application of herbicide treatment could result in higher quantities of low moisture fuels that carry fire faster and hotter than live vegetation. Reducing the percentage of live pinyon and juniper trees in an area through chemical treatment should result in less competition for native grass and forb species, which is a benefit of treatment. However, increases in grass, forb, and shrub fuels are expected and can negate the supposed "fuel reduction" purpose behind the treatment. In my opinion, chemical treatment of selected species such as cheatgrass, pinion-juniper, and some other species should only come as a last resort, unless protecting a new seeding from invasive species, for example. Fuels management grazing and biomass harvest plans should be a prerequisite to chemical applications whenever possible.

Response: See response to Comment RMC-0069-016 under PEIS Proposed Action and Purpose and Need, Purpose and Need for the Proposed Action.

RMC-0061-005
Resource Concepts, Inc.

Comment: Pg [Page] 4-126 [of the Draft PEIS]. In the paragraph concerning diquat, it was stated that the chemical could be of most concern if used in riparian areas where livestock are exclusively grazing. The document goes on to state that the unlikely scenario of this happening was not modeled. It should be a standard operating procedure, or part of the regulated use on diquat, that diquat will not be used in a riparian pasture while livestock are held in the same riparian pasture. Grazing duration is generally short in most riparian pastures and should allow sufficient time for livestock to be removed from the pasture before diquat treatments are applied.

Response: The text has been modified for diquat in the Livestock section of Chapter 4 of the PEIS in response to this comment.

RMC-0061-006
Resource Concepts, Inc.

Comment: Pg. 4-130 [of the Draft PEIS]. In the paragraph regarding Triclopyr, there is a statement that it is important to limit exposure of cattle and horses to triclopyr sprayed vegetation until residual activity has tapered off. A time frame should be given indicating a typical time for removal of livestock from treated rangelands. If treatment areas are small, they should be temporarily fenced, or scheduled during a period of rest in the standard grazing system for the allotment affected.

Response: The label for this product indicates that all livestock except for lactating dairy animals can graze at any time, but they do recommend that livestock be withdrawn from grazing treated forage 3 days prior to slaughter. The Livestock section of Chapter 4 of the PEIS under Triclopyr was modified to reflect these recommendations.

RMC-0115-003
Maple, Susan

Comment: You mention cattle grazing lands that are in BLM acres, what effect do these herbicides have on our beef steer?

Response: The potential effects of herbicide use on livestock are discussed in the Chapter 4 of the PEIS under Livestock. This discussion includes Standard Operating Procedures and mitigation measures designed to reduce impacts to livestock. In general, the timing of herbicide application can be scheduled to occur when livestock are not present, or livestock can be specifically removed when herbicide is applied to reduce the potential effects on livestock. Each chemical prescribes a period of time

when grazing animals are allowed to return to the treated area. Although the period of time varies depending on the chemical applied, in general grazing animals can safely return within a few days.

RMC-0164-015
Wyoming Department of Agriculture

Comment: The only herbicide the WDA [Wyoming Department of Agriculture] has concern with is diquat. The use of this product could be detrimental to cattle grazing on BLM lands post-application. Pesticides with diquat as the active ingredient typically have label restrictions on grazing, and the use of the treated area as food crop. Therefore, we request diquat only be used in areas or situations where livestock will not be exposed to treated vegetation. However, it is evident that the application of diquat at the labeled rate, will have little to-no effect on the environment, and therefore we support its inclusion on the BLM approved pesticide list.

Response: See response to Comment RMC-0061-003 under PEIS Environmental Consequences, Livestock.

RMC-0222-036
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The DEIS [Draft PEIS] does estimate that more herbicide use will mean more livestock grazing potential ([page] 4-123): "In cases where herbicide treatments are able to reduce the cover of noxious and unpalatable weeds on grazed lands, this would create short- and long-term benefits to livestock by increasing the quality of forage" [emphasis added].; However, the DEIS [Draft PEIS] then claims that analyzing whether more livestock grazing will mean even more herbicide use is beyond the scope of the DEIS [Draft PEIS] ([page] 2-12: "...restrictions on [livestock grazing] would only be considered to the extent that they are consistent with BLM vegetation and land use management practices"). Thus, the DEIS [Draft PEIS] discusses the linkage of herbicide use to increased livestock forage, but refuses to consider the link of livestock grazing to increased herbicide use.

Response: See response to Comment RMC-0080-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients. The analysis under Summary of Herbicide Impacts in the Livestock section of Chapter 4 of the PEIS is correct. Reducing the cover of noxious and unpalatable weeds would increase the quality of the forage. It does not necessarily follow that increased quality of forage leads to increased livestock grazing activity. See response to Comment RMC-0222-035 under PEIS Proposed Action and Purpose and Need, Scope of Analysis. There is no established relationship between livestock grazing use and herbicide use.

Environmental Consequences, Wild Horses and Burros

EMC-0585-104
Western Watersheds Project

Comment: [Page] ES-5 [of the Draft PEIS] mentions Diquat in relation to wild horses, and wrongly concludes they are "unlikely" to be exposed to it. Wild horses may seek out limited desert water sources, and they eat water cress and other aquatic plants (K. Schultsmeier, per comm. to Fite). If the only water source for wild horses is sprayed, exposure would be certain. Here, as throughout the [P]EIS and PER, BLM ignores the realities of wild arid landscapes.

Response: The Final PEIS at page ES-5 summarizes the direct and indirect impacts to livestock and wild horses from herbicide use. The risk assessment identifies diquat as being toxic to these animals; however, frequent exposure of livestock and wild horses to diquat would be unlikely, since it is applied as an aquatic herbicide. Diquat is typically applied to large water bodies, such as streams, rivers, and large ponds or lakes with interconnectivity. It is used to control invasive species such as giant

salvinia, which is found in the Colorado River system and has the potential to spread throughout the aquatic system. Water sources for livestock and wild horses in arid environments are usually localized spring sources and seeps, which are not typically treated with herbicides, including aquatic herbicides such as diquat. See the Standard Operating Procedures in Table 2-5 of Chapter 2 of the PER for buffer distances for terrestrial herbicide applications around all water sources. The BLM agrees that if the only water source for wild horses were treated with diquat, exposure of the animals to diquat would be certain. This scenario, as an accidental spill or direct application, was modeled in the risk assessment, which determined that it would not result in the frequent exposure necessary to have a toxic effect on the animal. Furthermore, this scenario is unlikely, since desert water sources utilized by grazing animals are not typically sources of invasive plant infestations with the potential to spread into other areas or systems. Therefore, it is highly unlikely that a treatment program using diquat would target such a water source, as speculated. In the event a treatment program was identified in which an aquatic herbicide could affect grazing animal water sources, appropriate mitigation of impacts to the grazing animals would be identified in the site-specific NEPA analysis, and mitigation would be implemented to protect the animals from direct or indirect exposure.

EMC-0585-249
Western Watersheds Project

Comment: What we have been seeing happen is that BLM is purposefully rounding up/clearing off horses in advance of the "hazardous fuels" projects that are already being conducted. This appears to be aimed at allowing domestic livestock to get all the grass and weeds that grow up after their haz fuels/weed "treatments". Yet, the stocking rate of domestic livestock on the treated lands is not changed. Nowhere is there an analysis of how the ecological balance is affected by significant reductions in horse numbers accompanying treatments, and only a year or 2 removal of livestock and only from the immediate area of the treatment – if even that occurs.

Response: In planning hazardous fuels treatment projects, the BLM identifies specific vegetation management goals and objectives to be accomplished as a result of the treatment, as well as any interim management actions necessary to assure those goals and objectives are attained. These management actions may include resting an area from livestock or wild horse or burro use for a period of time, temporary fencing, or other actions. As stated in Chapter 1, Purpose and Need, these site-specific actions are addressed in National Environmental Policy Act documents prepared by local BLM offices and tiered to this document.

EMC-0585-250
Western Watersheds Project

Comment: No assessment is provided of the lethal infrastructure (to horses) that may accompany treatments. For example, Nevada BLM has recently killed wild horses by constructing fences around GBRI [Great Basin Restoration Initiative] cheatgrass "treatments" that cut wild horses off from water. Fences and other impediments to wild and free roaming horses are common accompaniments to BLM "treatments". Fences shift or alter horse use, force them into sub-optimal habitats, heighten conflicts with livestock or wildlife, and may cause injury or death by entanglement.

Response: The BLM is required to undertake management activities with the goal of maintaining free-roaming behavior of wild horses and burros. In considering interim management actions to protect vegetation treatment areas, BLM assesses the site-specific impacts of these actions, such as fencing, removal of livestock grazing, etc. together with the direct, indirect and cumulative impacts of the project. As noted in Chapter 1, Purpose and Need, site-specific impacts, including impacts to the wild and free roaming behavior of wild horses and burros, are analyzed in a site-specific National Environmental Policy Act document prepared by local BLM offices and

tiered to this document.

RMC-0211-023
Ghandi, Theresa Marie K.

Comment: BLM's plan to remove wild horses during herbicide application did not seem practical. What is the plan for the 240,000 antelope in Wyoming the endangered prairie dogs, bison and migrating birds that can not read the herbicide labels, accepting liability in deciding to eat herbicide contaminated food sources that have been safe in the past? This is a big assumption.

Response: As noted under Standard Operating Procedures in Chapter 2 of the PEIS, the BLM would try to remove wild horses and burros from a treatment area, if feasible. More importantly, the BLM would focus on using herbicides and herbicide treatment methods with the least impact to wildlife. Thus, risk assessments were conducted by the BLM to determine which herbicides were most safe to use around wildlife, including special status species. As noted in Chapter 4 of the PEIS under Wildlife Resources, and in the Biological Assessment, additional restrictions would be placed on herbicide use by the BLM in areas with species of concern.

Environmental Consequences, Paleontological and Cultural Resources

EMC-0203-003
Institute For Culture and Ecology

Comment: The vegetation treatments and [P]EIS reports inadequately address impacts to thousands of tribal and nontribal people who gather nontimber forest products (NTFP) (aka [also known as] Special Forest Products) in the region for commercial, subsistence, and recreational purposes. This is true for both Native American tribal users and nontribal rural and urban users. For example, impacts are not addressed for the pinon seed (aka pinenut) industry, the native seed collection industry, the wild medicinals industry, and for recreational users who are generally under the assumption that products they gather on public lands are free of chemicals. Nontimber forest products occurring in these areas include hundreds of species (processed into thousands of products) including native seeds, edible foods, medicinal plants, decorative products and plants harvested for saps, resins, and fragrances. The cultural value as well as the economic value of these products in the areas covered by the EIS is known to be highly significant to individuals and communities. They are significant culturally and economically, for full-time harvesters and businesses as well as the occasional harvester. As an example the NTFP species database at www.ifcae.org/ntfp/ lists 472 commercially harvested species for Colorado alone. However, the EIS does not adequately discuss these values, nor does it include a sufficient discussion of the impacts of the proposed vegetation treatment policy on either the economic or cultural values of NTFP harvesting.

Response: The Final PEIS and PER provide discussions of the effects of treatments in Chapter 4 in the section on Paleontological and Cultural Resources and Human Health and Safety and in Appendix D of the PER (Native American and Alaska Native Resource Uses). The PEIS and PER provide a broad assessment of the impacts of BLM vegetation treatment activities on nontimber forest products that are harvested by Native Americans and others. However, the BLM will consult on the impacts of specific treatment projects on the various NTFPs that are harvested and used by members of the tribal communities as a part of the federal government's government-to-government relationship with the Tribes and their members.

EMC-0621-002
Alliance of Forest Workers and Harvesters

Comment: The Draft PEIS and PER inadequately address impacts to thousands of tribal and nontribal people who gather nontimber forest products (NTFP) (aka [also known as] Special Forest Products) in the region for commercial, subsistence, and recreational purposes. This is true for both Native American tribal users and nontribal

rural and urban users. Nontimber forest products occurring in these areas include hundreds of species (processed into thousands of products), including native seeds, edible foods, medicinal plants, decorative products and plants harvested for saps, resins, and fragrances. Both the cultural and economic value of these products in the areas covered by the Draft PEIS is known to be highly significant to individuals and communities. They are significant culturally and economically for Native American or cultural harvesters, subsistence harvesters, full-time harvesters and businesses, as well as for the occasional harvester. However, the Draft PEIS does not adequately discuss these values, nor does it include a sufficient discussion of the impacts of the proposed vegetation treatment policy on either the economic or cultural values of NTFP harvesting.

Response: See responses to Comment EMC-0621-006 under PEIS Environmental Consequences, Vegetation, and EMC-0203-003 under Environmental Consequences, Paleontology and Cultural Resources. Also see Chapter 5 in the PEIS under Government-to-government Consultation and Appendixes D and E in the PER, which discuss Native American and Alaska Native Resource Use and Cultural Resources. The BLM consulted with the tribes (see Appendix G of the Final PEIS) to identify culturally and economically important vegetation resources. The economic benefits of NTFP products is provided in Chapter 4 of the PEIS and PER under Social and Economic Values. It is anticipated that treatments that improve ecosystem health would benefit NTFP quality, abundance, and value.

EMC-0643-034
California Indian Basketweavers Association

Comment: A recent study in California, conducted by the California Department of Pesticide Regulation, examined herbicide residues on plants of importance to Native Americans resulting from forest plantation spraying (Ando et al. 2003). One thing that became clear to us after analysis of the data was that the residues found on forest plants used by Indian people exceeded the EPA residue tolerances set for the same chemicals used on crop plants--certain fruits, berries, herbs, and grains. These residues were exceeded by many times, sometimes hundreds or even thousands of times, the amounts of residue that are allowed on foods you could buy in the grocery store. The EPA regulatory system fails to provide the same level of protection for traditionally used plants gathered by Indian people, on public lands.

Response: USEPA tolerances are established partially based on the percentage of the food item in the average diet. The forestry items listed in Ando et al. (2003) are not listed in tolerances because of their specialized subsistence use. Hence, the Ando et al. (2003) paper does not claim that USEPA tolerances are exceeded. Some of the BLM exposure scenarios did show risk associated with Native American use of plants, notably for diquat. However, diquat would only be used in aquatic bodies. Thus, the risk of Native Americans coming into contact with diquat would be minor.

EMC-0643-048
California Indian Basketweavers Association

Comment: Also, the DEIS [Draft PEIS] claims that impacts to Native Americans are further mitigated because "Three of the four herbicides proposed for use are relatively harmless to native peoples and other human receptors." (p. [page] 2-34, Table 2-8 [of the Draft PEIS]). This statement is without factual basis and is misleading. The preparers of the DEIS [Draft PEIS] have confused a lack of published studies with a lack of harm. As noted under the discussion of Monsanto and glyphosate (see Attachment 4 [provided with the comment]), it is not factual to state that any of the chemicals are "relatively harmless to native peoples." Further, the DEIS [Draft PEIS] states that 70% of applications will be 2,4-D, picloram, tebuthiuron, or diuron--all of which are moderate to highly toxic chemicals.

Response: The BLM proposes to use diflufenzopyr, diquat, imazapic, and fluridone. Risks to Native Americans were rated as none to low for these herbicides (see Human Health and Safety and Table 4-28 in Chapter 4 of the PEIS). 2,4-D and tebuthiuron are rated as moderately toxic under several exposure scenarios, and glyphosate and diuron are rated as slightly toxic via ingestion, and picloram is rated as slightly toxic via exposure by consumption of contaminated water (see Tables 4-28 and 4-30 in PEIS Chapter 4).

EMC-0643-058
California Indian Basketweavers Association

Comment: We note that impacts to plant materials used by Native American people for maintenance of tribal cultural traditions may occur anywhere on BLM lands. Impacts to these resources are not limited to known gathering areas. Indian people may gather plants for traditional uses anywhere where such plants are found to occur naturally. Thus, the possibility of impacts to Native people through exposure to chemicals is a certain outcome from this proposal, with direct impacts to culture through the loss of native plant materials, resulting in significant impacts that are not been mitigated in this DEIS [Draft PEIS].

Response: This comment raises issues recognized in the PEIS with regard to the potential for impacts to plant materials used by Native Americans. However, the PEIS is a broad-scale document and does not consider specific effects to Native Americans and traditional resources, which must be identified and addressed by following appropriate consultation and mitigation at the project level, as discussed in Chapter 2 of the PEIS in the sections on Special Precautions (Cultural Resources) and Coordination and Education. As discussed in Chapter 4 of the PEIS under Cultural Resources, although short-term losses in Native American plant resources may occur as a result of treatments, it is anticipated that native plant resources would improve over the long term, to the benefit of Native people. Also see response to Comment EMC-0643-044 under PEIS Alternatives, Mitigation.

EMC-0643-059
California Indian Basketweavers Association

Comment: The DEIS [Draft PEIS] has failed to accurately analyze the impacts to Native American health and culture and has not mitigated impacts to an acceptable level. The DEIS makes claims that are not supported by the record and has failed to demonstrate that the benefits of herbicide use outweigh the harm from their use.

Response: See response to Comment EMC-0643-043 under PEIS Environmental Consequences, Cumulative Effects Analysis.

Environmental Consequences, Visual Resources

EMC-0139-008
Troutman, Doug

Comment: The VRM [Visual Resource Management] statement that "domestic animals are common and expected" does not improve the public view of the land. Deer, elk, pronghorn, wild horses, these excite the recreation or casual visitor, not more cows and cow poop! VRM quality is highly degraded by livestock and "range improvement" projects. Degraded, trampled streams and lakeshores are not positive VRM management. Water features are the most critical VRM issue, and rare on BLM lands, which makes their preservation from livestock abuse very critical.

Response: We agree that livestock may degrade VRM quality. We have revised the text in Chapter 4 of the PER under Effects of Beneficial Effects of Treatments as follows:

"The controlled use of domestic animals to contain undesirable vegetation may create a short-term visual impact associated with trampling and consumption of vegetation.

These impacts would be dealt with on a case by case basis and mitigated as appropriate at the project level. The visual effects of containment by domestic animals would be short term in nature and would create a positive visual effect with the regrowth of desirable vegetation in a healthy, productive condition."

EMC-0214-017
Vollmer, Jennifer
(BASF)

Comment: Effects on Visual Resources. This section does not take in to account that a new herbicide in the Preferred Alternative is applied pre-emergence to the vegetation to be controlled, meaning no unsightly dead vegetation. Compared to the No Action Alternative where the vegetation treatment will need to be a post-emergence non-selective herbicide, burning, or disking, leaving an unsightly landscape to achieve lesser results. Under the No Action Alternative fewer acres may be treated, but that means hundreds of thousands of acres left in their unsightly state.

Response: Each of the alternatives involves a range of methods both pre-emergence and post-emergence. The visual contrast of the proposed method will be analyzed at the project level and visual Standard Operating Procedures will be applied. The visual impacts of dead zones, prescribed fire and other methods as well as the impacts of leaving an area untreated are covered in Chapter 4 under Visual Resources. The short-term visual impacts of the preferred alternative will generate larger dead zones than those that would be generated under Alternative A because more acres of existing undesirable vegetation would be treated.

Environmental Consequences, Wilderness and Special Areas

EMC-0220-005
Friends of the Inyo

Comment: We are especially concerned about and strongly opposed to any use of aerial application and increased application within units of the National Landscape Conservation System, most notably designated Wilderness Study Areas [WSAs]. As the BLM is aware, "preservation of wilderness values within a WSA is paramount and should be the primary consideration when evaluating any proposed action or use that may conflict with or be adverse to those wilderness values. The concept of considering wilderness values first asserts, with few exceptions (e.g., valid existing rights, grandfathered rights, etc.), that wilderness resource management objectives within a WSA should take precedence over all other resource management program objectives" (WSA Interim Management Policy H-8550-1). Large-scale application of herbicide to "manage" vegetation within a WSA seem wholly counter to the BLM's legal requirements to manage.

Response: The use of aerial application and other large-scale applications of herbicides in wilderness study areas is addressed in BLM Handbook H8550-1. It specifies a very constrained set of circumstances under which such use would be permitted. Such use is in accordance with the legal requirements set forth in the Federal Land Policy and Management Act. Other components of the National Landscape Conservation System, such as National Monuments and National Conservation Areas, have individual land use plans (Resource Management Plans) that provide decisions on how herbicides may or may not be used to meet the requirements of their specific enabling legislation.

EMC-0139-009
Troutman, Doug

Comment: Wilderness management should include prescribed fire, but whether in wilderness or WSAs [Wilderness Study Areas], mechanical and chemical treatments should only be used in emergencies where infestations are starting. Removal of livestock from these areas should be immediate if weeds threaten!

Response: The BLM considers the use of chemical or mechanical treatments as preventative management. Treating infestations only after they emerge is often too late. Proper management of stock levels and periods of use (seasons, length of use), will prevent encroachment of invasive species. Proper management can involve immediate removal of livestock but it can also involve other alternatives. The BLM prefers that controls using prescribed fire be minimized, and other measures taken if possible.

EMC-0513-019
The Wilderness Society

Comment: By their very nature, herbicides pose a substantial risk of changing the character of ecosystems. Based on the law and policy governing the need to protect the naturalness of lands with wilderness values, BLM should prioritize using methods to control vegetation that function most like natural systems.

Response: BLM Manual 8560 – Management of Designated Wilderness Areas and BLM Handbook H8550-1 – Interim Management Policy and Guidelines for Lands Under Wilderness Review establish the methods and priorities to be used to protect the wilderness value of naturalness in wilderness and WSAs.

EMC-0513-023
The Wilderness Society

Comment: The language in the Vegetation Treatments [Draft] PEIS does not contain a sufficient analysis of the risks of using herbicides in Wilderness, WSAs or lands with wilderness characteristics. For instance, in comparing the different management alternatives, the PEIS concludes that the Preferred Alternative will have the greatest adverse impacts, including temporary closures of Wilderness, but then also claims that visitors could simply be displaced. Vegetation Treatments {Draft} PEIS, Table 2-8, p. [page] 2-35. The [Draft] PEIS also concludes that there would be greater ecosystem benefits, since use of herbicides will be "most likely" to control weeds and other invasive species. [Draft] PEIS, Table 2-8, p. [page] 2-35. However, this comparison does not adequately account for the need to first ensure that there is no workable alternative to chemical applications, for the importance of temporary impacts to wilderness values, or for the importance in preserving both the naturalness of Wilderness and the opportunity for use and enjoyment of Wilderness.

Response: See responses to Comment EMC-0513-022 under PEIS Alternatives, Wilderness Areas, Comment EMC-0513-024 under PEIS Environmental Consequences, Cumulative Effects Analysis, and Comment RMC-0057-005 under PEIS Environmental Consequences, Wilderness and Special Areas.

EMC-0513-025
The Wilderness Society

Comment: The Standard Operating Procedures for Applying Pesticides reference the relevant BLM policies on management of Wilderness and WSAs, but do not specifically set out the requirement for a determination that there is "no effective alternative" and that the action is needed to maintain the natural ecosystem, and do not even mention wilderness management plans. Vegetation Treatments PEIS, Table 2-6, p. 2-19 [of the Draft PEIS]. The Standard Operating Procedures also contain no reference to applicable BLM policy for management of lands with wilderness characteristics.

Response: Reference to BLM policies is given in Table 2-8 of Chapter 2 of the PEIS in the first column of the table and in Chapter 4 under Wilderness and Special Areas. It is assumed that the BLM would follow applicable plans, policies and laws when conducting vegetation treatments; therefore, elements of the plans, policies, and laws are not included in Table 2-8 or Chapter 4. Compliance with plans, policies, or laws is discussed in more detail in Chapter 1 of the PEIS.

EMC-0513-027
The Wilderness Society

Comment: The PEIS must acknowledge the need to apply a "no effective alternative" and "minimum tool" analysis that takes into account the potential effects of herbicide treatments on both the naturalness and freedom from human control that are an essential part of wilderness values. In applying these standards, the agency will need to balance valid goals for restoring naturalness against the risk of destroying wilderness characteristics, assessing the type of disturbance required and the varying impacts, both short and long term, on wilderness values.

Response: See responses to Comment RMC-0057-005, Comment EMC-0513-025, and Comment EMC-0513-032 under PEIS Environmental Consequences, Wilderness and Special Areas.

EMC-0513-031
The Wilderness Society

Comment: The analysis of direct, indirect and cumulative effects of use of herbicides in the Vegetation Treatments PEIS must be revised to: 1) properly account for the importance of temporary degradation of wilderness values; 2) acknowledge and assess the risks associated with use of herbicides on lands with wilderness characteristics (designated Wilderness, WSAs, or lands not formally designated) and the potential for destroying both their naturalness and freedom from human control, and 3) fully consider the potential effects of using herbicides on the lands with wilderness characteristics both on those lands and on the larger ecosystem and/or adjacent lands by answering the following threshold questions: a) is restoration necessary to re-establish natural systems and restore the wilderness characteristics of the area; b) will the proposed restoration lead to a natural balance rather than a cycle of ongoing human intervention; c) are the wilderness characteristics of the area substantially degraded or on a clear trajectory of degradation that will continue without human intervention; d) is the area with wilderness characteristics critical to the function of the larger ecosystem outside the area, and is its unnatural condition a threat to the integrity of the larger landscape; e) are there especially rare or valued natural elements within the area with wilderness characteristics that are at risk without intervention?

Response: The direct, indirect, and cumulative effects of herbicide treatments are covered in Chapter 4 of the PEIS and PER under Wilderness and Special Areas. The suggested analysis identified in number 3 of the comment would typically occur at the project level and during NEPA analysis at the local level.

EMC-0513-032
The Wilderness Society

Comment: Section 2 of the Vegetation Treatments PEIS must contain clear prescriptions requiring that: 1) any use of herbicides in Wilderness areas is authorized by the applicable wilderness management plan; 2) no use of herbicides in Wilderness areas, WSAs [wilderness study areas] or lands with wilderness characteristics will be authorized unless there has been a determination that there is no effective alternative and that the use is necessary in order to preserve the natural functions of the ecosystem; 3) the "minimum tool" policy will be applied in assessing the use of herbicides in Wilderness, WSAs or lands with wilderness characteristics, including consideration of whether herbicides are the least damaging to wilderness values temporarily or permanently; 4) prior to permitting use of herbicides, the agency should inventory the wilderness characteristics of the lands proposed for treatment and protect lands with wilderness characteristics as recommended above.

Response: As discussed in Chapter 4 of the PEIS and PER under Wilderness and Special Areas, the BLM would comply with guidance in wilderness management plans, manuals, and handbooks; would only use herbicide treatments if they do not adversely affect wilderness values; would follow the "minimum tool" policy; and would consider, and inventory if necessary, the wilderness characteristics of the lands before conducting treatments. BLM guidelines prohibit activities that degrade the

quality, character, or integrity of wilderness and special areas. An important objective of vegetation treatments would be to preserve or improve ecosystem values.

EMC-0585-124
Western Watersheds Project

Comment: Any treatments in Wilderness should employ minimal disturbances, and this [P]EIS should have established a protocol for doing this, but has not.

Response: A discussion of Standard Operating Procedures to reduce disturbance in Wilderness has been included in Chapter 4 of the PEIS and PER under Wilderness, Standard Operating Procedures.

RMC-0053-002
Alderson, George and Frances

Comment: We oppose the inclusion of BLM-administered national monuments and national conservation areas among the lands to be sprayed with herbicides. We believe broad herbicide treatments are not consistent with the mandates in the laws and presidential proclamations that establish those special units. Those lands have been designated for protection of nature and the processes that sustain a natural ecosystem.

Response: The use of herbicides in BLM national monuments is subject to the requirement to protect the objects of scientific and historic interest for which these areas were established. Herbicide use can occur if the aforementioned objects are protected. National conservation areas are established by law, and there are different requirements for managing each area. The use of herbicides could be permitted if it was consistent with the enabling legislation for a specific area.

RMC-0057-005
California Wilderness Coalition

Comment: The CWC [California Wilderness Coalition] opposes mechanical treatments in existing wilderness areas and wilderness study areas. In addition, the BLM manages thousands of acres of wilderness quality land that are wild in character but not included in existing wilderness study areas or designated wilderness areas. These wild places are not appropriate for mechanical treatments.

Response: As discussed in Chapter 4 of the PEIS under Wilderness and Special Areas, the BLM would use the "minimum tool" to treat vegetation, and would use the minimum amount of mechanical equipment. In addition, the BLM State Director would have to approve or disapprove the use of motorized equipment and mechanical transport in writing by letter and a Decision Notice on a one-time, case-by-case basis. This process should discourage the use of mechanical equipment in wilderness and special areas.

RMC-0057-009
California Wilderness Coalition

Comment: The D[raft] PEIS fails to consider that the use of heavy machinery for mechanical treatments will likely create de facto off road vehicle routes and lead to unauthorized motorized recreation that can jeopardize wilderness values, wildlife habitat, and water quality. Mechanical treatments will jeopardize the non-motorized recreation uses during and after treatment periods. During the application of mechanical treatments, the use of heavy machinery will disrupt wildlife habitat and recreational activity. After mechanical treatments are implemented, the heavy machinery used for such treatments is likely to leave permanent trails that could encourage unauthorized motorized use and jeopardize the isolation, serenity and peacefulness of non-motorized recreation areas.

Response: See response to Comment RMC-0057-005 under PEIS Environmental Consequences, Wilderness and Special Areas.

RMC-0123-002
Robinson, Edith and James

Comment: We are alarmed to read that herbicides could be used in BLM's national monuments, and possibly in other units of the National Landscape Conservation System such as national conservation areas. All those areas should be excluded absolutely from this herbicide program. Surely widespread use of the herbicides would be in violation of the laws and proclamations that reserved those lands for conservation of nature.

Response: The use of herbicides is not specifically prohibited in any of the proclamations or laws that established BLM's national monuments and national conservation areas. Such use could be authorized as long as it can be demonstrated that the requirements of the proclamation or law are being met. Also see response to Comment RMC-0053-002 under PEIS Environmental Consequences, Wilderness and Special Areas.

Environmental Consequences, Recreation

EMC-0585-196
Western Watersheds Project

Comment: BLM also utterly fails to put the importance of recreational experiences and wild lands to the public in proper perspective. People visit public lands to seek solitude, peace, quiet, and get away from civilization and pollution. People also engage in arduous activities such as backpacking, bike riding, running, etc. on public lands. Exposure to herbicides that may trigger asthma attacks or chemical sensitivities, result in feelings of malaise, headache or nausea -- or simply stink up an area with an offensive chemical smell -- are antithetical to the public lands recreational experience.

Response: These types of adverse impacts to the wilderness and recreational experience from the use of herbicides and other treatment methods were discussed in Chapter 4 of the PEIS and PER under Wilderness and Special Areas and Recreation. These sections also noted that large expanses of downy brome, or areas recently burned by wildfires, would also have adverse impacts on the wilderness and recreational experiences, and that efforts to improve vegetation should benefit these visitor experiences over the long term.

Environmental Consequences, Social and Economic Values

EMC-0093-003
Barrett, Anne Albrecht

Comment: Any "herbiciding" is overkill in my mind, when so many viable alternatives are readily available. PLUS, the $ monetary savings to me, the tax payer would be enormous! This money could pay for more rangers and firefighters and other areas of great need within BLM.

Response: The BLM considered several vegetation treatment alternatives, including Alternative C, which did not allow for the use of herbicides. As noted for this and other alternatives, the use of herbicides has both adverse and beneficial effects, but is anticipated to comprise only about 16% of all vegetation treatments; prescribed fire, and manual, mechanical, and biological control methods would comprise the remaining 84% of treatments. Based on analysis provided in Chapter 4 of the PER under Social and Economic Values, Beneficial Effects of Treatments, Treatment Expenditures by the BLM, costs for treating with herbicides are generally less than for mechanical and manual methods, but more than for prescribed fire and biological control.

EMC-0196-008
Lamberts, Frances

Comment: I am aware that procurement of pesticides can be multiple times more costly, in financial terms, than procurement of biological treatment agents, while their unwanted, harmful impacts on public health and our environment (e.g. bird and

fisheries losses, water contamination, pollinator insects and other losses) run into the billions of dollars every year. From the taxpayer viewpoint, therefore, the less costly alternatives are certainly preferable, especially as they redress causative ecosystem disturbances and are more effective in the longer term.

Response: Comment noted. As noted in Chapter 2 of the PEIS under Vegetation Treatment Planning and Management, Site Selection Priorities, the BLM would consider nonchemical modes of treatment before considering treatments using herbicides where feasible.

EMC-0203-006
Institute For Culture and Ecology

Comment: Herbicide spraying will likely have an adverse impact on minorities and economically disadvantaged populations and thus is subject to Executive Order 12898 on environmental justice. The current [P]EIS draft does not include an environmental justice analysis, and such an analysis needs to be included in the final [P]EIS. That environmental justice analysis must include a discussion of the mitigation measures that will need to be implemented to address any adverse impacts on minorities or economically disadvantaged populations.

Response: See response to Comment EMC-0621-005 under PEIS Environmental Consequences, Social and Economic Values.

EMC-0203-008
Institute For Culture and Ecology

Comment: The current draft [P]EIS does not include an assessment of whether the proposed actions comply with the Small Business Regulatory Fairness Act, including such provisions as informing the Chief Counsel for the Small Business Administration on the potential impacts of the decision on existing and future nontimber forest product small businesses. Such an assessment needs to be included in the final [P]EIS.

Response: The Small Business Regulatory Fairness Act applies to federal agencies that regulate activities of small businesses. The BLM does not have regulatory authority or jurisdiction over small businesses and is not proposing any decisions or rulemaking that would regulate small business activities.

EMC-0220-007
Friends of the Inyo

Comment: The PEIS states that "treatments would benefit local communities by providing jobs and income." We must ask, how much greater would these potential benefits be if the "vegetation management" goals proposed to be achieved through the use of synthetic herbicides were achieved through other means, such as the use of specialized livestock and grazing rotations to reduce exotic grasses, the employment of large restoration crews to physically remove exotic species such as tamarisk, and the reduction of fire danger by manually creating strategic fire breaks around communities with hand crews rather than killing large swaths of vegetation with herbicides in the back of beyond?

Response: Under an integrated pest management program, all methods and techniques of vegetation treatments are considered, including the techniques described in this comment. BLM utilizes crews to remove tamarisk by hand or mechanically, and livestock such as sheep, goats and llamas are commonly used around local communities to reduce hazardous fuels. Fuel breaks are typically constructed through non-herbicidal mechanical means and not through vegetative treatment using herbicides. The potential effects from the use of all these non-herbicide methods are described in the analysis of Alternative C (No Use of herbicides) under Social and Economic Values in Chapter 4 of the PEIS. Non-herbicide treatment methods are described in Chapter 2, and the costs associated with treating vegetation using other methods are addressed in Chapter 4 (under Social and Economic Values) of the PER.

The PEIS specifically assesses the economic impacts from herbicide use. The economic benefits from the use of all methods of treatments are discussed in the Cumulative Effects section of Chapter 4 of the PEIS.

EMC-0220-008
Friends of the Inyo

Comment: The BLM must abandon is tired practice of justifying unsustainable land management strategies with meager, short-term local economic gains. Large-scale herbicide application benefits the economies of large chemical corporations more than a few short term and toxic application jobs. Employing able-bodied Americans to actively restore and steward their public lands would create more jobs than any herbicide project. It goes without saying that those "local benefits" may be outweighed by a future of unknown consequences.

Response: The PEIS does not propose large scale herbicide applications in the manner described, nor does the BLM justify its land management strategies or approval of herbicide projects based on potential employment or local economic gains. Effects on a local economy from BLM activities are disclosures required under NEPA, not reasons for undertaking an activity.

EMC-0317-006
Malmberg, Tony

Comment: Another consideration is supporting the local community with tax dollars. Money spent on chemicals is gone out of our community. Using animals to graze the plants builds wealth for the citizens of out community. But even more important, it builds the wealth of the biological community. Why not build an alternative program for grazers to get paid for effective grazing management rather than pay for poisoning the land?

Response: The BLM has no authority under its regulations at 43 Code of Federal Regulations 4100 to pay grazers (permittees) for effective grazing management. Grazing animals can be utilized for vegetation control in certain limited situations. However, across 17 western states, grazing alone cannot accomplish the extent of hazardous fuels reduction and vegetation control required to meet the Purpose and Need for the Proposed Action (see Chapter 1 of the PEIS). The hazardous fuels and vegetation in many areas of the western United States, and Alaska in particular, cannot appropriately be treated through grazing due to a variety of factors including but not limited to climate, terrain, water, accessibility, vegetation palatability (or lack of), dead fuels, woody species and trees not consumed by grazing animals, discretionary closures to grazing in areas of special management or restrictions such as Wilderness, Wilderness Study Areas, critical threatened and endangered species habitat, as well as community environs making up the wildland urban interface (WUI). Biological and cultural control of vegetation under an integrated pest management framework is discussed under Vegetation Treatment Methods in Chapter 2 of the PER.

EMC-0584-080
Western Watersheds Project

Comment: BLM must provide an adequate cost: benefit analysis of all actions. For example, what are the costs vs. the benefits of spending $100 an acre to treat/restore lands where livestock grazing will again soon resume?

Response: See Impacts Assessment Assumptions in the Social and Economic Values section of Chapter 4 of the PEIS for a discussion of the scope and assumptions for the economic analysis. A cost-benefit analysis of all BLM actions is beyond the scope of this PEIS and cannot be provided at this programmatic scale for all public lands in 17 states. The analysis cited in the example would be properly completed at the site-specific level at the time a project is proposed.

EMC-0584-081
Western Watersheds Project

Comment: What are the costs to recreational uses of public lands of large-scale treatments? We have been repeatedly contacted by hunters, hikers and birdwatchers who have had recreational outings – or favorite recreational sites - ruined by BLM "treatments". What impact do such losses have on the local and regional economy?

Response: See response to Comment EMC-0584-080 under PEIS Environmental Consequences, Social and Economic Values. The costs to recreational uses of a large scale treatment would be assessed at the site-specific project level NEPA analysis. The BLM is not aware of recreational sites ruined through vegetation treatments. The impact to recreational opportunities from herbicide use is discussed in the Recreation and Cumulative Effects (Recreation) sections of Chapter 4 of the PEIS.

EMC-0584-082
Western Watersheds Project

Comment: [I]n BLM's flawed Burley FO [Field Office] Jim Sage EA [Environmental Assessment], BLM planned to spend 6 million dollars to kill junipers "hazardous fuels" across an entire mountain range, despite widespread weed problems throughout the lower and middle elevations, and BLM grazing proposals underway would have increased grazing on the "treated" lands. Thus, taxpayers would have been funding increased livestock forage under the guise of fuels projects, while receiving only tiny amounts of grazing fee dollars in return. This is just the type of thing that we fear will occur under [P]EIS/PER.

Response: The Burley FO Jim Sage EA is not within the scale of this PEIS analysis. Comments on a specific EA should be directed to the appropriate Field Office and made in relation to the Proposed Action and Purpose and Need for that project. The Purpose and Need for the Proposed Action, which is given in Chapter 1 of the PEIS, does not include increasing grazing use under the guise of fuels projects. Fuels reduction projects do not preclude the continued authorized grazing use or other uses on the lands on which the fuels treatments are implemented.

EMC-0584-083
Western Watersheds Project

Comment: BLM must adequately analyze a full range of alternatives based on sound economics. All alternatives should include use of federal fire funds to purchase grazing permits and permanently remove livestock from degraded lands, as this is a very foreseeable action during the life of this plan. We support an alternative that uses preventive measures and passive restoration techniques, addresses causal agents of fire/fuels/vegetation problems such as livestock and ORV [off-road vehicle] use, and which minimizes risks of invasive species spread stemming from any treatment that is applied.

Response: Congress determines how federal fire funds are used. Use of federal fire funds to purchase grazing permits and permanently remove livestock from degraded lands is outside the scope of the analysis of this PEIS and would violate provisions of the annual Appropriations Acts passed by Congress, unless the Act(s) specifically direct the BLM to use appropriated funds for this purpose. See response to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding causes and vectors of weed spread, and Comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope of Analysis regarding limitations on public land uses.

EMC-0584-117
Western Watersheds Project

Comment: A complete analysis of the costs and benefits of spray/treatments must be provide. What is the per-acre dollar cost of all actions under all alternatives? What are the ecological costs/benefits of these actions?

Response: The economic analysis is discussed in Chapter 4 of the PEIS under Social and Economic Values and Cumulative Effects (Social and Economic Values) sections. Relative estimates of costs and benefits are provided in the analysis in these sections. See the Introduction and Impact Assessment Assumptions in the Social and Economic Values section of Chapter 4 regarding the limitations and assumptions for economic analysis contained in the PEIS.

EMC-0585-253
Western Watersheds Project

Comment: Nowhere in this [P]EIS is there a fair or accurate accounting of the value, including the economic value, of the native vegetation to be killed, altered or destroyed by the proposed treatments.

Response: Vegetation treatments considered in this PEIS are typically accomplished on public lands that are degraded or have been disturbed or altered by fire or invasive and noxious weed species. As such, the native vegetation component is typically minimal or already nonexistent at the time of treatment in most cases. Effects to non-target vegetation from herbicide applications are described under Vegetation Resources in Chapter 4 of the PEIS. The value of native vegetation that may be lost through treatments is not calculable at this scale of analysis, as there is no information on specific projects and their locations, nor the extent of any native vegetation component that could potentially be affected by a treatment. In addition, the metrics for valuation of native vegetation are variable across vegetation types and ecoregions. For example, native timber in the Northwest states would have a different valuation as compared to sagebrush dominated rangelands in the interior west, or tundra grasslands in the Arctic.

EMC-0606-008
Johnson, Kathy

Comment: How many tons of herbicides would this equate to and what would be its cost and the cost of the application? Who would be responsible for any ill effects of these applications?

Response: The BLM applies an average of 137,612 pounds of herbicide annually on lands it administers. The cost of application depends on the type of application, the density of the infestation being treated, the area being treated, and several other factors. As for liability of the application, any situation involving damage will be analyzed and investigated to determine among other things, the extent of and responsibility for damage.

EMC-0621-005
Alliance of Forest Workers and Harvesters

Comment: Herbicide spraying will likely have an adverse impact on minorities and economically disadvantaged populations and thus is subject to Executive Order 12898 on environmental justice. The current Draft PEIS does not include an environmental justice analysis, and such an analysis needs to be included in the final PEIS. That environmental justice analysis must include a discussion of the mitigation measures that will need to be implemented to address any adverse impacts on minorities or economically disadvantaged populations.

Response: An environmental justice analysis was included in Chapter 4 of the PEIS and PER under Social and Economic Values, Environmental Justice. As noted in this section, it is difficult to determine if minority or low income populations would be disproportionately affected at the programmatic level of analysis in the PEIS and PER. Thus, analysis of effects to these populations would be done at the local level for each project. Issues specific to Native Americans and Alaska Natives have been addressed in the Cultural and Paleontological and Human Health and Safety sections in Chapter 4 of the PEIS and PER.

EMC-0621-007
Alliance of Forest Workers and Harvesters

Comment: The current Draft PEIS does not include an assessment of whether the proposed actions comply with the Small Business Regulatory Fairness Act, including such provisions as informing the Chief Counsel for the Small Business Administration of the potential impacts of the decision on Existing and future nontimber forest product small businesses. Such an assessment needs to be included in the final PEIS.

Response: See response to Comment EMC-0203-008 under PEIS Environmental Consequences, Social and Economic Values.

EMC-0630-006
Porter, Mark C. (Wallowa Resources)

Comment: Quantifying the impacts that noxious weed can have is also critical to evaluating the environmental impact of each of the alternatives. Stating that X number of acres will be treated per alternative implies that there are acres that will not be treated. Without attempting to calculate the impact of those untreated (and therefore spreading) weeds on the landscape, the environmental analysis is incomplete. Similarly, the increase in the cost per acre of weed control by alternative (i.e. due to the lack of ability to use aerial treatments) with budgets that are not connected to need, means less acres are treated. These are environmental impacts that are not well addressed in the [P]EIS.

Response: The PEIS appropriately assesses the environmental impacts of the use of herbicides in vegetation treatments on humans and public land resources. Quantifying acres of treatments with herbicides provides a comparison of the relative impacts of herbicide use among the alternatives. The environmental impacts of not treating acres of treatable vegetation with herbicides are assessed in the analysis of Alternative C in Chapter 4 of the PEIS. The analyses contained in Chapter 4 also address the treatment of fewer acres by alternative due to the constraints outlined in the alternative (e.g., no use of herbicides, no aerial spraying, no use of acetolactate synthase-inhibiting herbicides).

FXC-0071-023
Campbell, Bruce

Comment: The documents admit environmental justice concerns due to Native American uses impacted and Latino workers often involved in herbicide spraying, thus violating Executive Order 12898 on Environmental Justice.

Response: The BLM recognized that these groups, and in particular Native Americans, could face additional concerns related to the use of herbicides, primarily through application of herbicides and use of native plants. The risks to Native Americans were addressed in Chapter 4 of the PEIS under Paleontological and Cultural Resources and Human Health and Safety, and in the herbicide-specific human health risk assessments. Also see response to Comment EMC-0621-005 under PEIS Environmental Consequences, Social and Economic Values.

PHC-005-010
K. Fite

Comment: And I guess I just wonder, how much will this cost? Is there anywhere in these documents where we have a real and honest assessment of the cost, not only of the chemicals but also of this massive array of treatments? I do know that, for example, in Urban Interface Projects that we have been involved in Nevada in the Nevada in the Mt. Wilson area, BLM was proposing to spend 10 to 12 million dollars, at least, over three to four years to treat 50 square miles of public land. Of course, they weren't anywhere near any urban areas, a lot of them, but it was just a way to spend fire money and increase livestock forage. And that was eventually settles through litigation.

Response: The estimated costs for treating vegetation using the different methods and for each alternative are given in Chapter 4 of the PEIS and PER under Social and

Economic Values.

RMC-0049-021
Wilson, Robert E.
(University of Nevada Cooperative Extension)

Comment: Alternatives C, D, and E greatly increase costs to the federal government and decrease the effectiveness of the invasive weed management program. As such, the effect of increased infestations of invasive weeds on the environment needs to be included in this [P]EIS and the effects of those increased costs and decreased effectiveness need to be addressed in this [P]EIS.

Response: The economic analysis addressing costs to the federal government associated with the use of herbicides, by alternative, is found in Chapter 4 of the PEIS under Impacts by Alternative in the Social and Economic Values section (see expenditures under each alternative). Only Alternative C (No use of Herbicides) indicates the potential for loss of effectiveness in treating invasive species. The environmental and economic impacts of the continued spread of invasive species are addressed under the various resource programs in the analysis of Alternative C in Chapter 4 of the PEIS.

RMC-0055-006
Lamberts, Frances

Comment: I am aware that procurement of pesticides can be multiple times more costly, in financial terms, than procurement of biological treatment agents, while their unwanted, harmful impacts on public health and our environment (e.g. bird and fisheries losses, water contamination, pollinator insects and other losses) run into the billions of dollars every year. From the taxpayer viewpoint, therefore, the less costly alternatives are certainly preferable, especially as they redress causative ecosystem disturbances and are more effective in the longer term.

Response: As discussed in Chapter 4 of the PEIS and PER, each treatment method has adverse and beneficial effects in terms of direct impacts to the environment and human health, and in terms of long-term success in controlling invasive vegetation and reducing hazardous fuels that lead to wildfires. For example, human health may be at greater risk from herbicides than biological control organisms, but herbicides are generally more effective in controlling large areas of weed infestations than biological control organisms. If weeds spread over large areas, human health and social well-being would likely be harmed. Thus, one must consider both short-term and long-term costs, which is often difficult to do for many resource values. Also see response to Comment EMC-0093-003 under PEIS Environmental Consequences, Social and Economic Values.

RMC-0200-001
Lindsay, Dianne

Comment: The PEIS/PER fails to consider the real cost when stating that herbicides offer a resource efficient means of treating vegetation. [1] The most resource efficient means is prevention, by limiting resource extraction. [2] The unconsidered monetary costs are: litigation with sick people who will be exposed to these chemicals, and communities who do not accept degraded water and soil; increased costs of clean water is not resource efficient; and increased health care costs for people exposed to chemicals - when it is preventable- is not an efficient use of my taxpayer resources. [3] The unconsidered non-monetary costs are increases in illness and anxiety over risk of serious illness; loss of wild untouched areas, contamination of soil and water, and loss of wildlife, plants, and the other living organisms that are usually overlooked - that build soil, and generally support a healthy ecosystem. It is not efficient to lose the elements of nature that we depend on.

Response: Comment noted. The Draft PEIS does not make the statement that herbicides offer a resource efficient means of treating vegetation. See Response to comment RMC-0055-004 under PEIS Proposed Action and Purpose and Need, Scope

of Analysis regarding limitations on uses of public lands.

RMC-0204-021
Wroncy, Jan (Gaia Vision/Canaries Who Sing)

Comment: When I read on page Exec-7 that "Alternative 5 has the lowest cost per acre of any alternative, but it also offers no new employment opportunities" (couched in tones of remorse), I became justifiably nervous about the possibility that there are hidden goals involved in this BLM Vegetation Treatment program. Is the unstated goal of this program to create new jobs? If the program will cause environmental damage and then has to "mitigate" the damages, it will also create new jobs. If the program can also cause human health effects, the medical community will flourish too. If a good proportion of the medical effects are fatal, the morticians will thrive nicely too. If species can be forced into extinction, the scientists will surely have to study the problem. If the water is contaminated, someone will have to devise a way to decontaminate it. Is the hidden goal to increase jobs and economic prosperity? If it is, no wonder it is not stated. To propose activities that would cause suffering to the Earth's creatures, human or non-human, to cause the destruction of the Earth's forms, to cause permanent, irreversible damage all in the name of short term (human) economic gain would surely appear suspect, if not criminal, in the light of day.

Response: This comment was previously submitted to the BLM in 1990 in relation to a different EIS and has been addressed in that analysis. This PEIS does not have an equivalent Alternative 5, nor has the statement to which the comment refers been made in this PEIS. Therefore, this comment cannot be responded in the context of the analysis presented in this PEIS. The Purpose and Need for the PEIS are stated in Chapter 1 under Purpose and Need for the Proposed Action. Job creation is not a goal of this PEIS.

RMC-0221-009
Center for Biological Diversity

Comment: The Center [for Biological Diversity] also questions the economic analysis, or lack thereof, for the proposed action. The D[raft] PEIS fails to identify and disclose the costs of the proposed project, both in terms of supplies and labor, and in terms of the potential loss of vital ecosystem services such as clean air, water, and soils. The BLM attempts to let itself off the hook for preparing a comprehensive economic analysis by stating "Concerned individuals should rest assured that more detailed, site-specific analyses would be conducted during the development of actual projects for the use of herbicides." The costs of the proposed action are potentially enormous, the public has a right to know the up-front cash outlays that will be required as well as the potential long-term costs that may be incurred by disrupting or destroying essential ecosystem functions on public lands.

Response: See the Introduction in the Social and Economic Values section of Chapter 4 of the PEIS concerning the limitations presented by the scale of analysis of the PEIS. The sentence preceding the one quoted in the comment states: The EIS is programmatic in nature and very broad in scale. A programmatic analysis at this scale does not permit the completion of detailed, quantitative social and economic analysis. Therefore, only general effects and trends will be addressed…" See the Impact Assessment Assumptions of this section for a discussion of the impact assessment assumptions used in the analysis. Also see Incomplete and Unavailable Information under How the Effects of the Alternatives were Estimated in Chapter 4 of the PEIS. The amount of supply and labor to treat vegetation is unknown at this scale in the absence of site-specific proposals across 17 western states. The cost of attempting to acquire this information at this scale of analysis would be exorbitant and would not significantly contribute further to the understanding of impacts relative to the decision to be made—which USEPA herbicides would be available for use by the BLM and under what circumstances. The BLM does not appropriate or allocate funds as "up-

front cash outlays." Vegetation treatments are funded through normal resource program budget processes. The Purpose and Need of the PEIS is to improve ecosystem health, not disrupt and destroy ecosystem function. The general trend predicted in the PEIS is a long-term improvement in ecosystem health under the Preferred Alternative (Alternative B).

Environmental Consequences, Human Health and Safety

EMC-0001-005
Sachau, B.

Comment: The effect on [people is enormously costly] in terms of medical treatment, injury, and death.

Response: A discussion of the effects of herbicides and other treatment methods on human health was provided in Chapter 4 of the PEIS and PER under Human Health and Safety. In addition, the BLM and Forest Service conducted human health risk assessments for herbicides evaluated in the PEIS.

EMC-0007-001
Grace, Joanne

Comment: I lived in the Denny area of California the summer of 1979, as a result of the spraying of 24D and other poisons used in by the US forest service, many of my friends miscarried, there were also children born with severe cleft palates, and one baby born without a skull. This from a very small population of river and mountain people, trying to live off the land. I thought I had missed that unfortunate situation with my unborn child, however, when my son who was born in march 1978 developed leukemia at age 10, I realized my son was killed before he was even born. There are numerous studies linking 24D and the exposure Vietnam vets received, and an increase risk of leukemia in their children. Please, to prove beyond a doubt will never happen, because the study would need to purposefully expose innocents and determine the increase cancer.

Response: While it is true that exposure to 2,4-D and other pesticides has resulted in harmful health effects, these health effects are usually caused by prolonged exposure or exposure to high concentrations of these chemicals. If the herbicides are used at low concentrations and in a controlled manner, harmful health effects to people are very unlikely to result. Risk assessments, which are based on extensive toxicology studies, identify concentrations of chemicals at which no health effects have been observed either in people or laboratory animals. If a risk assessment indicates that a chemical can be safely used, it is very unlikely that any harmful effects would be seen from occasional exposure. The risk associated with exposure to these chemicals is typically less than potential risks associated with exposure to typical household products, such as cleaning products.

EMC-0011-006
Kiernan, Barbara

Comment: Since the use of toxic chemicals, on public land, poses a threat to public health and the environment, and is especially harmful to young children and those with compromised immune systems, I hope you can use alternate, non-toxic, means to achieve your goals.

Response: See response to Comment EMC-0007-001 under PEIS Environmental Consequences, Human Health and Safety.

EMC-0022-002
Matheson, Paula

Comment: Synthetic herbicides are not healthy for humans or animals and are implicated in some 200 diseases and conditions, including Parkinson's Disease and cancer. It makes no sense to increase the use of these known health hazards.

Response: The ability of a chemical to cause harmful health effects is a function of how much of that chemical someone is exposed to, and for how long. Risk assessments identify concentrations of chemicals and exposure conditions that will not pose health risks to people. A herbicide used in an appropriate and controlled manner is unlikely to result in health effects.

EMC-0058-002
White, Kathryn C.

Comment: Mounting research indicates that our environment and our very bodies are becoming ever more inundated with toxic chemicals and that this chemical overload may be at least in part responsible for increasing rates of a number of serious diseases. Several of the herbicides proposed by the BLM in the Programmatic EIS have been linked to serious health concerns.

Response: See response to Comment EMC-0022-002 under PEIS Environmental Consequences, Human Health and Safety.

EMC-0061-003
Stuckman, Scott

Comment: In addition to acute or short-term health effects, many of these pesticides are also known to cause reproductive and developmental problems including birth defects; neurological problems; and cancer.

Response: All of these effects are considered in a risk assessment. The safe dose identified in a risk assessment is a dose that has not been associated with health effects, and also incorporates additional safety factors.

EMC-0062-002
Walters, Scott

Comment: I have a strong, noticeable reaction to herbicide, which has prompted me to do a large amount of reading and research on the subject. Such symptoms are commonly listed in the MSDS of these products, but even people with these reactions seldom make the connection to which products, of the thousands we're routinely exposed, are responsible for their headaches, fatigue, etc.

Response: Health effects from exposure to herbicides typically occur after exposure to high concentrations. If herbicides are applied at low levels and under controlled conditions, it is unlikely that people would experience harmful effects, although there may be people who are extremely sensitive to a large number of different chemicals.

EMC-0075-001
Pearce, Mary

Comment: Please help end the use of pesticides that cause such horrific birth defects, especially for baby boys. The effects on women and girls are sad increases in cancers, especially of the reproductive system.

Response: The herbicides proposed for use by the BLM have been extensively studied in well-defined toxicology studies. The amounts and application methods proposed for use have not been associated with harmful health effects in animals or humans.

EMC-0075-003
Pearce, Mary

Comment: I was so distressed to hear of plans for widespread use of these man-made endocrine disrupters. The manufacture and transportation of these substances exposes workers and innocents on the highways to terrible risk.

Response: The BLM conducted an analysis for the Final PEIS to determine whether herbicides proposed for use by the BLM have the potential to be endocrine disruptors; see Appendix D. Also see response to Comment EMC-0075-001 under PEIS Environmental Consequences, Human Health and Safety.

EMC-0080-006
Winfree, Robin

Comment: People and animals who live near application sites exhibit serious health effects, and those who live near the places where these substances are manufactured have worse health problems.

Response: The commentor did not provide data to back up these claims. The BLM prepared a human health risk assessment (see Appendix B of the PEIS) that evaluated the risks to humans from the use of herbicides, including herbicide spray drift. The BLM would implement Standard Operating Procedures and mitigation measures, including posting treatment areas to prohibit entry, to ensure that risks to humans from herbicide applications are none to low.

EMC-0087-001
Talpai, Ayala

Comment: I hear you plan to increase the use of pesticides to deal with invasive plant problems. Please don't do that. They cause cancer (documentation provided upon request). Moreover, a neighbor has 2 daughters with malformed reproductive organs--they were just small when an 80-acre clearcut next door was heavily sprayed.

Response: See responses to Comment EMC-0075-003 and Comment FL-0001-003 under PEIS Environmental Consequences, Human Health and Safety.

EMC-0133-002
Ryan, Stephanie

Comment: These chemicals are toxic and bio-accumulative, meaning they do not go away or dissolve, rather accumulate til they reach thresholds are irreversibly harmful to the well being of all. Cancer, neurological disorders, immune systems failures, learning disabilities are being traced to the over use of chemicals in our environment. Please take a leadership role in reversing the tide of these practices.

Response: The BLM has a process to adopt newer, less toxic herbicides and this PEIS is part of the ongoing process. Also see responses to Comment EMC-0032-002 and Comment RMC-0221-070 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives, and Comment FL-0001-003 under PEIS Environmental Consequences, Human Health and Safety.

EMC-0145-004
Wahl, Mark

Comment: Additionally, handlers of the pesticides have been shown to have more sterility and other endocrine disruptions; certainly this would be amplified in this kind of huge program.

Response: The USEPA evaluates and registers herbicides according to a health-based standard. The USEPA is responsible for ensuring that the product is handled in a safe manner. This is usually done through the product label, which states the precautions that must be taken as well as how and where to apply a certain herbicide. If these rules are followed, it is unlikely that workers would face health effects. Also see response to Comment EMC-0075-003 under PEIS Environmental Consequences, Human Health and Safety.

EMC-0181-004
Artley, Richard

Comment: My family and I love to go berry picking. Our favorite spot is on public land managed by the BLM. How will the BLM react when one of my children eats a berry that has been soaked in poison? How will the BLM react when one of their aerial poison drops is blown by the wind into a creek or lake and all the aquatic life dies? Will the BLM guarantee to me that this will never happen?

Response: The purpose of the PEIS is to manage vegetation on public lands, including millions of acres of lands infested with noxious weeds that are replacing native species, including native berry bushes. With the exception of diquat, which is an aquatic herbicide and is not sprayed on terrestrial vegetation, no risks from herbicides

were predicted. The BLM will post herbicide treatment areas prior to spraying, as discussed in Chapter 2 of the PEIS under Coordination and Education, to notify the public of areas to be sprayed and spray dates.

EMC-0185-002
Sverdlove, Jill

Comment: The cutting edge research that I have been a part of has recently proven that one in four people are genetically susceptible to debilitating toxic injury, from things like even small amounts of "drifting" pesticides because of the difference in how we metabolize toxins. Exposure to low levels over time, through air, water, food, etc or one massive exposure is all we need to become disabled, which I am now.

Response: The research referenced by the commentor is not cited. The BLM evaluated exposure via drift in its ecological risk assessment (ERA) exposure scenarios. ERAs predicted no risks for exposure via air and certain food items, except for low risk from diquat at the maximum application rate. The BLM will post herbicide treatment areas to help people avoid these areas until it is safe to re-enter and will limit applications to typical rates, where feasible. Also see responses to Comment EMC-0327-006 and Comment EMC-0181-004 under PEIS Environmental Consequences, Human Health and Safety.

EMC-0185-005
Sverdlove, Jill

Comment: And now there is this awful, sadly ignorant and uninformed plan that will take that [open space and hiking and camping] away for me and the millions of others...not to mention the fact that 25% of the people affected will also then be permanently disabled. Most people and doctors have yet to make the connection but the rise in asthma, allergy, chronic illnesses, and cancer is clear and proven to be related to pesticides. There is plenty of information out there - from the tribe that was split up, one exposed to pesticides and one not, and how all the exposed children showed mental disorders or deficiencies.

Response: The reference mentioned is not cited. None of the herbicides the BLM uses or proposes to use are listed as carcinogens by the USEPA. See response to Comment EMC-0336-005 under PEIS, Environmental Consequences, Human Health and Safety.

EMC-0197-003
Sierra, Claire

Comment: Please, please please, look into the impact on pesticides and herbicides that are implicated in increased rates of illness such as cancer and immune diseases. The statistics are convincing! (depending on where you get your information, likely you are reading reports that say otherwise.).

Response: Cancer and other health endpoints were evaluated in the risk assessments. None of the herbicides in the risk assessments are identified in USEPA's Integrated Risk Information System as being carcinogens, or referenced as being carcinogens in data provided by USEPA's Office of Pesticides In accordance with USEPA guidelines, cancer tests are done by evaluating two rodent species that are exposed to high doses of the herbicide. Also see response to Comment EMC-0185-005 under PEIS Environmental Consequences, Human Health and Safety.

EMC-0233-007
Dyber, Kenneth James

Comment: There has also been a dramatic increase in childhood leukemia since the introduction and widespread use of these chemicals. Cancer has been linked to multiple herbicides and pesticides in numerous publications as well.

Response: See response to Comment EMC-0197-003 under PEIS Environmental Consequences, Human Health and Safety.

EMC-0244-002
Montagne, Joan

Comment: I believe the health hazards to humans is something that has be shown to be a proven fact. Cancer is found in direct correlation to where herbicides have been sprayed even if the federal government has declared them "safe". Chemicals of this lethal dose to kill vegetation also kills humans and other living things.

Response: See response to Comment EMC-0197-003 under PEIS Environmental Consequences, Human Health and Safety.

EMC-0308-006
Damus, Marilyn

Comment: I also want to point out that what safety testing has been done has most likely been on health adult males. What about our children, with their smaller bodies and less developed immune systems? What about those among us who have a genetic weakness that makes them susceptible to severe health problems upon exposure to minute amounts of the these toxic products? There is increasing evidence that the high degree of asthma, ADHD [Attention Deficit Hyperactivity Disorder], learning disabilities, cancer and other problems we see in our school children and our adult population is the result of exposure to more and more toxic chemicals.

Response: The risk assessments evaluated children. The USEPA toxicity factors do address variable response rates in a population. Because of the lack of appropriate toxicity studies in humans, toxicity studies are generally conducted on two rodent species, which are given doses of chemicals much higher than humans would be exposed to. Dose levels that do not cause any effects in these species are then divided by multiple safety factors to arrive at a safe dose in humans that accounts for sensitive populations, such as children and the elderly. Also see response to Comment EMC-0197-003 under PEIS Environmental Consequences, Human Health and Safety.

EMC-0310-002
Morris, John

Comment: Most pointedly, due to this possible risk to humans, I would like to recommend that the PEIS include neurotoxicity and neuroendocrine measures in risk assessment of new herbicides.

Response: All effects reported in the information provided by the USEPA were considered in the BLM's human health risk assessments, including those associated with neurotoxicity and developmental toxicity.

EMC-0324-011
Rachel Carson Council

Comment: The herbicide 2,4-D has been associated with a cancer, non Hodgkins lymphoma, in people who regularly contact pesticides in the garden, golf course, and farm. According to a human health source, 2,4-D has been associated with irritation to the skin, eyes, and with intestinal problems. (USEPA, Recognition and Management of Pesticide Poisoning, 5th edition) For agricultural workers the no-entry time for areas treated with 2,4-D can be up to 48 hours.

Response: The BLM relied on the Forest Service human health risk assessment (http://www.fs.fed.us/foresthealth/pesticide/risk_assessments/091702_24d.pdf) for the BLM's analysis of effects from the use of 2,4-D. Chapter 3 of this assessment discusses the types of adverse effects from use of 2,4-D. These effects are also discussed in the PEIS in Chapter 4 under Human Health and Safety, and in Appendix B. The USEPA's 2005 Reregistration Eligibility Decision for 2,4-D has concluded there is no basis for the claim that 2,4-D is associated with lymphoma or any cancer.

EMC-0327-005
Firstenberg, Arthur

Comment: The Rehabilitation Act reads:

No otherwise qualified individual with a disability in the United States shall, solely by reason of his disability, be excluded from participation in, be denied the benefits of, or

be subjected to discrimination under any program or activity receiving Federal financial assistance or under any program or activity conducted by any Executive Agency. *29 U.S.C § 794.*

The BLM must ensure the accessibility of its public lands to persons with disabilities. It must ensure that persons with MCS [multiple chemical sensitivity] are not excluded, and it must do a qualitative and quantitative assessment of the impact of this proposal on this large population. The BLM has not done this.

Response: A recognized disability is a requirement for bringing suit under the Americans with Disabilities Act (ADA) (*See* 42 U.S.C. § 12112(a) (2006)), and the Rehabilitation Act provides the same basic framework for claims as the ADA. *See* 29 U.S.C. § 701 (2006). There is no precedent recognizing MCS as a disability. Courts considering what constitutes a disability under the ADA provide helpful guidance for those suffering from MCS who are bringing claims under other statutes, such as the Rehabilitation Act. *See Homeyer v. Stanley Tulchin Assoc., Inc.*, 91 F.3d 959, 962 (7th Cir. 1996); *Whillock v. Delta Air Lines, Inc.*, 926 F. Supp. 1555, 1562 (N.D. Ga. 1995), aff'd, 86 F.3d 1171 (11th Cir. 1996). A great number of courts have refused to allow expert testimony regarding MCS because it lacks scientific reliability, thereby failing to meet the standards for expert opinion testimony established by the Supreme Court in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 592-95 (1993). *See Texler v. County of Summit Bd. of Mental Retardation,* 1994 U.S. App. LEXIS 14421 (6th Cir. 1994); *Gabbard v. Linn-Benton Hous. Auth.*, 219 F. Supp. 2d 1130 (D. Or. 2002); *Coffey v. County of Hennepin*, 23 F. Supp. 2d 1081 (D. Minn. 1998); *Frank v. New York*, 972 F. Supp. 130 (N.D. N.Y. 1997); *Carlin v. Rfe Indus.*, 1995 U.S. Dist. LEXIS 19035 (N.D. N.Y. 1995); *Summers v. Missouri Pac. R.R.*, 897 F. Supp. 533 (E.D. Okla. 1995). Therefore, the courthouse door has been mostly closed to consideration of MCS as a disability. However, even in the few cases where courts have found that "even if" sufferers of MCS were disabled, the accommodations which they requested were unreasonable as a matter of law. *Patrick v. Southern Co. Serv.*, 910 F.Supp. 566, 567 (N.D. Ala. 1996); *Whillock v. Delta Air Lines, Inc.*, 926 F.Supp. 1555, 1556 (N.D. Ga. 1995).

Since MCS is not a legally recognized disability, the BLM need not specifically address how those with this disorder will continue to have access to public lands.

EMC-0327-006
Firstenberg, Arthur

Comment: The sections on "Human Health and Safety" in the Draft PEIS and the Draft PER make no mention of persons with MCS [multiple chemical sensitivity]. Standard morbidity and mortality data do not apply to this population, who have a sensitivity to most herbicides that is orders of magnitude greater than the sensitivity of the average person. The only mention I could find anywhere in the BLM documents to varying sensitivities in human populations is, in one single sentence, a statement that the impact on "children and the elderly" was considered. The impact on persons with MCS is entirely different, and of a different order of magnitude.

Response: The U.S. Department of Labor Occupational Safety and Health Administration (OSHA) states that MCS patients often report non-specific symptoms from exposure to low-levels of chemical, biological, or physical agents. There seems to be no single stimuli or predictor of reactions. The American College of Occupational and Environmental Medicine "supports the position that the relationship of MCS to environmental contaminants remains unproven. No scientific basis currently exists for investigating, regulating or managing the environment with the goal of minimizing the incidence or severity of MCS." The BLM does not take a

position of whether MCS exists or not, but that it is impossible to evaluate at this time. The BLM conducted the risk assessments using currently available methodology and toxicity information.

EMC-0327-007
Firstenberg, Arthur

Comment: In assessing the effects of the BLM's proposals on this population, it must consult with appropriate experts. It must quantify their threshold of harmful effect from the herbicides which are planned to be used, the length of time a treated area will remain inaccessible to this population, and the methods and duration of planned public notification that an area has been treated. If the proposal violates the accessibility requirements of the Rehabilitation Act, the BLM must choose Alternative C – No Use of Herbicides.

Response: BLM has used the latest available toxicity factors in its risk assessments that considered a variety of receptors. The BLM consulted with appropriate experts, including USEPA and other federal agencies (see Appendix B in the PEIS; Human Health Risk Assessment Overview) and has quantified the risk to human health and the environment in the risk assessments (see Chapter 4 of the PEIS and ecological risk assessments found in the CD that accompanies the Final PEIS). The BLM will post herbicide treatment areas. Also see response to Comment EMC-0181-004 under PEIS Environmental Consequences, Human Health and Safety.

EMC-0336-005
Tipps, Betsy L.

Comment: Just during my lifetime, I have seen a huge rise in cancer, asthma, Alzheimer's, Parkinson's, lupus and other autoimmune diseases, and many other terrible disorders. Many of these disorders strike younger and younger people every year. Childhood cancer, asthma, learning disabilities, developmental disorders, attention deficit disorder, attention deficit hyperactivity disorder, and autism are at levels unheard of when I was a child or even a young adult. Reproductive vitality is at the lowest level ever observed in our country. More and more, science is linking the great rise in human health problems in our country to the toxic brew of products produced and used by Americans each and every day. In one study, more than a hundred toxic chemicals were found in the blood of unborn children whose mothers had only average exposure to toxic chemicals. Another study, in California, showed approximately 100-500 toxic chemicals stored in the fat cells of people enrolled in the study; the thing that was most surprising about this study was the people who volunteered for the study ate only natural and organic foods, used no chemicals in their homes, and actively did what they could to avoid exposure to toxins. Another study, done in the Santa Barbara, California area, looked at toxic chemical accumulation in a single average family. The frequency and number of chemicals was shocking and scary, even to scientists who had expected the worst. At some point, we need to need to say enough and find safer means of accomplishing what we want or feel we need to do. For herbicides and pesticides, that time is now.

Response: The BLM assessed the risks to humans and the environment from using 18 herbicides and found that risks were generally none to low. For scenarios in which risks would be higher, the BLM proposed Standard Operating Procedures and mitigation measures to reduce these risks to an acceptable level. The use of herbicides is but one treatment method available to the BLM, and only about 16% of BLM-administered lands would be treated using herbicides. As discussed in the PER, over two-thirds of lands would be treated using prescribed fire and mechanical methods. Other treatment methods would include manual and biological control methods.

EMC-0397-003
Bird, Deanna

Comment: I'm not a chemist but I do know that herbicides act at the cellular level. How safe are they to developing fetuses? Safety for women and children are not

measures made in the laboratory and remain unknowns. Why are there increases in autoimmune diseases and asthma within the human populations, especially children? Is it possible that there is a connection? Is it prudent to gamble with the health and well-being of the public by increasing timber yield for the forest products industry? I say it is not.

Response: Reproductive and developmental effects are examined in pesticide registration toxicology tests. The BLM used all known effects data in its risk assessments.

EMC-0432-002
Keys, Paula

Comment: Scientists know what causes 75 to 90% of all cancers and yet refuse to curb the use of pesticides and herbicides that are the root cause.

Response: See response to Comment EMC-0197-003 under PEIS Environmental Consequences, Human Health and Safety.

EMC-0585- 073
Western Watersheds Project

Comment: BLM claims ([page] ES-2 [of the Draft PEIS]) that old EISs serve as basis for assuming that risks to humans are not significant – based on evaluations done for old EISs. Yet, not only was the data for the chemicals used in that time insufficient, so was the data for the treatments under these old EISs.

Response: Appendix B of the PEIS (Human Health Risk Assessment) provides an evaluation of five currently-available herbicide active ingredients that were evaluated in earlier EISs, but not in recent BLM or Forest Service human health risk assessments. As noted, use of more recent toxicity information for these herbicides would have shown few differences for two herbicides, and greater risks for three herbicides. For two of the herbicides with greater risks (diuron and triclopyr), risks were already found unacceptable in the earlier EISs; thus, the conclusions of the risk assessment remain the same. The third herbicide, simazine, has not been used by the BLM since at least 1997, and would not be available to the BLM under the action alternatives.

EMC-0585-179
Western Watersheds Project

Comment: [Appendix] B ([page] B-35 [of the Draft PEIS]) assumes limited public exposure, discounting the fact that many of the treatments are proposed to take place at WUIs [wildland urban interfaces] inhabited by people, and that herbicide-contamination of ground or surface water in the arid West can result in long-term exposure to chemicals.

Response: Based on a data call to BLM field offices, about 500 acres would be treated in the wildland urban interface using herbicides, out of an estimated 932,000 total acres of herbicide treatments. Although additional acres may be treated in the WUI using herbicides, it is unlikely that many would be given the potential risks to inhabitants near public lands.

EMC-0585-184
Western Watersheds Project

Comment: We are also very concerned that inhalation risks from drift or accidental exposure of the public are not part of the "public receptor" analysis.

Response: Inhalation risks from drift, and accidental exposure, such as a direct spill, were evaluated for all public receptors. Also see response to Comment EMC-0185-002 under PEIS Environmental Consequences, Human Health and Safety.

EMC-0587-004
Jones, Donna

Comment: Please consider the effects of just one of the chemicals you propose to use. http://www.mindfully.org/Pesticide/Monsanto-Roundup-Cancer.htm Monsanto has

long claimed this product has little or no side effects and does not persist in the environment. Yet I personally have known over a dozen individuals who have dealt with lymphoma, leukemia, etc. All had regular exposure to herbicides. One of my brothers is one of the fortunate survivors of this disease. Three others I've known have since died. Do you realize that the highest incident of leukemia is found in farm workers and others with herbicide exposure? The second highest incidence is among those who work with paints and solvents. My brother has worked with produce in the grocery store setting for over 20 years.

Response: All of the BLM herbicides have been tested for carcinogenicity in comprehensive animal studies and are not carcinogenic. Also see response to Comment EMC-0197-003 under PEIS Environmental Consequences, Human Health and Safety.

EMC-0590-019
Western Slope Environmental Resource Council

Comment: Humans are exposed to toxics via inhalation, ingestion, and dermal contact. The ENSR [Exposure Assessment] identifies and categorizes public receptors with potential for exposures as: Hiker/Hunters, Berry Pickers, Anglers, child and Adult Swimmers, Child and Adult Nearby Residents, and Child and Adult Native Americans. Since children are especially susceptible to the toxic effects of chemicals, it is appropriate that they be considered separately for analysis purposes, along with other at-risk populations including the elderly, pregnant and nursing mothers, the chronically ill, the chemically sensitive, and the immunocompromised. However, any human is at risk to the effects of pesticides, and the most risk-averse approach to preventing exposures would be to avoid any and all use of the herbicides listed in the proposal.

Response: BLM agrees that there are sensitive subpopulations to address. It is standard practice to evaluate children and reproductive effects, which was done in the risk assessments. See response to Comment EMC-0336-002 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0621-009
Alliance of Forest Workers and Harvesters

Comment: Forest workers and NTFP [Non-timber Forest Product] harvesters work and harvest in forests where herbicides will be applied. These workers/harvesters will be affected by direct exposure or by entering sprayed areas after applications. We have witnessed in the case of Basket Weavers who process their materials by hand and through their mouths that these chemicals contribute to a high rate of cancer. What protections are you going to put in place for these harvesters and workers? Again we refer to Executive Order 12898 on Environmental Justice. This environmental justice analysis must be included in the final PEIS.

Response: The BLM assessed exposure to berry pickers, Native Americans, hikers, fishers, and swimmers. The only risks predicted were low risks to these receptors from diquat applications at the maximum application rate. None of the BLM herbicides are listed by the USEPA as being carcinogens. Mitigation measures and Standard Operating Procedures to reduce risk to workers and harvesters are provided in Tables 2.6 and 2.7 in Chapter 2 of the PEIS. Also see response to Comment EMC-0197-003 under PEIS Environmental Consequences, Human Health and Safety.

EMC-0638-003
Kuczora, Carol

Comment: The common broadleaf poison 2,4-D and other chlorophenoxy compounds, including its contaminants such as 2,4,5-T and dioxin, are known to be teratogenic. They also are associated with soft tissue sarcomas, chloracne, porphyria, liver damage, polyneuopathies, psychiatric disturbances, paralysis, and ventricular fibrillation. Species differ in sensitivity, dogs being more sensitive than other

experimental animals. (Casarett and Doull's Toxicology, 1986.).

Response: This reference is out-of-date and out-of-context. These effects are associated with the dioxin contaminant of 2,4,5-T, another chlorophenoxy herbicide. 2,4,5-T is banned by the USEPA and is not used or planned for use by the BLM. The potential for a chemical to cause toxic effects depends on the dose to which people are exposed. The BLM risk assessments use information on exposure and dose to determine the levels at which harmful effects would not be expected. Also see response to FXC-0071-025 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0643-041
California Indian Basketweavers Association

Comment: The preparers of the DEIS [Draft PEIS] make identical unfounded and inaccurate claims: "For both workers and members of the general public, there were no risks at the typical or maximum application rate" for glyphosate (p. [page] 4-185 [of the Draft PEIS]). The [Final] [P]EIS must remove this type of language and provide a truthful analysis of the risks to Native Americans and to other people from exposures to the full formulations of glyphosate products, not simply the active ingredient.

Response: The sentence has been revised to note that there was low risk in one (drinking contaminated water at maximum application rate) of 24 exposure scenarios; other application scenarios posed no risk based on the Forest Service risk assessment for glyphosate and using BLM application rates. The comment does not cite any specific scientific studies or indicate what the risks associated with use of glyphosate are. Also see response to Comment EMC-0643-034 under PEIS Environmental Consequences, Paleontological and Cultural Resources concerning Native American exposures.

EMC-0643-068
California Indian Basketweavers Association

Comment: The DEIS [Draft PEIS] makes repeated claims about harm to human health resulting from invasive species. These claims purport to offset any environmental or health harm from the use of herbicides. The BLM must document by citation to scientific literature any such claims about harm from invasive species to human health.

Response: Invasive species do not generally affect human health, but instead out-compete native species. The BLM has tried to balance the growing and massive infestation of invasive weeds on public lands throughout the West with spot treatment of herbicides. There are risks from using herbicides just as there are with other forms of vegetation control, but the risks of proper application are generally none or low. As noted in Chapter 4 of the PEIS under Human Health and Safety, invasive species can be poisonous to humans if ingested, can cause rashes and shock if applied to the skin of a sensitive person, and their plant parts (brambles, thorns, penetrating seeds) can cause harm and discomfort to humans.

FL-0001-003

Comment: In addition to acute or short-term health effects, many of these pesticides are also known to cause reproductive and developmental problems including birth defects; neurological problems; and cancer.

Response: The risk assessment approach evaluates noncancer effects based on a safe dose that has not been associated with health effects, and incorporates additional safety factors. The safe dose considers reproductive and developmental problems. Cancer effects are evaluated using a cancer slope factor to estimate the probability of contracting cancer. If the probability of contracting cancer is insignificant, then exposure to that chemical is considered acceptable. A limited number of the BLM

chemicals are considered potentially carcinogenic, including diuron and simazine. Both cancer and noncancer effects were considered, when applicable.

FXC-0071-013
Campbell, Bruce

Comment: Was there any study of possible impacts from contamination of a hiking and plant-gathering pregnant woman by aerial or other herbicide Spraying? If not, why not? Also, asthma rates have skyrocketed in recent decades. Do any of the evaluations take into account a child with asthma exposed to aerial or other herbicide Spraying?

Response: The PEIS and BLM risk assessments clearly show that exposure of hikers and berry-pickers to herbicides were evaluated, as were reproductive effects, and there are no risks associated with any of the herbicides except for diquat. The toxicity studies used in the risk assessment include reproductive and developmental toxicity studies conducted in animals. Also see responses to Comments EMC-0181-004 and EMC-0185-002 under PEIS Environmental Consequences, Human Health and Safety.

FXC-0071-017
Campbell, Bruce

Comment: Has BLM examined any studies regarding the volatilization of herbicide residue (either as a part of brown-and-burn operations or perhaps in regards to a wildlife following herbicide applications) since the 1991 footnote mentioned on page 4-133 of the Draft Programmatic ER? If so, what did they indicate? Also, it should be pointed out that herbicides make vegetation drier and thus could easily increase fire danger and risk of catastrophic fire. Was the drying effect of herbicides on vegetation taken into account in either the Draft Programmatic EIS or the Draft PER? Why or why not?

Response: Herbicide manufacturers (as well as independent researchers) continually analyze and report the potential for volatilization and photodecomposition of their formulations. Any future use of herbicides would consider the most recent information regarding their use and behavior.

Herbicide treated vegetation is treated like any other debris created by fuel treatment operations. In those cases where plants are treated and killed by herbicide, a secondary treatment is planned to remove any remaining dead plant material. After the initial treatments, monitoring and follow-up treatments (which can be of any type, and not necessarily chemical) will occur if necessary. The management of invasive grass species under the BLM vegetation management program involves the use of a preemergence herbicide (imazapic), which prevents the selected grass species from emerging, thereby reducing the total amount of dry matter present. Postemergence application of herbicides is done when the grasses are small, reducing the amount of dry matter associated with mature and senescent plants. It is recognized that drying induced by herbicide use creates dry matter, but the vegetation will also end up dry and brittle as a result of its natural life cycle.

Also see response to Comment EMC-0646-175 under PEIS Environmental Consequences, Vegetation on the drying effect of herbicides on vegetation and http://www.bugwood.caes.uga.edu/factsheets/98-021.html for information on the air quality considerations of fire and herbicides.

RMC-0068-007
Damus, Marilyn D.

Comment: I also want to point out that what safety testing has been done has most likely been on health adult males. What about our children, with their smaller bodies and less developed immune systems? What about those among us who have a genetic weakness that makes them susceptible to severe health problems upon exposure to minute amounts of these toxic products? There is increasing evidence that the high degree of asthma, ADHD [Attention Deficit Hyperactivity Disorder], learning

disabilities, cancer and other problems we see in our school children and our adult population is the result of exposure to more and more toxic chemicals.

Response: The human health risk assessment (HHRA) evaluated children as a receptor because of their smaller body weight and higher metabolic rate and reproductive effects (pregnant women and birth outcome). Risk assessments do take into account the endpoints mentioned in the comment, including cancer, if they have been identified in animal testing.

RMC-0089-001
Hardebeck, Larry J.

Comment: I am especially concerned about the aerial applications you have planned, which will cause the chemicals to be spread far and wide. Just look at what happened on the BLM test plots in Idaho where they used OUST, a supposedly safe chemical manufactured by Du Pont. The safety studies on the chemicals you are proposing are not thorough enough to demonstrate their safety for all members of our society, and they certainly do not address the long-term repercussions that may occur down the road (say 20 years), for example, cancer of various types, autoimmune disease, etc.

Response: Risks from aerial application were generally higher for human health and ecological receptors due to the larger areas affected. Drift and leaching was specifically evaluated, and under most herbicide-receptor scenarios there was no risk or low risk associated with typical application rates. Also see response to comment EMC-0185-005 under PEIS Environmental Consequences, Human Health and Safety.

RMC-0106-046
Public Employees for Environmental Responsibility

Comment: P. 4-174 [of the Draft PEIS]. The findings from review of inerts for 6 a.i.s [active ingredients] cited on p. [page] 4-174 are not consistent with those cited in Appendix C, p. C-83 [of the Draft PEIS]. Appendix C states that inerts for 9 herbicide a.i.s (6 in the PDEIS [Draft PEIS]) were evaluated in terms of the USEPA listings (again ignoring the subdivisions of List 4), finding 12 inerts in List 3 (6 in the PDEIS [Draft PEIS]) and over 50 in List 4 (29 in PDEIS [Draft PEIS]). In addition, Appendix C indicates that 9 inerts were not found on the USEPA lists.

Response: The comment is correct. The BLM revised the wording in Chapter 4 of the Final PEIS under BLM Human Health Risk Assessment Methodology in the Human Health and Safety section to provide the correct number of inert ingredients for the herbicides analyzed as part of the human health risk assessment.

RMC-0106-057
Public Employees for Environmental Responsibility

Comment: P. [Page] 4-193 [of the Draft PEIS]. 4 of the 6 mitigations are permissive, and one is after-the-fact evaluation and therefore not a mitigation.

Response: See response to Comment RMC-0144-005 under PEIS General Comments and Responses.

RMC-0159-015
Proctor, Gradey

Comment: At present application rates, workers would be at serious risk when using diquat, 2, 4-d, bromacil, diuron, hexazinone, and tebuthiuron. As it even states in the [P]EIS, the preferred alternative contains the most risk to applicators. It is disgusting that this is what you would choose to impose on your staff.

Response: Risks are none to low at typical application levels for all 17 scenarios, except 2 scenarios involving mixers of diquat. There are risks associated with all occupations. Pesticide worker safety, training, and use of protective clothing is regulated by the USEPA and Occupational Safety and Health Administration (OSHA) to maintain levels of safety.

RMC-0200-004
Lindsay, Dianne

Comment: The PEIS/PER fails to include a comparison of the risks to human life between the risk of wildfire and the risk of chemically induced illnesses. The statistics should include the actual statistics which enumerate the human illnesses from exposure to these chemicals.

Response: The PEIS discusses the risks to human health from the use of herbicides in the Human Health and Safety section of Chapter 4. The risks to humans from fire, smoke, and herbicides in brown-and-burn operations are discussed in Chapter 4 of the PER under Human Health and Safety. The BLM is not aware of statistical data that show the number of human illnesses associated with herbicide treatments on BLM-administered lands.

The state of the science and existing methodology do not permit estimates of the number of health effects because one needs to have actual, defined populations and exposures. The PEIS uses USEPA methodology with hypothetical application scenarios to project hypothetical risks to exposed persons. Most BLM applications are in remote locations where there are no residents and few or no visitors. Similarly, risk of wildfire is very site-specific. Herbicides are primarily used to control invasive weeds and should not be equated with reducing wildfire risk.

The BLM's actions (including use authorizations) must comply with applicable local, state, tribal, and federal air quality laws, regulations, standards and implementation plans. Therefore, potential air quality impacts are managed below scientifically based and legally enforced regulatory significance thresholds, which are designated at levels with an adequate margin of safety necessary to protect public health, including the health of those individuals most sensitive to the effects of air pollution, such as asthmatics, children, and the elderly. Statistical risk-based analyses are developed and used by the USEPA when establishing and periodically reviewing such standards (see http://www.epa.gov/ttn/naaqs/).

RMC-0200-006
Lindsay, Dianne

Comment: The [Draft] PEIS/PER fails to list the full scope of human health risks. Monetary health care increases shared by everyone for increasing treatment of kidney, liver, lung, and skin problems; The worry, grief, depression and financial stress to those families affected' [and] the mental anguish of friends and neighbors who, as taxpayers and voters feel responsible for their suffering and want to find ways to stop dumping poisons of all kinds into our lives.

Response: See response to Comment EMC-0336-002 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

RMC-0200-009
Lindsay, Dianne

Comment: The [Draft] PEIS/PER fails to use comprehensive studies. The research cites "a study" or "3 studies" on mice, rats, rabbits, dogs, birds. I saw no human health statistics re the increasing numbers of people who have diseases and problems which are linked to petrochemicals in our environment. I saw no wildlife studies or reference to the statistics on species extinction. I saw no statistics re cumulative affects. How can any study be relevant that leaves this out?

Response: The PEIS evaluates only selected types of a small category of chemicals—specific herbicides—and does not attempt to assess the risk of all petrochemicals in the environment. There are few studies definitively linking exposure to any of the BLM listed herbicides to human health effects; those that satisfy USEPA scientists have been used in the toxicity factors developed by the USEPA's Office of Pesticides. Numerous toxicological studies on laboratory animals are cited. For many reasons, it is

impossible to perform controlled studies on "wildlife" in a wild environment. It is also difficult to draw conclusions on dose and effect from epidemiological studies in people. Considerable emphasis was placed on rare, threatened, and endangered species in the ecological risk assessments. Effects of mixtures (e.g. tank mixes, Overdrive® (dicamba plus diflufenzopyr)) were also included. Also see response to Comment RMC-0200-008 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

RMC-0210-001
MCS Task Force of New Mexico

Comment: The draft PEIS fails to analyze the human health impacts of herbicides to chemically sensitive individuals, even though the need to do so was identified in scoping comments. "Respondents suggested that at-risk groups like infants, elderly, sick people, and people with sensitivities to chemicals be specifically addressed" ([Draft] PEIS 4-172).

Response: There is no existing methodology to evaluate risk to chemically sensitive individuals, but children and reproductive effects (pregnant women and the fetus) were evaluated.

RMC-0210-002
MCS Task Force of New Mexico

Comment: The omission of analyzing potential adverse impacts to chemically sensitive individuals, as well as other vulnerable populations such as infants, unborn children/pregnant women, people with asthma and other respiratory conditions, and those with other chronic conditions in the draft PEIS is one reason the risk assessments vastly underestimate the potential human risks from herbicide exposure and are invalid.

Response: See response to Comment RMC-0210-001 under PEIS Environmental Consequences, Human Health and Safety.

RMC-0210-003
MCS Task Force of New Mexico

Comment: Only analyzing impacts to an average child (age and sex unspecified) is insufficient to account for impacts to other populations, especially those who are more vulnerable to herbicides. For example, unborn children are highly susceptible to chemical exposures, particularly during critical periods of development. In addition, it appears the risk assessment for the hypothetical 35 kilogram child only treated the child as a small adult and did not take into account the increased vulnerability of children due to, among other things, their developing nervous and other systems and decreased ability to detoxify toxic chemicals.

Response: The USEPA's toxicity values are not constructed for different age levels. The USEPA reference dose includes any developmental, neurological, or reproductive effects.

RMC-0210-014
MCS Task Force of New Mexico

Comment: Similarly, the presence of herbicides on public lands can block access for people disabled with MCS [multiple chemical sensitivity]. Public lands are required to be accessible for all people with disabilities, including those with MCS. Therefore, the use of herbicides may, in some cases, violate the Americans with Disabilities Act.

Response: See response to Comment EMC-0327-005 under Environmental Consequences, Human Health. See Standard Operating Procedures in Table 2-6 in Chapter 2 of the PEIS regarding public notification requirements for herbicide application projects.

RMC-0210-018
MCS Task Force of New Mexico

Comment: The bottom line is the draft PEIS should have analyzed the potential impact of herbicide exposures to people with chemical sensitivities, as well as other vulnerable populations. This should have included an estimate of the dose required to elicit an adverse response as well as the nature of the responses for each population.

Response: See responses to Comments RMC-0210-001 and RMC-0210-002 under PEIS Environmental Consequences, Human Health and Safety.

RMC-0210-019
MCS Task Force of New Mexico

Comment: There also should have been an acknowledgement of the extremely wide range of sensitivity to herbicides, even among people who are chemically sensitive. That is, some people are only mildly affected by herbicides, while others are so exquisitely sensitive to herbicides they can react severely to even minute traces. The risk assessment in the draft PEIS used a factor of 10 to account for intraspecies variability ([Draft] PEIS [page] B-57 [of Appendix B]), but this is far off the mark.

Response: The safety factor is not intended to address quantitatively chemically sensitive persons; however, safety factors often consider inter-individual variability. This factor of 10 has been recommended by USEPA as being health-protective. Also see responses to Comment RMC-0210-001 under PEIS Environmental Consequences, Human Health and Safety, and Comment EMC-0327-006 under Environmental Consequences, Human Health.

RMC-0210-020
MCS Task Force of New Mexico

Comment: Based on the cumulative experience of people with chemical sensitivities and a growing body of research on variations in the human genome, gene expression, and vulnerability to toxic exposures, the true range of human variability is probably closer to 5 to 10 orders of magnitude. Thus, the assumptions used in the risk assessments led to vastly underestimating the risk to human health, rather than "to an exaggeration of the real risks," as claimed ([Draft] PEIS [page] 4-178).

Response: See response to Comment EMC-0327-005 under Environmental Consequences, Human Health.

RMC-0211-003
Ghandi, Theresa Marie K.

Comment: I find the PEIS estimates of exposure to herbicides by Native American receptors and human receptors living and working outside in areas to be sprayed grossly lacking in a realistic understanding of the amount of time subsistence living in gathering native plants and berries, fishing and such activities as sheep herding actually involve time spent and contact with vegetation and water in the proposed Spraying areas. The PEIS estimates of low exposure rates combined with proposed use of herbicides that are proven endocrine disrupters is a plan for the extinction of Native American Receptors (i.e. humans) rather than a plan to reduce wildfires.

Response: The comment does not refer to specific exposure assumptions (e.g. ingestion rate, exposure duration, frequency). Regardless, the BLM risk assessments used highly conservative exposure assumptions for Native American subsistence use based on work by Harper et al. (2002; see reference in PEIS). Some people are more sensitive to herbicides than others, which is true for any toxicant. The variability in the sensitivity in humans is also seen in effects on laboratory animals. Toxicity testing analyzes effects on samples of populations to determine statistical effects in the dose-response curve. The exposure assumptions used in the risk assessment were derived from toxicity studies and information provided by the USEPA. The BLM will post herbicide treatment areas prior to spraying, as discussed in Chapter 2 of the PEIS under Coordination and Education, to notify the public of areas to be sprayed and spray dates. Also see response to Comment EMC-0327-005 under Environmental

Consequences, Human Health.

RMC-0211-034
Ghandi, Theresa Marie K.

Comment: Assuming that "Native American receptors (adults and children) are assumed to be potentially exposed to herbicides via dermal contact with spray, dermal contact with sprayed foliage, ingestion of drinking water from sprayed ponds, ingestion of berries containing spray, dermal contact with water in sprayed ponds and ingestion of fish from sprayed ponds" (6a) is just wrong. Then to assume that "Native American receptors will experience exposure only three hours a day of subsistence activities in gathering berries" (6b) obviously knows very little about subsistence activities and has grossly underestimated exposure. Assuming contact with foliage for two hours a day is not realistic for sheep herders or others who work and play outside. Harming the living spaces, hunting, gathering places and in general the environment of Native American Reservations is economic and racial injustice and potential genocide.

Response: The first sentence is unclear. In response to the second sentence, the BLM assumed a comprehensive set of exposure scenarios for the Native American, as listed in the first sentence of the comment. The exposure time of 3 hours per day is taken from the peer-reviewed literature: Harper, B.L., B. Flett, S. Harris, C. Abeyta and F. Kirschner. 2002. The Spokane Tribe's multipathway subsistence exposure scenario and screening level RME. Risk Analysis: 22(3): 513-526. The assumption used by the BLM is that an individual would contact foliage 3 hours per day for every day of the year and that sheepherders would contact vegetation for 2 hours per day per year.

RMC-0211-035
Ghandi, Theresa Marie K.

Comment: As one who has gathered berries for native seeds I have never gone out picking for less than three hours a day. Other pickers with better health pick from dawn until dark. BLM assumptions are greatly underestimated. The PEIS underestimates on Native American receptors could be taken as a plan for genocide. Endocrine disruption from herbicides decreases fertility, sperm counts and quality of health, especially when it comes from the air on to the land, prairies, deserts and Continental Divide Basin (the largest unfenced land mass in the United States), vegetation, multiple wildlife and aquatic species into ponds, lakes, streams, aquifers and groundwater. This is a gross violation of human rights and class injustice to poison the vegetation, land, water, air, aquatic and wildlife where Native Americans make their homes.

Response: See responses to Comment RMC-0211-034 under PEIS Environmental Consequences, Human Health and Safety, Comment RMC-0211-018 under PEIS Environmental Consequences, Herbicide Effects Analysis.

RMC-0216-008
Neff, Jack

Comment: If the BLM is permitted to carry out the Vegetation Management Plan For 17 Western States, people will be hurt, employees, visitors, travelers and nearby residents and any livestock with cancer risk, health problems, on-the-job injuries and monetary losses. For example, BLM asserts that "Accidental scenarios involving dermal contact with a sprayed waterbody or a waterbody into which herbicide was spilled did not result in risk to swimmers." (second paragraph preceding Table 4-27[of the Draft PEIS]). This statement is a lie and in conflict with proven medical consequences of the nine active ingredients (2,4-D, chlorsulfuron, clopyralid, glyphosate, hexazinone, imazapyr, metsulfuron methyl, picloram, and triclopyr) desired by BLM.

Response: The accidental scenario was evaluated using USEPA-approved risk assessment techniques. The second sentence refers specifically to sulfometuron methyl. Risk calculation showed that a one-time accidental exposure to sulfometuron

methyl in a water body receiving a spill from a truck or a helicopter would not result in unacceptable risks. Risks to swimmers from other herbicides proposed for use by the BLM were none, except for diquat, which poses a low risk to swimmers under an accidental spray scenario. Also see response to Comment EMC-0336-002 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

RMC-0218-056
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: There doesn't appear to be a safety plan established for human exposure to herbicides in either the [Draft] PEIS or Human Health Assessment appendix [B in the Draft PEIS].

Response: No safety plan per se is required. The BLM will post herbicide treatment areas prior to spraying, as discussed in Chapter 2 of the PEIS under Coordination and Education, to notify the public of areas to be sprayed and spray dates.

RMC-0222-105
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Occupational hazards: The D[raft] EIS ([page] 4-173) states that human health risks are based on "both acute (short-term) and chronic (long-term) toxicity information." However, the DEIS [Draft PEIS] omits health risks identified through epidemiological studies of people exposed to herbicides occupationally. For example, occupational exposure to 2,4-D has been associated with genetic damage, changes in levels of sex hormones, and increased incidence of cancer. These studies were conducted by researchers from the University of Minnesota and the University of Saskatchewan and published in the journals *Environmental Health Perspectives* and *Cancer Epidemiology, Biomarkers and Prevention*. (Gerry et al 2001 and McDuffie at al. 2001)

Response: The risk assessment evaluates toxicology studies to identify doses that are unlikely to pose health effects even after long-term exposure. In many epidemiology studies, it is difficult to determine exactly the concentrations of chemicals to which people were exposed. It is possible that the workers in these studies were exposed to higher concentrations of herbicides than are being proposed for use.

RMC-0222-106
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Occupational exposure to glyphosate is associated with increased incidence of cancer in a series of studies. The studies were conducted by scientists at the University of Saskatchewan, Örebro University, and the National Cancer Institute, and published in the journals *Cancer Epidemiology, Biomarkers and Prevention*, *Leukemia and Lymphoma*, and *Occupational and Environmental Medicine*. (McDuffie et al 2001, Hardell, Eriksson, and Nordström 2002, DeRoos et al 2003)

Response: See responses to Comment RMC-0222-105 and Comment FL-0001-003 under PEIS Environmental Consequences, Human Health and Safety.

RMC-0227-004
U.S. Department of Interior Bureau of Indian Affairs

Comment: Additionally, although the [P]EIS relays that beneficial results, including the reduction of wildfire risk and reduction or elimination of non-native or invasive plant competitors, can be achieved from application of herbicides, and appears to be the overwhelming goal of the analysis presented in the [P]EIS, we encourage careful consideration of the health and public safety risks of neighboring tribal and surrounding communities in the planning efforts for these vegetation treatment projects.

Response: See responses to Comment FXC-0071-023 under PEIS Environmental Consequences, Social and Economic Values, and Comment EMC-0001-005 and Comment EMC-0585-179 under PEIS Environmental Consequences, Human Health and Safety.

Environmental Consequences, Cumulative Effects Analysis

EMC-0446-068
The Nature Conservancy

Comment: The cumulative effects section developed for both the PEIS and PER appears to underestimate the potential effects of treating 25 percent of BLM-managed public land over the next 10 years. Included should be a discussion of potential unintended consequences of using the wrong treatment method in areas that are already highly altered by past human uses and management practices, the potential cumulative effect of treating multiple areas within one ecoregion with different treatment methods, and the potential cumulative effects to fish, wildlife, native plant communities and water resources of the combined proposed treatments over the next decade.

Response: See Structure of the Cumulative Effects Analysis in the Cumulative Effects Analysis section of Chapter 4 of the Final PEIS. The cumulative impacts analysis projects out 50 years, not 10 years, and takes into account multiple treatments in ecoregions using multiple treatment methods for all public lands resources. The PER provides information and context for the cumulative analysis contained in the PEIS. The PER does not have a specific cumulative effects analysis associated with it. Little to no data exists on potential unintended consequences of using the wrong treatment method for any given project. The PEIS assumes, based on an integrated weed management framework that any treatment methods proposed would be appropriate for the specific situation and objectives to be met, resulting in minimal to no unintended consequences. In addition, through the analytical step down process to comply with NEPA, each treatment project is analyzed at the site-specific level and mitigation is proposed for identified impacts, which would minimize the risk of unintended consequences.

EMC-0446-069
The Nature Conservancy

Comment: The section describing cumulative effects on vegetation ([Draft] PEIS [pages] 4-206-207) does not adequately indicate the potential effect of the large number of prescribed fire treatments in the Temperate Desert Ecoregion, particularly as it relates to fire and downy brome interaction. The potential does exist for significant negative ecological impacts and these are not clearly noted.

Response: Site-specific analysis in project-related Environmental Assessments should preclude fire treatments in woody plant dominated communities with a significant potential to become dominated by downy brome. In situations where loss of native understory has occurred, such as in pinyon-juniper invasion areas, and prescribed fire is desired to remove woody vegetation after mechanical treatments, analysis should show that reseeding and possibly application of a selective herbicide may be necessary to restore desired native species.

EMC-0446-070
The Nature Conservancy

Comment: Page 4-198 of the [Draft] PEIS indicates that fuels reduction and increased prescribed fire may ultimately result in less total emissions due to the effective reduction of wildfires by these treatments. This is a positive aspect of proactive fuels management often overlooked by regulators. Increased wildland fire use will likely result in more local emission and haze in Alaska, including impacts to wilderness viewsheds. While long term emission levels may stay near current levels (PEIS 4-199), the increased level of wildland fire use could result in significant short-term haze events such as those in the summer of 2004. These potential effects should be discussed in the cumulative effects section on air quality.

Response: Chapter 4 of the PEIS under Cumulative Effects Analysis notes that overall smoke emissions may be less if emissions from prescribed fires are less than emissions

that would have occurred from wildfires in treated areas. We have included text in this discussion in the Final PEIS on the potential for significant short-term haze events from wildfire.

EMC-0513-024
The Wilderness Society

Comment: The cumulative impacts analysis similarly concludes that short-term impacts would be greatest under the Preferred Alternative, but does not give adequate weight to these impacts in light of the applicable management policies. [Draft] PEIS, Table 2-8, p. [page] 2-36. As noted above, the minimum tool requirement dictates that any treatment "should be the one that least degrades wilderness values temporarily or permanently." H-8560, Section .13. (emphasis added). Because selection of the Preferred Alternative improperly discounts the temporary degradation of wilderness values, in violation of the "minimum tool" policy, it is not in compliance with BLM's Wilderness management policy. Further, none of these impacts specifically discusses the risks associated with use of herbicides on lands with wilderness characteristics and the potential for destroying that character, which is also inconsistent with BLM policy to inventory for and protect lands with wilderness characteristics.

Response: See response to Comment RMC-0057-005 under PEIS Environmental Consequences, Wilderness and Special Areas. Use of mechanized equipment in wilderness areas could occur under all alternatives. The risks to wilderness and other special areas from herbicides are discussed primarily in Chapter 4 of the PEIS under Wilderness and Special Areas. This section notes that herbicide use could affect wilderness characteristics over the short term. It also notes that weeds and other invasive vegetation, and wildfires can affect wilderness characteristics and that these effects must be considered before implementing an herbicide treatment program.

EMC-0525-049
Western Watersheds Project

Comment: As BLM's proposed "treatments" and herbiciding will increase fragmentation (see also Knick et al. 2003, Connelly et al. 2004), these species habitats and populations will only be increasingly harmed In the short, mid and long terms.

Response: It is the belief of the BLM and other federal land management agencies that activities to restore native habitat and reduce the risk of wildfire and spread of weeds, will reduce, not increase, fragmentation, as discussed in Chapter 4 of the PEIS under Cumulative Effects Analysis, Wildlife Resources.

EMC-0584-071
Western Watersheds Project

Comment: The actions of the [P]EIS will have large-scale effects, ranging from increased sedimentation of bull trout and redband trout streams to major fragmentation of sage grouse, Brewer's sparrow, pygmy rabbit, pinyon jay and other declining species habitats. The [P]EIS fails to address this fragmentation, on top of the fragmentation that already exists – see, for example, the analysis of fragmentation on the Sage Grouse Conservation Assessment (Connelly et al. 2004). The [P]EIS is lacking in basic information on soil stability, erosion hazard, wind and water erosion risks, etc. related to lands proposed for treatment. This is critical for understanding likely sedimentation into streams, site soil stability post-treatment, likelihood of increased gullying, and other factors. Special status species habitats are faced with a broad array of escalating synergistic and cumulative impacts to habitats and populations – ranging from development of new livestock infrastructure and expanded water-hauling to energy developments such as wind or geothermal and associated roading and disturbance across public and private lands of southern Idaho.

Response: The Cumulative Effects Analysis in Chapter 4 of the PEIS discusses how the effects of treatments proposed in the PEIS, including fragmentation, would be cumulative with the effects of other actions on and off public lands. The PEIS provides

basic information on soil condition, wind and water erosion risks, sedimentation, etc., appropriate for analysis at the programmatic level. Project-specific effects would be identified during analysis at the local level.

EMC-0585-039
Western Watersheds Project

Comment: BLM refers to improvement in land conditions, based on its own BLM 2005 report. This report and its methodology, should have been made available as part of the [P]EIS effort. We have searched in vain for it on BLM's website.

Response: The report is entitled "Public Land Statistics" and can be found on the internet at: http://www.blm.gov/natacq/pls05/. This link is for the 2005 statistics.

EMC-0585-041
Western Watersheds Project

Comment: In order to understand the "improved" conditions, a reader must be told if all BLM land is lumped in that summary, and if previous summaries to which this may be compared include such areas as Alaska. Note: the [P]EIS states Alaska lands are largely pristine, so how heavily weighted any analysis is with Alaska lands data must be fully revealed.

Response: It is unclear from the comment letter which resource is referenced in terms of improved conditions, but we assume it relates to information on rangeland quality given in the Wildlife Resources section in Chapter 3 of the PEIS and PER, since Wetland and Riparian resources were discussed in terms of Alaska and other states. The improved conditions discussed under Wildlife Resources reflect conditions on rangelands. Of the 165 million acres of rangelands, all but 5 million acres are in the continental United States. Only rangeland acres in the continental U.S. have been inventoried for habitat quality.

EMC-0590-028
Western Slope Environmental Resource Council

Comment: Thus, management actions by the BLM should be analyzed in a broader context that includes and considers other possible herbicide applications that could contribute to cumulative effects on receptor organisms in an area.

Response: The Cumulative Effects Analysis is in Chapter 4 of the PEIS. Consideration of other management actions and activities on public and private lands across the west including other possible herbicide applications, is subsumed in this analysis.

EMC-0606-006
Johnson, Kathy

Comment: "provide a cumulative impact analysis of the use of chemical herbicides in conjunction with other treatment methods." Shouldn't this be the first thing done before anything else is even thought of?

Response: The focus of the PEIS is on herbicide treatments, as discussed in Chapter 1 under Organization of the Vegetation Treatment Assessments. Thus, most of the focus of the effects analysis in Chapter 4 of the PEIS is on herbicide use. However, because the BLM uses several methods to control vegetation, the agency also examined the effects of an integrated weed management program in the Cumulative Effects Analysis in Chapter 4 of the PEIS.

EMC-0643-015
California Indian Basketweavers Association

Comment: Proper use of ecological information requires an analysis of the relationship between historical and current lands uses and the stated problem (unwanted vegetation changes, degraded ecosystems, declining numbers of diverse wildlife and native plants). Over the last century, the following activities have been common on BLM lands: grazing by non-native livestock, frequently at unsustainable levels; seeding with non-native invasive grasses that have become established on millions of acres (sometimes aerially via airplane); use of herbicides to kill native

sagebrush and other native vegetation; chaining and bulldozing to remove native species; unregulated off highway and recreational vehicle use in non-roaded areas; mining and energy extraction; and fire suppression policies that do not mimic the natural fire disturbance regime. None of these facts are disputable; they are documented in history books and the administrative records of the agency. These legacy and on-going impacts are inextricably related to the degraded status of desirable native vegetation currently existing in the area, and inextricably tied to the stated need for the vegetation treatments/restoration the BLM now acknowledges.

Response: See Chapter 3, Affected Environment, and Chapter 4, Cumulative Effects Analysis, for a discussion of the historic context of current vegetation conditions.

EMC-0643-035
California Indian Basketweavers Association

Comment: The DEIS [Draft PEIS] did not address long term or cumulative effects from the tripling of herbicide use in the assessment area relative to the issue of endocrine disruption from the chemicals proposed for use. Most of these chemicals that have not even been tested for their potential effects as endocrine disruptors but even existing knowledge was ignored by the BLM and was not analyzed in the DEIS [Draft PEIS]. NEPA requires cumulative impact analysis in light of past, present, and reasonably foreseeable future actions regardless of what agency, person, or company/corporation undertakes such other actions (40 CFR [Code of Federal Regulations] § 1508.7).

Response: See response to Comment EMC-0643-030 under PEIS Environmental Consequences, Herbicide Effects Analysis, and Comment RMC-0200-008 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated for the effects of endocrine disruption. This information has been incorporated into the Cumulative Effects Analysis in Chapter 4 of the PEIS.

EMC-0643-043
California Indian Basketweavers Association

Comment: The DEIS [Draft PEIS] has failed to accurately analyze the impacts to Native American culture and has not mitigated those impacts. The DEIS [Draft PEIS] makes claims that are not supported by the record. Cumulative effects to Native people were not accurately documented. In addition to the cumulative effects deficiencies of the DEIS [Draft PEIS] discussed relative to endocrine disruptor chemicals, chemical mixtures, and degradates, the DEIS [Draft PEIS] did not accurately document the *cumulative and long term effects* to Native people and their cultural practices from potential exposure to herbicides from this project, in addition to other avenues of exposure to chemicals from the high use of herbicides on private lands, contamination of private water systems, wells, and springs used by Native or other people in the region, in light of past, present, and reasonably foreseeable future actions regardless of what agency, person, or company/corporation undertakes such other actions, as required by NEPA (40 CFR [Code of Federal Regulations] § 1508.7).

Response: The potential cumulative effects of herbicide use on traditional cultural resources and human health have been addressed in Chapter 4, Cumulative Effects Analysis. Specific effects on specific communities and resources are not within the scope of this broad-scale PEIS, and will be addressed when specific projects are proposed.

EMC-0643-051
California Indian Basketweavers Association

Comment: The DEIS [Draft PEIS] fails to properly assess the cumulative impact of dioxins in the environment from the high use of 2,4-D by the BLM in the past, present, and future. We are particularly concerned about exposures to dioxins from 2,4-D through the food supply (i.e., bioaccumulation from feed), as EPA has determined that for most U.S. residents, the largest exposure to dioxins is through the food we

consume, particularly meat (beef, chicken, fish) and dairy products. Since the risk quotient calculation (RQ) was based EPA's label recommendations for 2,4-D uses on food crops, the risk assessment prepared by SERA may significantly underestimate dioxin contamination in meat produced on rangeland, where much of BLM uses occur. The EPA acknowledged:

"The risk assessment has relied on the 2,4-D Master Label for application rates. As noted previously, there are a number of currently registered 2,4-D products which include higher application rates [e.g., rangeland] than those modeled in this assessment and hence the risk associated with these application rates would be greater" (US EPA 2004b). Further, the EPA also notes the potential for underestimating risk through testing active ingredients solely without evaluating the impacts from testing full formulation products, in other words, as a mixture: "[M]ost toxicity testing has been conducted using technical forms of 2,4-D, while 2,4-D is typically applied in the field in an end use product mixed with surfactants, inert ingredients and other pesticides. Often, toxicity testing with an end use product may result in lower endpoints (i.e., greater toxicity) for risk assessment" (*ibid*). Further, other chemically similar herbicides are part of nearly every 2,4-D product (e.g., MCPP-p, 2,4-DP, and dicamba). EPA's own analysis showed that phenoxy acid equivalent application rates are often twice the application rates of 2,4-D alone, and sometimes exceed the highest application rates considered in the 2,4-D risk assessment (EPA 2004c.). In California alone in 2004, 523,725 pounds of 2,4-D were reported used (California Department of Pesticide Regulation 2004 PUR). Because of these issues, we believe the BLM DEIS [Draft PEIS] is flawed and fails to accurately disclose the real risks of the use of 2,4-D on public lands. As noted, the EIS claims that 70% of herbicides used under the Preferred Alternative will be 2,4-D, picloram, tebuthiuron, or diuron. These cumulative impacts and sources for risk assessment error must be corrected in the [Final] [P]EIS.

Response: See response to Comment FXC-0071-025 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0643-052
California Indian Basketweavers Association

Comment: Picloram is not registered for use in California and this gross oversight must be corrected in the EIS. Picloram, like 2,4-D, is a source of dioxin in the environment. To date, the EPA has failed to release a cumulative impacts analysis of the human health effects of dioxins. The BLM is not exempt from evaluating the cumulative impact of dioxin containing herbicides on public lands. Although both picloram, 2,4-D, dicamba, and diflufenzopyr + dicamba are sources of dioxin, the DEIS [Draft PEIS] fails to evaluate this cumulative impact.

Response: Picloram is not registered for use in California and the BLM would be unable to use picloram in California until it is registered for use in that state. Picloram has trace amounts of hexachlorobenzene; see response to Comment RMC-0173-007 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives. For 2,4-D, see response to Comment FXC-0071-025 under PEIS Environmental Consequences, Herbicide Effects Analysis.

EMC-0643-056
California Indian Basketweavers Association

Comment: We do not believe that these uses [of diuron in the environment] are sustainable, and we believe that the high cumulative impact of the use of diuron in California demonstrates that the current regulatory system is not protective of human health and the environment. We do not have data for areas outside of California. However, the BLM is not exempt from acquiring these types of quantitative cumulative data in order to accurately assess the impacts of increasing the use of

diuron and other herbicides on public lands.

Response: Based on the BLM's pesticide use reports, the BLM has not used diuron in California since at least Fiscal Year 2001, and thus has not contributed to the amount of diuron found in the soil and water of California since at least 2001. The BLM has developed several mitigation measures (see Human Health and Safety in Chapter 4 of the PEIS) to reduce the risks to humans from the use of diuron.

EMC-0643-072
California Indian Basketweavers Association

Comment: While the BLM proposes to forego the use of atrazine in this [P]EIS, its high use on private timber lands and elsewhere outside of California increases the importance of *unpolluted habitat* on BLM and national forest lands for these species. 59,461 pounds of atrazine were applied in California in 2003, and over half of that was on forest lands (30,101 pounds), primarily private timber lands in the state. We do not know what the statistics are for other states. These statistics must be displayed in the [P]EIS.

Response: The risks to resources on public lands administered by the BLM from applications of herbicides on private lands is considered in the Cumulative Effects Analysis section of Chapter 4 of the PEIS. At this time, the BLM is not proposing to use atrazine. Statistics on its use on private lands is outside the scope of this programmatic analysis. Where appropriate, statistics on herbicide use at the state level are provided as examples in the impact analysis. The BLM can work with nearby landowners to discourage them from taking actions that could harm resources on public lands. However, if an action off-site is approved through the federal, state, or local impact analysis and permitting process, the BLM has limited ability stop actions that occur on nearby lands.

EMC-0643-075
California Indian Basketweavers Association

Comment: The cumulative impact of these sources of impacts to wildlife as well as the impacts on surface and groundwater drinking water supplies, from the full formulation (mixture) of the herbicide products proposed for use and for their degradates (Kolpin et al 1998, 2004) must be evaluated in this [P]EIS. The role of unpolluted lands remaining as natural habitat and refuge for imperiled wildlife is underscored by the real statistics regarding pesticide use. The DEIS [Draft PEIS] fails to incorporate real life quantitative information in its cumulative effects analysis.

Response: See response to Comment EMC-0646-017 under PEIS Environmental Consequences, Herbicide Effects Analysis for information on the analysis of formulations and degradates. We have incorporated qualitative information into Chapter 4 under resource sections and in the Cumulative Effects Analysis section where possible. Because it was challenging to find qualitative information for effects over the 17-state area, the effects analysis was often limited to a smaller region. We did expand upon the discussion of herbicide use from all sources in the Cumulative Effects Analysis in the Final PEIS.

EMC-0646-164
Californians for Alternatives to Toxics

Comment: The PEIS fails across the board to identify cumulative impacts to human health and the environment that may arise from the proposed program. The example we use is the impact of pesticide applications that may be undertaken in the same watershed or which in some other manner may interact with herbicide applications undertaken by BLM. Such considerations must be part of the analysis so that the relevant agencies may be alerted to potential impacts on endangered species, under the ESA [Endangered Species Act] and to satisfy cumulative impacts analysis required under NEPA.

Response: The BLM modeled exposures to a surface water body using a wide variety of conservative fate and transport parameters and buffer distances. The BLM examined the effect of tank mixes. For the routine exposure scenario, the BLM assumed multiple applications and surface water exposures resulting from drift. The Cumulative Effects section of Chapter 4 of the Final PEIS discusses the potential for impacts from herbicide applications from multiple sources. The Biological Assessment provides information on cumulative effects to threatened and endangered species, as does the PEIS. However, it is not possible to predict and evaluate all the potential combinations of treatments that could occur within a watershed at the programmatic level of analysis. Such an analysis would be done by field offices prior to project implementation.

EMC-0646-165
Californians for Alternatives to Toxics

Comment: We attach maps of sections of Riverside County (Attachment C [provided with the comment]) and Monterey County (Attachment D) in California compiled by CATs [Californians for Alternatives to Toxics] from data recorded by California Department of Pesticide Regulation (CDPR) that indicate BLM managed land adjacent to or within the water or air shed of pesticide applications reported to the CDPR. Also attached are descriptions of the pesticides reported to be used within these areas (Table 1 - Monterey County and Table 2 - Riverside County; both given as attachments). Table 1 indicates that 1,395,407 pounds of pesticide active ingredients and 2,468,769 pounds of pesticide products were used in near BLM-managed lands in Monterey County; Table 2 indicates 1,908.760 pounds of active ingredient and 3,601,818 pounds of product were reported used in Riverside County near BLM-managed lands. Given that pesticide use is demonstrated by this data to be occurring, sometimes at significant rates, near BLM-managed lands which may be subject to pesticide application under the program, analysis of cumulative is required.

Response: Data on pesticide and herbicide use by the BLM are provided by each field office. BLM-administered lands in Monterey County are under the jurisdiction of the Hollister Field Office, which also manages lands in 12 other counties. During 2005, the Hollister Field Office treated 268 acres and applied 8 pounds of glyphosate and 3.8 pounds of triclopyr. In 2004, the office treated 42 acres using 12.4 pounds of glyphosate.

BLM-administered lands within Riverside Country are under the jurisdiction of the Palm Springs Field Office. BLM-administered lands under the jurisdiction of this field office are also found in four other counties. During 2005, the field office treated 80 acres using 40.5 pounds of glyphosate, and 20 pounds of imazapyr. During 2004, the office treated 200 acres using 243 pounds of glyphosate.

A discussion of BLM use of herbicides in the context of herbicide use from all sources has been included in Chapter 4 of the Final PEIS in the Cumulative Effects Analysis.

EMC-0646-174
Californians for Alternatives to Toxics

Comment: Lacking an analysis of the impacts over the long-term that may be expected from the use of various herbicides on non-target plant species composition and abundance, and lacking adequate guidance for which herbicides and other treatment options are suited or not suited for various ecological conditions common on BLM lands covered by the PEIS, the PEIS cannot serve as an appropriate tiering document for future decisions regarding invasive species as it is currently written.

Response: Long-term effects of herbicide use are described in the Cumulative Effects Analysis section of Chapter 4 of the PEIS. No measurable long-term or cumulative effects on non-target plant species composition and abundance are expected from the

use of herbicides. Direct spray herbicide treatments are focused on target species, and indirect effects to the composition and abundance of non-target plants are expected to be insignificant compared to the long-term effects of the continued and uncontrolled displacement of native vegetation by invasive species and other unwanted vegetation. BLM guidance on herbicide treatments and treatment options is contained in BLM Manuals 9011 *Chemical Pest Control*, and Manual 9015 *Integrated Weed Management*. Each treatment project is designed and analyzed under NEPA at the site-specific level, taking into account specific ecological conditions. The PEIS provides the appropriate level of analysis to serve as an effective tiering document for future vegetation treatment projects and programs.

EMC-0646-233
Californians for Alternatives to Toxics

Comment: The BLM has failed to analyze the cumulative impacts of annually spraying 932,000 acres with herbicides in the Draft PEIS. This vast amount of repeated herbicides spraying has the potential to cause significant harm to the natural environment, soils, water quality, native vegetation, wildlife, fish, and human health as it works its way through the food chain and web of life. It is essential that the PEIS include analyses of the cumulative impacts, including not only those of the active ingredients, but also breakdown products, surfactants, inerts, adjuvants, additives, and everything else that will be entering our ecosystems as a result of herbicide applications. Cumulative impacts analysis must include analysis of past, present, and future herbicide impacts.

Response: The Cumulative Effects Analysis is in Chapter 4 of the PEIS. See Appendixes B, C, and D of the Final PEIS for the risk analysis of herbicide active ingredients and associated by-products.

RMC-0042-078
Asher, Jerry

Comment: Under Cumulative Effects, pg [page] 2-32: "Habitat loss *would* continue..." Great wording! Much more actual, on the ground reality like that is needed. Replace *could*, *likely* and other similar words with active, concrete terms that match what is actually happening and will, without a doubt, continue to happen.

Response: See response to Comment RMC-0144-005 under General Comments and Responses.

RMC-0144-024
Wyoming Game and Fish Department

Comment: We believe cumulative effects analyses cannot be adequately evaluated since other program vegetation treatments were not included. At a minimum, we would like assurances that all vegetation treatments in watersheds over the past 25 to 50 years will be included in project activity proposals.

Response: Each vegetation treatment project is required to comply with NEPA prior to approval for implementation. The NEPA analysis includes consideration of cumulative effects in each case. The cumulative effects area is defined specifically for each project based on the resources present and whether there are predicted impacts to a resource. The extent to which past projects in a watershed are considered in the NEPA analysis for a particular vegetation treatment is determined at the time of the analysis, based on the relevance of previous projects' impacts to the proposed project's predicted impacts.

RMC-0208-005
California Oak Foundation

Comment: Furthermore, the cumulative impact analysis in the Draft PEIS is deficient. Specifically, the document fails to properly assess the current and historic use of herbicides and pesticides in California. Numerous studies document the use of these chemicals and their destructive effects on various species inhabiting oak woodlands, but the Draft PEIS fails to incorporate this information. Accordingly, the Draft PEIS

fails to assess the cumulative effects of applying herbicides to BLM managed land adjacent to non-BLM managed land where herbicide and pesticide use has been pervasive. Ariel drift, groundwater seepage, stormwater runoff, and other factors will cause the application of herbicides on BLM land to contaminate adjacent land and water. And, because much of this adjacent non-BLM managed land has historically been treated with herbicides and other pesticides, the BLM's proposed use of herbicides on its land will exacerbate the current levels of these chemicals in the environment. The omission of this analysis represents a serious flaw in the Draft PEIS.

Response: The PEIS assesses cumulative impacts across a 17-state area, including Alaska, rather than providing individual state-specific cumulative impact analyses. Analysis of cumulative effects of herbicide use in California would be properly accomplished at a more regional level with a state-specific EIS analysis, similar to the 1988 California Vegetation Management Final EIS. Data on herbicide use for California and other western states by the BLM and other herbicide users has been included in the Cumulative Effects Analysis section of Chapter 4 of the Final PEIS. Data for California indicate that the BLM's use is less than 0.02% of the total for the entire state, and does not significantly contribute to the overall usage of herbicides in the state. In addition, several BLM field offices in California have no record of herbicide applications. Therefore, there is no basis to conclude that the BLM's use would exacerbate current levels of herbicides in the environment without specificity about where applications have actually occurred.

RMC-0208-056
California Oak Foundation

Comment: The Draft PEIS fails to adequately catalog the current and historic use of herbicides and pesticides in California. Nowhere, for example, does the PEIS discuss the amount of accumulated herbicides and pesticides in any of California's ecosystems, though this information is readily available. (See *ante*, Exhibit 13 [provided with the comment] ["in 1998, 5.9 million kilograms of active ingredients pesticides . . . were sprayed" in the San Joaquin Valley"]; Exhibit 10 [anywhere from 64,000 to 2.4 million pounds of atrazine annually pollute the Nation's water resources].) Instead, the Draft PEIS addresses only the past effects of "human-caused disturbance factors, including natural resource extraction, recreation, dams and diversions, road construction, agriculture, urbanization, and fire exclusion." (Draft PEIS, at p. [page] 4-203; see also pp. [pages] 4-207 to 4-208 [same past effects discussed for fish and other aquatic organisms].) Strangely, the Draft PEIS fails even to discuss historic herbicide use in the discussion of past effects on vegetation, (Draft PEIS, at pp. 4-205 to 4-206.) Here, again, the Draft PEIS focuses instead on non-chemical effects, such as introduction of invasive, non-native.

Response: The BLM treated 2,264 acres in California during 2005. Approximately 2,077 pounds of herbicide active ingredient were used, and the herbicides used most often included triclopyr (967 pounds active ingredient), 2,4-D (406 pounds), glyphosate (327 pounds), and clopyralid (294 pounds). A discussion of the BLM's use of herbicides in the context of herbicide use by all sources has been included in the Cumulative Effects Analysis in Chapter 4 of the Final PEIS.

RMC-0208-059
California Oak Foundation

Comment: Unfortunately, the Draft PEIS is wholly deficient in assessing these potential cumulative impacts. Rather than approaching the problem from the perspective of contributing additional toxins to an already severely impacted environment, the BLM views the possible effects of its herbicide use in isolation. Indeed, for each impact assessment, whether it is for potential impacts to water quality, wetland and riparian areas, vegetation, fish and aquatic invertebrates, or wildlife resources, the Draft PEIS does not discuss in any significant detail the current levels of

herbicide and pesticide use in California, the historic use of herbicides and pesticides in California, or the synergistic effects of multiple active-ingredient herbicide and pesticide use in California.

Response: See response to Comment RMC-0208-056 under PEIS Environmental Consequences, Cumulative Effects Analysis.

RMC-0208-062
California Oak Foundation

Comment: Moreover, the alternatives discussed all propose herbicide use on BLM lands within California. Given the extent to which California has already been affected by persistent herbicide and pesticide contamination, it seems reasonable to conclude that herbicide and pesticide use within California constitutes a "regional-scale trend." Therefore, as a policy issue, the proposed addition of herbicides that would result from the BLM's vegetation management plan must be assessed as an aggravation of the already existing problem in California. This Draft PEIS is deficient in addressing this problem, and its cumulative impact analysis suffers as a result.

Response: See response to Comment RMC-0208-056 under PEIS Environmental Consequences, Cumulative Effects Analysis.

RMC-0210-037
MCS Task Force of New Mexico

Comment: The cumulative effects analysis describes rather vague comparisons among the alternatives, with regard to their impacts on air, water, soil, and other resources, without providing information about the past, present, and anticipated use of pesticides and other toxic chemicals applied on and near BLM land. The presence of these chemicals would be the most obvious contributors to cumulative effects related to herbicide use by the BLM.

Response: A discussion of the BLM's use of herbicides, in the context of herbicide use from all sources, is included in Chapter 4 of the PEIS under the Cumulative Effects Analysis.

RMC-0210-039
MCS Task Force of New Mexico

Comment: The assessment of the amounts and kinds of toxic chemicals used by BLM and other industries operating on BLM land, such as ranching, timber, mining, and oil & gas development, should have been provided for each state.

Response: See response to Comment RMC-0210-037 under PEIS Environmental Consequences, Cumulative Effects Analysis.

RMC-0213-022
California Native Plant Society

Comment: It is necessary to include a full report and accounting in this [P]EIS of the actual acreage, quantity, formulations of the herbicides used, and the number of years to date that herbicides have been used in order to kill sagebrush and other native vegetation on BLM lands in the western region. We ask that the EIS include direct, indirect, and cumulative effects analysis of these types of effects resulting from herbicide use listed above.

Response: See response to Comment RMC-0210-037 under PEIS Environmental Consequences, Cumulative Effects Analysis.

RMC-0214-005
Natural Resources Defense Council and National Wildlife Federation

Comment: The current analysis only provides general and formless observations that do little to describe the potential cumulative effects. Given the inadequacies of this D[raft] PEIS, the current proposal could well have the opposite effect from the desired result. Indeed, it is NRDC's [Natural Resources Defense Council's] conviction that the current alternative proposed in the D[raft] PEIS will likely cause a variety of collateral harms to the physical environment. Given that the proposed actions in the D[raft] PEIS

incorporate such large scale measures and involve such an extensive geographic area it is evident that the BLM has not been able to adequately ascertain the extent of the impacts in this document.

Response: The cumulative effects analysis provides a basis for describing how past activities have led to current conditions on public lands, and how proposed treatments along with other non-treatment-related activities, could affect public lands in the short and long term. The level of analysis is appropriate for a programmatic document and for treatments that would affect up to 2% of public lands annually (about 0.3% of public lands annually for herbicide treatments). Given that many treatments would occur on the same land over multiple years, the actual amount of land impacted annually would be even less.

RMC-0218-015
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: There is great cause for concern about cumulative impacts to sage grouse from both proposed herbicide use in their habitat and planned clearing and burning of sagebrush.

Response: The direct, indirect, and cumulative effects (both adverse and beneficial) to sage-grouse from herbicide use are discussed in Chapter 4 of the PEIS under Wildlife Resources, and under Cumulative Effects Analysis, Wildlife Resources.

RMC-0221-066
Center for Biological Diversity

Comment: Rather than deferring cumulative impacts analyses on specific populations to the site-specific level, these are exactly the type of analyses that are appropriate and necessary in a programmatic EIS, particularly with the proposed wide-spread application and aerial spraying. Unfortunately, the documents offer no comprehensive analysis of any of the cumulative effects of the proposed action on the plants and animals of the project area.

Response: See response to Comment RMC-0218-015 under PEIS Environmental Consequences, Cumulative Effects Analysis. The cumulative effects of the proposed and alternative actions on plants are discussed in Chapter 4 of the PEIS under Vegetation and Wetland and Riparian Areas. Aerial applications of herbicides would occur on about 0.2% of public lands annually.

RMC-0222-004
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The occurrence or non-occurrence of other vegetative treatments (including passive treatments and prevention measures) and activities (e.g.., livestock grazing, ORV [off-road vehicle] use) are so inextricably linked to increased or decreased herbicide use that they must be thoroughly aired in a cumulative beneficial and adverse effects analysis. The DEIS [Draft PEIS] fails to do this.

Response: The cumulative beneficial and adverse effects of other treatment methods were discussed in Chapter 4 of the PEIS under Cumulative Effects Analysis. This analysis assumes that Standard Operating Procedures, passive treatments and prevention measures, and restoration, as discussed in Chapter 2 of the PEIS and PER, would be implemented under all alternatives. Also see responses to Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis, Comment RMC-0222-059 under EIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response, and Comment RMC-0214-029 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response.

RMC-0222-014
Salvo, Mark (Sagebrush Sea

Comment: Additionally, the DEIS [Draft PEIS] "cumulative analysis" fails to analyze the cumulative results of linking herbicide use with prevention, other passive and active treatments and/or native seedings on BLM and other sites. When prevention is

Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

linked with herbicide treatments, for instance, the beneficial cumulative results could be both less weed invasion and less subsequent herbicide use. Although at times the BLM has administratively ordered passive restoration (e.g., route closures, temporary or permanent cattle exclusion) in conjunction with herbicide use, the combination of these is not analyzed in the cumulative effects analysis.

Response: See response to Comment RMC-0222-004 under PEIS Environmental Consequences, Cumulative Effects Analysis.

RMC-0222-049
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: First and foremost, the DEIS [Draft PEIS] fails to analyze the beneficial and adverse cumulative impacts of when herbicide use has and has not been 1) linked to management that prevents the conditions that favor invasives species; 2) linked with non-chemical treatments; or 3) linked with native species revegetation.

Response: See response to Comment RMC-0222-004 under PEIS Environmental Consequences, Cumulative Effects Analysis.

RMC-0222-051
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The cumulative impacts section ([of the Draft PEIS pages 4-194 through 2 [4]-246) is riddled with unreferenced conclusions, false assumptions, and failure to consider impacts of present and reasonable foreseeable future actions, as well as the different cumulative impacts that would result from implementing the Restoration Alternative.

Response: The cumulative impact analysis is appropriate for the scale of this programmatic analysis, follows Council on Environmental Quality guidance, and considers past, present, and reasonably foreseeable future actions relative to vegetation treatments. See Appendix I of the Final PEIS for the BLM policy analysis of the Restoration Alternative. The pertinent information of this proposal is incorporated in Alternative E and is analyzed in Chapter 4 of the PEIS and conclusions discussed in the cumulative impact analysis.

RMC-0222-052
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Since the DEIS [Draft PEIS] fails to analyze the Restoration Alternative, it fails to analyze the cumulative effects of the class of actions combining prevention treatments, active and passive direct treatments, and revegetation with native species.

Response: The cumulative effects analysis, found under Cumulative Effects Analysis in Chapter 4 of the PEIS, considers the cumulative effects of an integrated weed management approach to vegetation control.

RMC-0222-053
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: At [page] 4-194, the DEIS [Draft PEIS] states that the class of actions that will be analyzed are "all vegetation treatment methods used by the BLM." This is inappropriate, as the BLM should be analyzing all treatment methods they could reasonably be using (e.g., as in the Restoration Alternative), not just those they are currently using.

Response: See response to Comment RMC-0222-004 under PEIS Environmental Consequences, Cumulative Effects Analysis.

RMC-0222-054
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The DEIS [Draft PEIS] notes ([page] 4-199) that grazing and ORV [off-road vehicle] use cause cumulative impacts to soils and notes the lack of inventory and monitoring data available to determine the status of soil condition. However, the DEIS [Draft PEIS] fails to analyze the comparative cumulative effects on soil of the Restoration Alternative's linkage of prevention treatments, active and passive direct restoration treatments, and native revegetation.

Response: See response to Comment RMC-0222-004 under PEIS Environmental Consequences, Cumulative Effects Analysis.

RMC-0222-064
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The DEIS [Draft PEIS] later states ([page] 4-207): Alternative E places greater emphasis on passive restoration than the other alternatives. Passive restoration is often considered a critical first step in successful restoration of degraded areas since anthropogenic activities that are causing degradation or preventing recovery are halted. Under Alternative E, recovery of vegetation through passive management is expected to take longer than under alternatives A, B or D, where active management through treatments such as seeding with native species, establishing intermediate vegetation to control erosion, and use of pre-emergent herbicides to prevent weed establishment would be expected to promote faster recovery. [emphasis added]

This shows that Alternative E is not based on the Restoration Alternative, which does explicitly engage active management through treatments such as seeding with native species, establishing intermediate vegetation to control erosion, and using pre-emergent herbicides to prevent weed establishment. The above statement also misrepresents Alternative B (of the Draft PEIS on page 2-11), which does not provide for seeding with native species or use of intermediate vegetation.

Response: The Final EIS has been revised in Chapter 4 under Cumulative Effects Analysis, Vegetation, to note that recovery of vegetation through passive management may take longer than more active management regardless of alternative used, since all five alternatives include both passive and active management. As noted in Chapter 2, the use of native species for revegetation is the preferred method under all alternatives, but may not always be the best method. If it takes a long time to restore vegetation on an area using native vegetation, or native seed is not available resulting in soil erosion and/or recovery of weeds and other invasive species, restoration that relies solely on native vegetation could be a failure. By having the option to use non-native species, the BLM can protect soil and habitat during the period when native vegetation becomes established, providing long-term benefits to the land. Also see response to Comment EMC-0646-230 under PEIS Alternatives, Herbicide Treatment Planning.

RMC-0222-065
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The cumulative impacts section formulaically equated long-term success with number of acres treated. This is unwarranted and unsupportable, given the combination of approaches allowed in Alternative E, and the failure to analyze the Restoration Alternative, which requires linkage of prevention treatments, active and passive direct treatments, and native revegetation (if revegetation is needed). For instance the DEIS [Draft PEIS] claims (emphases added): 1) "Based on number of acres treated....long-term improvements to wetland and riparian area function and productivity would be greatest under the Preferred Alternative, and least under the No Action Alternative" ([page] 4-204); 2) "Based on the number of acres treated long-term improvements to hydrologic function and water quality would be greatest under the Preferred Alternative, and least under the No Action Alternative" ([page]4-203); 3) "Based on number of acres treated ...long-term improvements to vegetation would be greatest under the Preferred Alternative, and least under the No Action Alternative"

([page] 4-207); 4) "Based on number of acres treated, long-term improvements to the health and productivity of aquatic organisms would be greatest under the Preferred Alternative, and least under the No Action Alternative" ([page] 4-209); 5) "Based on number of acres treated...long-term improvements to wildlife and habitat would be greatest under the Preferred Alternative, and least under the No Action Alternative" [page] (4-214); 6) "Based on number of acres treated...long-term improvements to domestic livestock would be greatest under the Preferred Alternative, and least under the No Action Alternative" ([page] 4-216); 7) "Based on number of acres treated...long-term improvements to the wild horses and burros would be greatest under the Preferred Alternative, and least under the No Action Alternative" ([page] 4-218); 8) "Based on number of acres treated...long-term improvements to the visual qualities of public lands would be greatest under the Preferred Alternative, and least under the No Action Alternative" ([page] 4-224); and 9) "Based on number of acres treated...long-term improvements to the wilderness and special areas should be greatest under the Preferred Alternative, and least under the No Action Alternative" ([page] 4-226).

Response: Each alternative provides for a combination of approaches and also leaves the types and levels of activities that would be conducted on public lands at the discretion of local field offices. Thus, to help with the assessment of the magnitude of impacts and to ensure that we are comparing "oranges-to-oranges," it is necessary to assume that if treatment activities were similar, adverse effects and benefits would be related to the amount of area treated. It is true that each project is unique and costs and benefits from treatments would be unique to each project. However, analysis at this scale is not possible at the programmatic level.

RMC-0222-078
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Many statements in the cumulative impacts section [of the Draft PEIS] have no reference to underlying data. A few examples include: 1) "Approximately 4% of rangeland on public lands is achieving desired condition." ([page] 4-200); 2) "In a study of the Interior Columbia Basin, approximately 92% of federally-administered lands had none to low soil disturbance" ([page] 4-200); and 3) "...25% of wetlands on public lands in the lower 48 states are not functioning properly (USDI BLM 2005d), while 52% of riparian areas are considered non-functional, or functioning at risk. The poorest functioning riparian areas are found in the southwest and Montana, while most riparian areas in Alaska, Colorado, and Utah function properly." ([page] 4-202). In the above quote, presumably the claim that most riparian areas function properly is Utah is drawn from "USDI BLM 2005d" which refers to "Public Land Statistics Fiscal Year 2004," which is hardly a scientific reference for the claim that most Utah riparian areas function properly.

Response: References for statements 1 (USDI BLM 2005d) and 2 (USDA Forest Service and USDI BLM 2000) have been provided in the Final EIS. The comment is correct in presuming that USDI BLM 2005d is the source for the information in statement 3. This reference cites studies conducted by the BLM to assess the condition of public lands.

RMC-0222-079
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to

Comment: The DEIS [Draft PEIS] refers ([page] 4-196) to a "PER scoping process" as related to cumulative effects for protection of Threatened and Endangered species. As the Programmatic Environmental Report (PER) is not being developed under NEPA, there is no "scoping process"

Response: The text has been revised in the Final EIS to read "...and the PEIS scoping process..."

Pesticides), and O'Brien, Mary

RMC-0222-080
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Likewise, the DEIS [Draft PEIS] claims ([page] 4-198): Thus, the proposed action, which includes over 4.3 million acres of fire use and mechanical treatments, in addition to 1.7 million acres of treatments using other methods, would be expected to provide greater improvement in ecosystem function and air quality than is projected under current treatment methods. This is an unreferenced and unsupportable conclusion, given that the treatments on the 4.3 million acres are being proposed in a report which is not being developed under NEPA, and thus the public has no legal access to challenge the scientific accuracy of its conclusions.

Response: The statement is a conclusion based on the modeling accomplished by the U.S. Forest Service (Hahn et al. 2002) which is cited at the beginning of the paragraph. The PER is a supporting document to the NEPA analysis. There are no proposals for vegetation treatments in the PER, only disclosure of the effects of treatments on vegetation across a variety of ecoregions. See response to Comment RMC-0222-005 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments regarding the acre figures utilized in the PER.

RMC-0222-081
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The DEIS [Draft PEIS] inaccurately assumes that cumulative impacts at the site-specific level will be addressed. The DEIS [Draft PEIS] states ([on page] 4-197): Ground-disturbing activities on public lands are conducted only after any necessary site-specific NEPA analysis has been completed. Such analyses are required to describe the cumulative impacts of the site-specific alternatives on adjacent lands and resources, and on the watershed. This provides opportunities to detect and minimize cumulative environmental effects that cannot be specifically determined at the broad level of this PEIS. This implies that livestock grazing and ORV [off-road vehicle] use (the two most widespread ground-disturbing activities on BLM lands) are analyzed for cumulative impacts on the watershed or other resources at the site-specific level. In fact, the BLM does not undertake cumulative impacts analyses for these two ongoing ground-disturbing activities and on January 25, 2006 is proposing to allow grazing permits to be issued without any NEPA analysis (USDI 2006), which means no cumulative analysis will be required, no consideration of alternatives to the grazing terms, and no scientific accountability.

Response: BLM policy is to conduct NEPA at the site-specific level for all federal actions. This requirement extends to all aspects of the CEQ [Council on Environmental Quality] regulations at 40 CFR [Code of Federal Regulations] 1500-1508 and includes the requirement to conduct cumulative effects analysis. The BLM does not imply which resources would be considered in any given analysis, as that is determined at the time of the analysis and in relation to the specific proposed action. The reference of USDI 2006 refers to a Federal Register notice for a proposed draft categorical exclusion for livestock grazing permit renewals that was released after publication of the Draft PEIS and is independent of this project. Categorical exclusions are actions that by definition (40 CFR 1508.4) are not significant individually or cumulatively. Issuance of livestock grazing permits is beyond the scope of the PEIS.

RMC-0222-135
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest

Comment: The DEIS [Draft PEIS]/PER fail to address the individual cumulative negative impacts of herbicide use, fire, and livestock grazing on sage grouse, or their contributions to the spread of invasive species; and the agency's refusal to address livestock grazing and other land uses as the cause of invasive species spread will worsen habitat conditions for sage grouse.

Coalition for Alternatives to Pesticides), and O'Brien, Mary

Response: The cumulative effects analysis did not focus on a few species, but focused primarily on past, present, and future effects on habitat values and wildlife health, since conditions of both would impact wildlife populations. However, there is specific discussion in Chapter 4 of the PEIS under Cumulative Effects Analysis, Wildlife Resources, of how past livestock grazing has impacted habitat for sage-grouse, and on the need to manage livestock grazing to improve wildlife habitat.

RMC-0233-016
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Few studies have directly addressed the effect of livestock grazing on sage-grouse (Beck and Mitchell 2000, Wamboldt et al. 2002), and there is little direct experimental evidence linking specific grazing practices to sage-grouse population levels (Braun 1987, Connelly and Braun 1997). However, it has been demonstrated that the reduction of grass heights due to livestock grazing of sage-grouse nesting and brood-rearing areas negatively affects nesting success by reducing cover necessary for predator avoidance (Gregg et al. 1994; Delong et al. 1995; Connelly et al. 2000). In addition, livestock consumption of forbs may reduce food availability for sage-grouse. This information suggests that grazing by livestock could reduce the suitability of breeding and brood-rearing habitat, subsequently negatively affecting sage-grouse populations (Braun 1987, Dobkin 1995, Beck and Mitchell 2000). For more information on the effects of vegetation treatment on sage-grouse, please see 70 FR 2255, January 12, 2005.

Response: Information on the effects of livestock grazing on sage-grouse habitat was provided in Chapter 4 of the PEIS under Wildlife Resources, and under Cumulative Effects Analysis, Wildlife Resources. However, as discussed for Comment RMC-0126-002 under PEIS Proposed Action and Purpose and Need, Scope of Analysis, the focus of the PEIS is on vegetation treatments, not livestock grazing.

RMC-0106-058
Public Employees for Environmental Responsibility

Comment: This section [cumulative impacts] ignores inerts and degradates.

Response: The Cumulative Effects Analysis in Chapter 4 of the PEIS focused on the adverse and beneficial effects of herbicides in general, although examples of specific herbicide use were also given. More detailed information on the effects of individual herbicides was given in each resource section earlier in Chapter 4. A more detailed discussion of the risks from inerts and degradates is given in Appendix C of the PEIS under Degradates, Inert Ingredients, Adjuvants, and Tank Mixtures, and in a similar section in the ecological risk assessment prepared for each herbicide and included on the CD that accompanies the PEIS. Also see response to Comment RMC-0221-070 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

Consultation and Coordination – General Issues

PHC-006-005
H. McNeel

Comment: One thing that did concern me was the lack of time and public awareness some people had to review this document for this hearing tonight, because I do know that some of the county weed districts contacted me today, which I felt they should have contacted the BLM as to why they hadn't heard about it until the last two or three days.

Response: See response to Comment EMC-0025-001 under PEIS Consultation and Coordination, Public Involvement.

Consultation and Coordination, Public Involvement

EMC-0025-001
Petroleum Association of Wyoming

Comment: On behalf of the Petroleum Association of Wyoming and our members, we respectfully request a 30-day extension of the comment period on the recently published Draft PEIS on Vegetation Treatments on BLM lands.

Response: The BLM extended the comment period an additional 30 days until February 10, 2006.

EMC-0027-011
McNeel, Hank

Comment: I also feel that the BLM needs to make a much greater effort in making the public aware of this PEIS. The only way I found out about it was when Richard Lee telephoned me to ask some questions about BLM Pesticide Certification. Then I saw the announcement for the public hearing the next day in the Billings Gazette. Some of the BLM Cooperators mainly County Weed Districts did not know until Dec. 6, 2005 that this PEIS was out and the Public Hearing was Dec. 7, 2005 here in Montana. How are you going to gain support from your cooperators and the general public if this occurs.

Response: The Draft PEIS release was announced in the Federal Register on November 10, 2005. In addition, national, state, and local press releases were issued to coincide with the release of the Draft PEIS and to announce the public hearing schedule. Press releases are not guaranteed to be printed by local or regional news services.

EMC-0186-002
Society of American Foresters

Comment: The draft Programmatic Environmental Impact Statement is quite extensive and covers a large area of forestland owned by the BLM. The Society of American Foresters (SAF) is a professional organization that represents 15,000 forest managers, researchers, and educators across the country who have a great interest in the sustainable, long-term management of forests, including BLM lands. SAF would like to offer thorough comments on this draft and for this reason requests a 30 day extension of the deadline for public comments. While a 60-day comment period is adequate in many circumstances, given there are three Federal holidays that occur between the dates of November 10 and January 9, 2005, I feel that a 30-day extension is a reasonable request.

Response: See response to Comment EMC-0025-001 under PEIS Consultation and Coordination, Public Involvement.

EMC-0193-001
Animal Welfare Institute

Comment: On behalf of the Animal Welfare Institute (AWI), I am writing to request that the Bureau of Land Management provide a 60-day extension in the deadline for comments on the Programmatic Vegetation Treatments Environmental Impact Statement, Programmatic Environmental Report, and associated documents (hereafter Vegetation Treatments Environmental Documents). If granted, this request would extend the comment deadline from January 9, 2006 to Thursday, March 9, 2006.

Response: See response to Comment EMC-0025-001 under PEIS Consultation and Coordination, Public Involvement.

EMC-0203-004
Institute For Culture and Ecology

Comment: It is unclear to what extent the Bureau of Land Management has met National Environmental Policy Act scoping requirements for soliciting input from a broad spectrum of stakeholders, including nontimber forest product harvesters and buyers. Our research indicates that failure to include NTFP (nontimber forest products) harvesters and buyers is likely to result in forest management decisions that are

socially inequitable, difficult and costly to enforce, and undermine stewardship practices.

Response: The scoping process is described in Chapter 5 of the PEIS, Consultation and Coordination. The PEIS was broadly scoped in late 2001 and early 2002, and included three Federal Register notices and eighteen public meetings held across the west in nearly all states considered in the analysis. The scoping period ran from October 12, 2001 through March 29th, 2002, for a total of 168 days. Scoping comments continued to be received until May 30th, 2002—an additional 2 months— for a total of nearly 7 months of public scoping. Few, if any, comments were received from NFTP harvesters and buyers during this time. As a point of clarification, the PEIS does not propose forest management decisions.

EMC-0203-005
Institute For Culture and Ecology

Comment: The lack of participation in public comment by NTFP (nontimber forest products) harvesters should not be construed with their lack of existence or concern over the impacts of management activities like spraying to their livelihoods. The spirit of NEPA scoping and other government requirements for public participation demands that the agency use the appropriate methods for ensuring broad-based participation. Such methods may require the skills of social scientists or similarly qualified individuals to implement and could include ethnographic work, rapid rural appraisals, and the establishment of information networks with hard to reach populations.

Response: The BLM consulted with tribes and indigenous people of Alaska, as discussed in Chapter 5 of the PEIS (Consultation and Coordination). In addition, the BLM sent letters to tribal organizations in the western U.S. and Alaska asking for their assistance with the PEIS. This letter, responses to the letter, and mailing list are provided in Appendix G (Tribal and Agency Consultation) of the PEIS. As a component of the PER, the BLM and its consultants compiled two reports on Native American and Alaska Native Resource Uses: Native American and Alaska Native Resource Uses (see Appendix D) and Cultural Resources (see Appendix E). These reports include ethnographic overviews by state and cultural areas.

EMC-0259-001
Green, Jeanne

Comment: Please extend the comment period on aerial spraying of pesticides/herbicides in 17 western states.

Response: See response to Comment EMC-0025-001 under PEIS Consultation and Coordination, Public Involvement regarding the length of the public comment period.

EMC-0321-002
Embudo Valley Environmental Monitoring Group

Comment: We are extremely and very seriously concerned with the public notification process. Although we are a community that has a potential for profound impact, we have not been adequately informed by the government agency that is proposing this risk -laden and sub sequentially disastrous plan. For this reason alone, we request a 30-day extension of the public comment period.

Response: See response to Comment EMC-0025-001 under PEIS Consultation and Coordination, Public Involvement.

EMC-0503-005
John Day-Snake Resource Advisory Council

Comment: The timing of the release for these documents is poor, and does not give adequate review for a document that took several years to write, is hundreds of pages long and very complex. It does the BLM a disservice to expect meaningful comments when the comment period includes major holidays for everyone.

Response: The BLM is aware that major holidays occurred during the 60-day public comment period. An additional 30 days of public comment were allowed after the holiday season to provide the public more time to review the Draft PEIS.

EMC-0503-006
John Day-Snake Resource Advisory Council

Comment: It is difficult to review such large documents without a hard copy. We appreciate the assistance of the BLM to provide a couple hard copies to our sub-committee members but the general public does not have access to the document except through the internet or CD. We further feel that the BLM should provide an electronic search mechanism to the CD version of the two documents such that members of the public and agency personnel can easily search this very large document.

Response: The documents on the CDs were provided in Adobe Portable Document Format (pdf). Adobe pdf reader allows one to search for information in pdf documents using keywords.

EMC-0606-005
Johnson, Kathy

Comment: Public meetings. Why was there a public meeting held in WA DC? The public in that city isn't even involved!! In fact, that whole side of the country isn't even involved!

Response: Because the PEIS is a national programmatic document, the BLM held initial scoping meetings in Washington, D.C., to solicit comments from the public, federal agencies, and nongovernment organizations at the national level. The public was invited to participate in public scoping, regardless of the part of the country involved. The BLM followed with public hearings with the release of the Draft PEIS/PER.

EMC-0621-003
Alliance of Forest Workers and Harvesters

Comment: It is unclear to what extent the Bureau of Land Management has met National Environmental Policy Act scoping requirements for soliciting input from a broad spectrum of stakeholders, including multicultural nontimber forest product harvesters and buyers. As we have witnessed before, failure to include NTFP [nontimber forest products] harvesters and buyers is likely to result in forest management decisions that are socially inequitable, difficult and costly to enforce, and undermine stewardship practices.

Response: As discussed in Chapter 5 of the PEIS, the BLM conducted scoping from October 12, 2001, through March 29, 2002. Scoping meetings were held in 21 cities and towns throughout the western U.S., including Alaska, and in Washington, D.C. Information on the meetings and scoping process was provided in local newspapers, on the BLM website, and via mail to individuals on the mailing list. In addition, the BLM sent a letter to all tribal governments within the western U.S. and Alaska describing the project and asking for their concerns regarding the proposed project. The BLM also invited tribes to call if they had questions or wanted to set up individual meetings.

EMC-0621-004
Alliance of Forest Workers and Harvesters

Comment: The lack of participation in public comment by NTFP harvesters and forest workers should not be construed as their lack of existence or concern over the impacts of management activities, such as herbicide spraying, on their livelihoods and health. The spirit of NEPA scoping and other government requirements for public participation demands that the agency use the appropriate methods for ensuring broad-based participation. This process must include NTFP harvesters and forest workers.

Response: See response to Comment EMC-0621-003 under PEIS Consultation and Coordination, Public Involvement.

EMC-0640-002
Animal Welfare Institute

Comment: The Animal Welfare Institute (AWI) submits the following comments on the Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (PEIS). Because of the failure of the Bureau of Land Management (BLM) to provide for a sufficient opportunity for public comments on its proposed vegetation management program, the length of the documents prepared to evaluate the impacts of the program, and because of the complexity of the issues under analysis, these comments are largely limited to the PEIS. While there may be reference to the Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report (PER) and Draft Biological Assessment in these comments, the BLM did not provide sufficient time to allow for a comprehensive analysis of these documents or the other documents (i.e. human and ecological risk assessment reports) relevant to this issue.

Response: See response to Comment EMC-0025-001 under PEIS Consultation and Coordination, Public Involvement regarding the length of the public comment period.

EMC-0640-012
Animal Welfare Institute

Comment: The BLM has failed to provide sufficient opportunity for public comment. While AWI [Animal Welfare Institute] appreciates the BLM's decision to extend the comment deadline on the PEIS by 30 days from January 9, 2006 to February 10, 2006, a total of approximately 90 days to review, analyze, and prepare substantive comments on the PEIS, PER, and other documents is wholly inadequate. This lack of opportunity for the public to participate in this important decision-making process is particularly troubling considering that the PEIS, PER, and other relevant documents consist of well over 1500 pages of text, analysis, and information. In addition, given the complexity of the subject matter, including highly technical information about a variety of herbicides, their potential impacts to human health, wildlife health, and the environment, and the complicated human health and ecological risk assessment reviews, a 90-day comment period is simply insufficient to expect the public to have a legitimate opportunity to participate in this process. As public participation is a cornerstone of the National Environmental Policy Act (NEPA) process, the BLM erred in not providing a minimum of 180 days for the public to comment on this proposed program.

Response: See response to Comment EMC-0025-001 under PEIS Consultation and Coordination, Public Involvement regarding the length of the public comment period.

EMC-0640-014
Animal Welfare Institute

Comment: Moreover, public participation in this process should not require the hiring of a cadre of experts to provide substantive and informed public comment. Few interest groups or concerned citizens have the financial resources to pay for such an expert review and, frankly, should not have to do so if the BLM complied with NEPA and based its comment deadline on the complexity of the subject matter and the length of the documents prepared to assess the environmental impacts of the proposed action.

Response: See response to Comment EMC-0025-001 under PEIS Consultation and Coordination, Public Involvement regarding the length of the public comment period. The BLM deems the length of the public comment period appropriate for the complexity of the PEIS.

EMC-0640-016
Animal Welfare Institute

Comment: If the BLM elects – as it should -- to reopen the comment period for, at least, another 90 days, it should also schedule public hearings or information sessions throughout the western United States to explain its proposals to concerned citizens, to provide opportunity for the public to question various experts to clarify certain issues or impacts associated with the proposals, and to collect public testimony in regard to the impact of the proposed action.

Response: Formal public hearings were announced in the federal register, local newspapers, and press releases, and held in nine locations across the West during the initial 60-day comment period. The comment period was then extended for another thirty days for a total of 90 days. The BLM has determined that opening a second 90-day public comment period and holding additional public meetings was not necessary based on the breadth of substantive comments received on the Draft PEIS/PER.

FXC-0008-001
CropLife America - Trade Association

Comment: This letter is to request a 30-day extension of the public comment period on the Programmatic Vegetation Treatments EIS and Programmatic Environmental Report that began November 10, 2005 and is scheduled to close on January 9, 2006.

Response: See response to Comment EMC-0025-001 under PEIS Consultation and Coordination, Public Involvement.

RMC-0073-004
Bryson, Anna

Comment: The public comment period was so short and poorly advertised that none of my 25 devoted environmentally aware friends had heard anything about this proposal. This lack of communication is unacceptable in our Democracy. The public comment period must be extended and well advertised.

Response: See responses to Comments EMC-0621-003 and EMC-0025-001 under PEIS Consultation and Coordination, Public Involvement.

RMC-0077(2)-004
Lovato, Andrew and Anhara, and Marise Korn

Comment: I request an extension of the hearings to do a proper environmental impact statement.

Response: See response to Comment EMC-0025-001 under PEIS Consultation and Coordination, Public Involvement.

RMC-0216-004
Neff, Jack

Comment: Firstly, I take exception to the amount of time allowed for public comment. The initial notice of a 30-day public comment period was extended to a 60-day public comment period. Even a 60-day public comment period is insufficient for the public to satisfactorily ascertain the risks with a $1.1 billion annual BLM plan calling for the brewing of a toxic stew in a kettle of porous public lands and related airborne, groundwater, riparian habitats.

Response: The BLM deems the length of the public comment period sufficient for this PEIS. Department of Interior regulations require at least a 45-day comment period for EISs. The public comment period was set at 60 days beginning November 10, 2005 through January 9, 2006 (FR 2005). At the request of the public, the comment period was extended an additional 30 days until February 10, 2006. No additional comment extension requests were received by the end of the second comment period; therefore, the comment period was closed at that time, for a total of 90 days public comment.

Consultation and Coordination, Government-to-Government Consultation

EMC-0047-002
Alaska Inter-Tribal Council

Comment: AITC [Alaska Inter-Tribal Council] recently learned that the BLM, is requesting comments by Jan 9, 2006 on herbicide use on the vegetation relied upon for subsistence by the indigenous people of Alaska. We further understand that no public hearings have been held nor are scheduled to be held in Alaska on this matter. This matter is far too important not to include Alaska's tribal governments in the public process.

Response: As a federal land management agency, the BLM is bound by the provisions of Title VIII, Section 810 of the "Alaska National Interest Lands Conservation Act" (ANILCA) regarding subsistence matters. The Alaska State Office of the BLM ensures that the residents of rural Alaska who rely on subsistence for their livelihood will be consulted on any proposed vegetation treatment. An ANILCA Section 810 analysis of subsistence impacts from the proposed vegetation treatments program has been included in the Final PEIS in Appendix H. Also see response to Comment EMC-0203-006 under PEIS Environmental Consequences, Social and Economic Values.

EMC-0047-003
Alaska Inter-Tribal Council

Comment: AITC [the Alaska Inter-Tribal Council] strongly urges the rescission of this deadline until after the BLM and its cooperating agencies, including the USFWS [U.S. Fish and Wildlife Service] and the US Department of Defense conform to the requirements of E.O. [Executive Order] 12898 on Environmental Justice and E.O. 13175 on government to government relations with federally recognized Tribal governments.

Response: The comment deadline was extended for an additional 30 days to February 10, 2006. The BLM does not have any cooperating agencies on this PEIS project. The BLM held scoping meetings in Anchorage, Alaska in March of 2002, which was announced in the Federal Register and through local media releases. No representatives from AITC nor any other Native American or tribal interests were present at the scoping meetings. Based on lack on public attendance, the decision was made to not hold public hearings in Alaska for the Draft PEIS.

Executive Order 13175 requires that agencies ensure meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications. Exec. Order No. 13175 § 5, 65 Fed. Reg. 67249 (Nov. 6, 2000).

The BLM followed the BLM Handbook H-8160-1 *General Procedural Guidance for Native American Consultation* and the BLM Manual 8160, *Native American Coordination and Consultation*, which provide guidance for consultation with Native groups about land use planning and environmental review (USDI BLM 1994). These documents recognize the special sovereign status of Native American Indian tribes as well as treaty-reserved rights that some small groups possess. This consultation process was initiated in 2002 by correspondence sent to over 200 Native Alaskan tribes, and was done specifically to meet the requirements of Executive Order No. 13175. Appendix D of the PER addresses Native American and Alaskan resource uses. In addition, the BLM conducted an ANILCA (Alaska National Interest Lands Conservation Act) Section 810 analysis as part of the Final PEIS (see Appendix H). Site-specific consultation with affected tribal interests will also occur at such time as a project is proposed. Also see Chapter 5 of the PEIS, Consultation and Coordination.

Executive Order 12898 requires that "to the greatest extent practicable and permitted by law," each federal agency shall make "achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its activities on minority populations and low-income populations of the United States..." Executive Order No. 12898 § 1-101, 59 Fed. Reg. 7629 (Feb. 11, 1994). See Chapter 4 of the PEIS, Social and Economic Values, for discussion of Environmental Justice.

EMC-0047-004
Alaska Inter-Tribal Council

Comment: Tribal members all across Alaska depend directly on subsistence gathering and hunting on federal lands. This right is protected by international law and the provisions of ANILCA [Alaska National Interest Lands Conservation Act] as well as

the above executive orders. Contamination of food sources of the indigenous people is a serious matter for the tribal governments that should be recognized directly by the federal government through one on one meeting in the communities adjacent to the impacted federal lands. Publication in the federal register of actions directly related to protected indigenous subsistence activities is wholly inadequate for Tribes with little access to the internet or awareness of meetings and decisions held thousands of miles from the impacted traditional lands.

Response: See response to Comment EMC-0047-003 under PEIS Consultation and Coordination, Government-to-government Consultation. Also see Appendix H in the Final PEIS for the Native Alaskan subsistence analysis required under Section 810 of ANILCA.

Council on Environmental Quality (CEQ) regulations provides guidelines for public involvement in the NEPA process. These regulations state that agencies shall make *diligent efforts* to involve the public in preparing and implementing their NEPA procedures. 40 C.F.R. § 1506.6 (2006). Agencies are also mandated to provide public notice of NEPA-related hearings, public meetings, and the availability of environmental documents so those affected will be informed (*Id.* § 1506.6(b)), as well as to hold or sponsor public hearings and meetings whenever appropriate (*Id.* § 1506.6(c)) and to solicit "appropriate" information from the public (*Id.* § 1506.6(d)). The BLM complied with these requirements by holding scoping meetings in twelve western states in which written comments were solicited. Notice of these scoping meetings and requests for public comments were provided in the Federal Register, and also in state local newspapers. *Id.* Finally, it is also mandatory for an agency to mail notice to those who have requested notice. *Id.* § 1506.6(b)(1). The BLM received 1,034 requests to be placed on the project mailing list and responded. See Chapter 5 of the PEIS, Consultation and Coordination.

CEQ regulations set out different notice requirements depending on whether the effects of the proposed action are of national or local concern. In cases where actions are of national concern, specified notice requirements are mandatory. Agencies must publish notice in the Federal Register and mail to national organizations "reasonably expected to be interested in the matter." *Id.* § 1506.6(b)(2). Because the PEIS is of national scope, the BLM properly published notice in the Federal Register, and mailed the notice to national organizations that fit the description of the aforementioned regulation (see Chapter 5 of the PEIS, Consultation and Coordination). In addition, CEQ regulations set out requirements for cases where the proposed action has "effects of primarily local concern." *Id.* § 1506.6(b)(3)(i-ix). In actions where effects are of local concern, notice requirements are permissive and *may* include: notice to state clearinghouses, Indian tribes, following the affected state's notice procedures, publication in local newspapers, notice through other local media, notice to potentially interested community organizations, publications in local newsletters, direct mailing to owners and occupants of nearby affected property, and posting of notice on and off the site where the action is to be located. *Id.* Because the PEIS is of local concern, the BLM provided notice in the form of newsletters, published notice of scoping meetings in local newspapers, notified affected states, and mailed letters to Indian tribes during the consultation process (see Chapter 5 of the PEIS, Consultation and Coordination; also see Appendix C of the PEIS).

Courts have not been willing to impose requirements beyond those of the CEQ regulations. *See Envtl. Coalition of Ojai v. Brown,* 72 F.3d 1411, 1415 (9th Cir. 1995) ("If the CEQ intended to impose additional notice requirements, it would have

expressly provided so."). The Ninth Circuit Court stated that for matters of national concern, the CEQ regulations mandate notice in the Federal Register and mailed notice to interested national organizations. 40 C.F.R. (Code of Federal Regulations) § 1506.6(b)(2). *Id.* The court also stated that while the CEQ regulations mandate public notice in matters of local concern, they do not mandate any particular *form* of notice. 40 C.F.R. § 1506.6(b). *Id.* The methods of notice listed in 40 C.F.R. § 1506.6(b)(3) (local concern) are merely permissive. *Id.*

EMC-0047-005
Alaska Inter-Tribal Council

Comment: The Alaska Inter-Tribal Council respectfully requests that all tribes in the region, as sovereigns concerned about herbicide activities on traditional lands, must be directly notified and provided government to government consultation on such action before the public notice process. The Alaska Inter-Tribal Council requests that the Executive Order on Environmental Justice and government to government relations be acknowledged and implemented and that the public comment and review process cease until such time as the Tribal governments have been afforded meaningful participation.

Response: The Alaska State Office of BLM has the responsibility for conducting tribal consultation as a part of the government-to-government relationship that the federal government has with the Alaska Native Groups. The BLM State Director and his staff will accommodate any inquiries relative to the PEIS or any other BLM activity. The BLM cannot halt the receipt and review of comments from the public, but will make every effort to reach Tribal entities that have concerns and comments regarding vegetation treatments. Also see response to Comment EMC-0047-002 under PEIS Consultation and Coordination, Government-to-government Consultation.

Consultation and Coordination, List of Preparers of the Programmatic EIS

EMC-0411-008
Schroyer, Don L.

Comment: How many BLM Professionals (estimated) participated in compiling the BLM Vegetation Treatments [P]EIS & [Programmatic] Environmental Report?

Response: A list of preparers of the PEIS and PER is given in Chapter 5 of the PEIS under List of Preparers of the Programmatic EIS in Table 5-1.

RMC-0106-061
Public Employees for Environmental Responsibility

Comment: It is important to separate preparers, consultants, and reviewers in the List of Preparers. The advice of consultants and reviewers can be ignored. The public has the right to know who exactly prepared the documents under review and what their qualifications are.

Response: All individuals listed in Chapter 5 of the PEIS under List of Preparers of the Programmatic EIS in Table 5-1 contributed to the preparation of the PEIS and PER. Their areas of expertise, years of experience, and highest degree obtained are also given in the table.

References

RMC-0217-019
Sierra Club Utah Chapter

Comment: The BLM fails to use the scientific information at its disposal and even fails to use or acknowledge information from some of the references used in the PEIS. As an example to PEIS lists this reference in Chapter 6:

Belsky, A.J., and J.L. Gelbard. 2000. Livestock Grazing and Weed Invasions in the Arid West. Oregon Natural Desert Association. Bend, Oregon.

The PEIS does not show how the information from this reference illuminated the analysis of the PEIS. Beyond a doubt this article does include information that is crucial to management of invasive plants and weeds on the public lands. Chapter 6 also lists several references from Jayne Belnap. The one most crucial to the problem of weeds does not receive any discussion I could find in the PEIS. Other references should also have been included in the material pertinent to the problem of invasive species and weeds. Perhaps one of the most crucial is Anderson, Jay, and Richard Inouye. 2001. Landscape-scale changes in plant species abundance and biodiversity of a sagebrush steppe over 45 years. Ecological Monographs 71(4):531-556. This references an actual reduction in an invasive plant in Idaho. The portion of Idaho is similar to the most of the terrain the BLM appears to plan to treat under this PEIS.

Response: The reference to Belsky and Gelbard (2000) was included in Chapter 4 of the PER under Water Quality and Quantity, but was not included in Chapter 4 of the PEIS; we have removed this reference from Chapter 6, References, in the PEIS. The Jayne Belnap references were included in the PEIS in Chapter 3 and 4, primarily in discussions pertaining to Soil Resources. We have included the Anderson and Inouye (2001) reference in the Final PEIS.

Glossary

EMC-0005-008
Wichita County Noxious Weed Department

Comment: I also feel strongly that a plant species should not have to be made noxious on either the Federal, or a state's Noxious Weed List before control measures are taken. I feel that "Invasive Species" should be adequate to begin control measures. I also do not feel that vegetation labeled as "invasive" should have a blanket control policy as what could be determined to be "invasive" in one region could be determined to be a desirable in another region due to climate and growing conditions.

Response: See response to Comment RMC-0221-007 under PEIS Glossary.

EMC-0005-009
Wichita County Noxious Weed Department

Comment: I also feel strongly that a non-native species should never have the distinction of ever being placed on a threatened or endangered species list. Here in Kansas there are 14 weeds listed on our state's Noxious Weed List. Only 2 are native to the United States. I realize this point isn't included in this [P]EIS, however I feel it should be addressed at some point, and since this [P]EIS is already being done, this may be a prudent time to look into some of these issues.

Response: State noxious weed lists are legal determinations that may include any weed species (native or non-native) that meet the state's noxious classification criteria. The Endangered Species Act only lists native species that meet the standard for threatened or endangered status.

EMC-0027-006
McNeel, Hank

Comment: Page 1 [of Chapter 1 of the PEIS] – Terminology. Counties can also designate a plant species as a Noxious Weed within their county. Federal Agencies should also be controlling those species within the designated county that declared it noxious. I feel that this should also be included within this PEIS.

Response: See response to Comment RMC-0221-007 under PEIS Glossary.

EMC-0446-043
The Nature Conservancy

Comment: Definition of Hazardous Fuels: In the Draft PEIS and throughout the PER there is frequent reference to hazardous fuels, but there does not appear to be a clear description of what these entail. According to the Draft PER definition, hazardous fuels can be interpreted as any vegetation that may burn when someone does not want

it to burn. It is not clear who will determine what are hazardous fuels in a given project area and what is natural plant community structure. A more precise definition would assist in understanding proposed treatments and providing guidance to project design.

Response: The BLM uses the National Wildfire Coordinating Group definition of hazardous fuels: "a fuel complex defined by kind, arrangement, volume, condition, and location that forms a special threat of ignition and resistance to control." Not all vegetation can be considered to be hazardous at all locations, life-stages, or times of the year. Both natural plant communities and introduced or invasive vegetation could be considered hazardous, depending on their kind, arrangement, etc., as well as their proximity to values at risk. Those who come together to prepare community wildfire protection plans or similar efforts will determine what fuels or vegetation are hazardous for the specific community in question. An interdisciplinary team of resource specialists will determine, as part of the NEPA process, what non-wildland urban interface fuels can be considered hazardous as they prepare project-specific environmental documents.

EMC-0505-013
U.S. Environmental Protection Agency

Comment: BLM is a partner with other federal agencies in developing and implementing Integrated Vegetation Management (IVM), and for consistency across agencies we suggest that the terms IPM [integrated pest management] or IVM be defined in this document. EPA recommends adding IPM and IVM to the glossary and use those references when referring to the decision framework for managing pests on BLM lands, including in the Executive Summary.

Integrated Pest Management is, according to the National Road Map for Integrated Pest Management (May 17, 2004, http://www.ipmcenters.org/Docs/IPMRoadMap.pdf) "...a long-standing, science-based, decision-making process that identifies and reduces risks from pests and pest management related strategies. It coordinates the use of pest biology, environmental information, and available technology to prevent unacceptable levels of pest damage by the most economical means, while posing the least possible risk to people, property, resources, and the environment. IPM provides an effective strategy for managing pests in all arenas from developed agricultural, residential, and public areas to wild lands. IPM serves as an umbrella to provide an effective, all encompassing, low-risk approach to protect resources and people from pests." Integrated Vegetation Management is a subset of IPM used to manage vegetation.

Response: We have included additional information on IPM and IVM in Chapter 2 of the PEIS and PER. Definitions for IPM and IVM will be included in the glossary of the PEIS and PER.

EMC-0584-027
Western Watersheds Project

Comment: If BLM plans on using this term [hazardous fuels] in its analysis, we ask for a careful and scientific description of the basis for its use. For example, Idaho Falls BLM engaged consultants to prepare an EA [Environmental Assessment] for "hazardous fuels reduction" in Sands Checkerboard. We are uncertain just what the hazard is here. Who or what is threatened by the woody vegetation termed hazardous fuels? Is cheatgrass a "hazardous fuel"? We certainly think this term is far more apt for cheatgrass than it is for most other vegetation situation where BLM applies it. BLM must develop a methodology to prioritize any "treatments' of hazardous fuels. This is necessary to most effectively spend scarce taxpayer dollars, best protect habitations and areas that are truly "at risk". Instead of spending hundreds of thousands of dollars planning 6-10 million dollars or more of "treatments" in the Jim Sage Area, or drastic "treatment" of the entire Samaria Mountain Range, These projects are primarily aimed at killing woody vegetation to promote livestock grazing. BLM must use a sound

methodology to determine needs for treatment – and focus should always be on the areas within approx. 1/8 mile of actual interfaces with human habitation.

Response: See response to Comment EMC-0585-049 under PEIS Glossary.

EMC-0585-035
Western Watersheds Project

Comment: [BLM failed to] define what, exactly, constitutes an "infestation", as used in the Table. Is it the presence of a few plants, a percentage of ground cover, what? Throughout, BLM fails to define terms used, or when it does, concocts a definition (as the EIS definition of invasive species) that is at odds with scientific uses.

Response: In reviewing several selected definitions, the following are identified:

1. Infestation:

a. The Standard Pesticide User's Guide – 4th Edition," Bert L. Bohmont, 1997, Prentice Hall: "Infestation – Pests that are found in an area or location where they are not wanted."

b. University of California-Davis – UC-IPM Online: "Infestation – The presence of a large number of pest organisms in an area or field, on the surface of a host or anything that might contact a host, or in the soil."

c. Gempler's IPM Almanac – IPM Glossary: "Infestation – A troublesome invasion of pests within a particular area."

d. USEPA – Terminology Reference System: "Pest Infestation – 1) The occurrence of one or more pest species in an area or location where their numbers and impact are currently or potentially at intolerable levels. 2) A sudden increase in destructiveness or population numbers of a pest species in a given area."

2. Invasive Species:

a. Executive Order 13112: "Invasive Species – Means an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health." The term "Alien Species – means, with respect to a particular ecosystem, any species, including its seed, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem."

b. USEPA – Terminology Reference System: "Invasive Species – Means an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health." The term "Alien Species – means, with respect to a particular ecosystem, any species, including its seed, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem."

EMC-0585-044
Western Watersheds Project

Comment: BLM's terminology (1-2) and other terms and definitions used in this process are not supported by science, and no basis is provided for its aberrant definitions of terms such as "selective" – BLM absurdly claims that chemicals that kill or weaken nearly all broadleaf plants are "selective"; BLM defines "weeds" as plants that interfere with management objectives.

Response: The BLM disagrees. The terms and definitions used in this PEIS include those used by federal agencies as well as academia. The following terms used by the BLM are found in the following references: The definition presented in Chapter 1 of the Programmatic Environmental Report (PER) for "weed" is the definition that is supported by the Weed Science Society of America, along with publications such as *Weeds of the Wes* (Thomas D. Whitson, Burrill, Larry C., Dewey, Steven A., Cudney, David W., Nelson, B.E., Lee, Richard D., and Parker, Robert, Grand Teton Lithography, Jackson, Wyoming.) Regarding the definition of "selective herbicide," the BLM uses the definition used by USEPA Terminology Reference System: "A

chemical designed to affect only certain types of pests, leaving other plants and animals unharmed." This term will be added to the glossary chapters of both the PER and the PEIS.

EMC-0585-049
Western Watersheds Project

Comment: Example of vague definitions: The definition provided for "hazardous fuels" is so loose and broad that it is essentially meaningless. What is meant by "a special threat of ignition and resistance to control"? How is this better described, and quantified? How does nonhazardous fuel compare to hazardous fuel? What are 'normal' fuel loadings or characteristics for vegetation types and ecosystems covered by this [P]EIS?

Response: The National Wildfire Coordinating Group defines hazardous fuels similarly, as "a fuel complex defined by kind, arrangement, volume, condition, and location that forms a special threat of ignition and resistance to control." Not all vegetation can be considered to be hazardous at all locations, life-stages or times of the year. Both natural plant communities as well as introduced or invasive vegetation could be determined to be hazardous, however, depending on its kind, arrangement, etc., as well as its proximity to values at risk. Those who come together to prepare Community Wildlife Protection Plans or similar efforts will determine what fuels or vegetation are hazardous for the specific community in question. An interdisciplinary team of resource specialists will determine as part of the NEPA process what non-wildland urban interface fuels can be considered hazardous as they prepare a project specific environmental document.

EMC-0585-054
Western Watersheds Project

Comment: As most of the treatments are slated for Nevada, Idaho, Wyoming and Oregon, the number and "risk" of hazardous fuels at any WUIs [wildland urban interfaces] must be assessed. What is BLM using as its WUIs? Each individual ranch? Abandoned habitations in the middle of nowhere? Many arid land ranches are embedded in irrigated ag., and are already severely overgrazed with no hazardous fuels in proximity to dwellings. Understanding how BLM defines interfacing lands, and the characteristics of WUIs and land areas to be treated is critical to understanding the environmental effects of treatments. It is also essential for a reader of the [P]EIS to understand the necessity of treatment.

Response: The PEIS and PER provide a definition of WUI in the Glossary. WUI has been defined in A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-year Comprehensive Strategy Implementation Plan (USDI and USDA 2002) and Protecting People and Natural Resources, A Cohesive Fuels Treatment Strategy (USDI and USDA 2006) as "the line, area or zone, where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuel." The other way a WUI boundary can be determined is through the development of a Community Wildfire Protection Plan (CWPP). These plans are developed by local communities, with participation by state and local wildland fire agencies. Critical infrastructure such as powerlines, roadways, or critical watersheds may be incorporated into a WUI defined as part of a CWPP. CWPPs allow for a localized definition of WUI to be developed. Guidance for defining WUI is also provided in the *Healthy Forests Restoration Act of 2003* to be used in the absence of a CWPP. The variation in WUI definition across the country allows local issues to drive WUI definitions, but makes national mapping of WUI difficult.

EMC-0585-113
Western Watersheds Project

Comment: [Page] 1-2 [of the Draft PEIS]. Definitions. Even BLM's invasive plants definition has significant flaws as it wrongly includes native species, blends management "actively controlled by management interventions", and is deeply

confusing.

Response: See response to Comment EMC-0585-035 under PEIS Glossary.

EMC-0585-115
Western Watersheds Project

Comment: "Invasive species" means an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health.

"Alien species" means, with respect to a particular ecosystem, any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem.

Response: See response to Comment EMC-0585-035 under PEIS Glossary.

EMC-0585-116
Western Watersheds Project

Comment: We believe BLM is using a twisted, unaccepted and scientifically untenable definition of invasive species in order to justify killing large areas of woody native vegetation, such as pinyon pine in Nevada or western juniper in Oregon or California. For example, BLM in Nevada claims pinyon is an invasive species.

Response: See response to Comment EMC-0585-035 under PEIS Glossary.

PHC-006-002
H. McNeel

Comment: I would like to make a few comments like on the terminology on noxious weeds. I think the terminology that you used was for federal and state agency designated. One thing I think needs to be addressed is counties can also designate a noxious weed within their county. I would like to see that added.

Response: See response to Comment EMC-0291-002 under PEIS Alternatives, Vegetation Treatment Planning and Management.

RMC-0221-007
Center for Biological Diversity

Comment: The Center also has serious concerns about the definitions of "invasives" and "weeds" as used in the D[raft] PEIS and the D[raft] PER. It is unclear whether native plant species have been classified as invasives or weeds in areas where they are considered undesirable for certain economic interests such as grazing. Some native species have boom and bust reproductive cycles that replenish the seed bank and play an important role in succession and soil stabilization, but, for example, are not desirable as forage for livestock. The BLM should not be playing politics with ecology; all proposed treatments should be limited to non-native noxious species.

Response: See the discussion on Noxious Weeds and other Invasive Vegetation in the Vegetation section of Chapter 3 of the PEIS. The BLM follows the federal noxious weed lists, and recognizes state and county weeds lists. Definitions of invasive plants and noxious weeds are provided in Chapter 7, Glossary.

Appendix B – Human Health Risk Assessment

EMC-0646-045
Californians for Alternatives to Toxics

Comment: First, on page PEIS B-1 [Appendix B of Draft PEIS] and C-1 [Appendix C of Draft PEIS], you state that the more recent document, the invasive plant EIS, USDA Forest Service (FS) 2004, will be used as the main supporting document. This document, however, is cited in your bibliography as USDA FS 2005a, which is the correct citation date, as the FEIS was released in April 2005. To avoid confusion, this document will be cited here as FS IPEIS 2005.

Response: We have made corrections to these appendixes in the Final PEIS to note that the Final EIS was published in 2005.

Appendix C – Ecological Risk Assessment

EMC-0553-009
Callihan, Robert H.

Comment: The text in Vol. 2 [of the Draft PEIS] under "Non-Target Species Effects Characterization", "Terrestrial Species Effects Characterization", on page C-28 of volume 1 [of Appendix C of the Draft PEIS], says that "response of weed species to sulfometuron-methyl may be more severe than for crop species". Weed scientists familiar with the herbicide, as well as experienced BLM practitioners, would recognize that as an oddly erroneous, misleading suggestion; it should be corrected.

Response: Sulfometuron methyl is not registered for cropland use, thus there is little information comparing the responses of non-target cropland species and weed species to sulfometuron methyl. We have revised the text in Appendix C to reflect this lack of information.

RMC-0106-049
Public Employees for Environmental Responsibility

Comment: It is stated that "Degradates may be more or less mobile and more or less toxic in the environment than their source herbicides," which "makes prediction of potential impacts challenging." This is especially so since the BLM doesn't know the characteristics of the vast majority of possible degradates. It is possible, as noted on p. C-83 [of Appendix C of the Draft PEIS], that "a less toxic, but more mobile bioaccumulative, or persistent degradate may have greater adverse impact due to residual concentrations in the environment." This being the case, why has the BLM not undertaken studies to find out what residuals occur from the last 20 years of herbicidal treatment?

Response: See response to Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment. The BLM relied on the USEPA, as the federal agency designated to regulate pesticides, for information on herbicides. The U.S. Geological Survey samples surface waters throughout the United States for pesticide residues.

RMC-0106-050
Public Employees for Environmental Responsibility

Comment: It is stated (p. C-83 [of Appendix C of the Draft PEIS]) that recent studies indicate 70% of degradates had similar or reduced toxicity to fish, daphnids, and algae than their parent pesticides; this study did not deal with terrestrial species. P. C-83 further states "However. 4.2% of the degradates were more than an order of magnitude more toxic than the parent pesticide, with a few instances of acute toxicity values below 1 mg/L. Thus, "The lack of data on the toxicity of degradates of the specific herbicides [proposed to be used?] represents a source of uncertainty in the risk assessment." This is a gross understatement.

Response: See response to Comment RMC-0106-048 under PEIS Appendix C, Ecological Risk Assessment.

RMC-0106-051
Public Employees for Environmental Responsibility

Comment: It is admitted (p. C-84 [of Appendix C of the Draft PEIS]) that List 3 and unlisted inerts (21 in all) may have moderate to high toxicity to aquatic species—how about terrestrial species, and how about degradates of the inerts?

Response: The likelihood that the List 3 and unlisted inerts would all have moderate to high toxicity to terrestrial or aquatic species is very low. Little information was found on degradates of inerts. Also see responses to Comment RMC-0210-021 under PEIS Environmental Consequences, Herbicide Effects Analysis, and Comment RMC-0106-004 under PEIS Alternatives, Monitoring.

RMC-0106-052
Public Employees for Environmental Responsibility

Comment: The conditions set to model the effects of a "generalized inert" (p. C-84 [of Appendix C of the Draft PEIS]) are so specific as to make any general use absurd: annual precipitation 50 inches, application area 10 ac [acre], slope 0.05, surface roughness 0.015, erodibility 0.401 tons/ac, vegetation type of weeds, sand soil.

Response: The parameters described in the comment reflect the base watershed that was evaluated in the GLEAMS model used in the risk assessments. These parameters were selected for the modeling of inerts in order to provide consistency between the models for inerts and active ingredients. This assessment was done to compare predicted exposure concentrations between an inert additive and the active ingredient. The conditions selected for modeling by GLEAMS are reasonable worst-case conditions, as they are the ones predicted to lead to high runoff and loading to nearby surface waters.

RMC-0106-053
Public Employees for Environmental Responsibility

Comment: "It is assumed (p. C-84 [of Appendix C of the Draft PEIS]) that toxic inerts would not represent a substantial percentage of the herbicide and that minimal impacts to the environment would result from these inert ingredients." In other words, any potential problem is assumed away. It is acknowledged that evaluating mixtures of toxics is substantially more difficult as many herbicides along with other pesticides and toxic chemicals are present in the environment, and evaluation of cumulative risks is extremely difficult. It is stated (p. C-84 [of Appendix C of the Draft PEIS]) "The composition of such mixtures is highly site-specific, and thus nearly impossible to address at the programmatic level of the EIS." Firstly, what evidence does the BLM have that the composition of mixtures is highly site-specific? If there is any such information it should be cited. If such information doesn't exist, what has the BLM been doing for 20 years? This would seem burdensome in the absence of any information at all—but it didn't stop setting up a highly specific site to evaluate inerts, which may have no replicate in nature let alone in the areas of intended treatment.

Response: As detailed in the ecological risk assessments (see the CD that accompanies the Final PEIS), the site-specific issues are predominantly environmental (e.g., climate and soils). Mixtures can also be site-specific with tank mixes and choice of adjuvant and diluent. The BLM is not funded to conduct research on herbicides and relies on the USEPA, U.S. Geological Survey, and others for research. The site used in the inert simulation was chosen because it was most favorable for herbicide migration and was likely to predict higher migration rates than would occur on more arid BLM rangelands. Also see responses to Comment RMC-0159-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives, Comment RMC-0106-046 under PEIS Environmental Consequences, Human Health and Safety, and Comment RMC-0106-052 under PEIS Appendix C, Ecological Risk Assessment.

RMC-0106-054
Public Employees for Environmental Responsibility

Comment: p. [Page] C-84 to C-85 [of Appendix C of the Draft PEIS]. Adjuvants and tank mixtures throw more variables into the risk assessment, but the case that this program is essentially an uncontrolled experiment on the environment has already been made in the language of the EIS [Draft PEIS] itself.

Response: See responses to Comment RMC-0106-053 under PEIS Appendix C, Ecological Risk Assessment, and Comment EMC-0405-012 under PEIS Alternatives, Monitoring.

RMC-0122-002
Bowers, Lynn

Comment: There are no studies of accumulative or synergistic effects of use of multiple products.

Response: For one herbicide (Distinct®, a mixture of dicamba and diflufenzopyr) the mixture of active ingredients was evaluated. A number of tank mixes were also evaluated; see Appendix C under Uncertainty Analysis, Degradates, Inert Ingredients, Adjuvants, and Tank Mixtures, and the ecological risk assessments (see the CD that accompanies the Final PEIS). Also see response to Comment RMC 0159-008 under PEIS Alternatives, Herbicide Active Ingredients Evaluated under the Proposed Alternatives.

Appendix D – Evaluation of Risks from Degradates, Polyoxyethyleneamine (POEA) and R-11, and Endocrine Disrupting Chemicals

RMC-0106-048
Public Employees for Environmental Responsibility

Comment: Degradates are discussed in Appendix C [of the Draft PEIS], p.[page] C-83. Degradates of only 9 (50%) of the herbicides proposed for use were examined, and those do not include all possible degradates of the various formulations of the 10 herbicides.

Response: We have expanded the discussion of degradates in the Final PEIS in Chapter 4 and in Appendix D of the Final EIS. This information is based on registration documents, discussions with the USEPA and herbicide manufacturers, and a search of readily-available databases for ecological and human health toxicity data on these degradates.

Appendix E – Protocol for Identifying, Evaluating, and Using New Herbicides

EMC-0331-006
Weed Science Society of America

Comment: The WSSA [Weed Science Society of America] also supports the developed Appendix D [in the Draft PEIS], "Protocol for Identifying, Evaluating and Using New Herbicides" to facilitate evaluation and addition of new chemicals as they become available in the future. However, one change is needed. "Determining the Need for New Herbicides" requires an additional valid reason for considering approval of a new active ingredient of "to expand availability of the number of substitute products to avoid resistance". It is understood this could be covered under "but are not limited to:"

Response: The protocol in Appendix E of the Final PEIS identifies factors which could limit efficacy, and availability of substitute products. The BLM considers these factors sufficient to cover the issue of herbicide resistance.

EMC-0338-015
Dow AgroSciences

Comment: Comments about the Proposed review of new herbicides, Appendix D [of the Draft PEIS]: The process outlined for approval of a new herbicide or for a new use of a herbicide is lengthy. A more rapid response to use of new pesticides may actually assist with eradication efforts if an invasive plant is found in a new area. Waiting 2 to 3 years for use of a herbicide, that has received approval for registration by the USEPA, would appear to be inconsistent with the mandate set forth in the 1999 Executive Order 13112 issued by the President of the United States to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause. As you are aware, the executive order required the formation of an Invasive Species Council comprised of a number of federal agencies, including BLM, which was tasked to complete a *National Invasive Species Management Plan*. On page 6 of the Plan the Council is tasked to lead, "... development, testing, transfer, and training concerning use of

environmentally compatible pesticides and herbicides in controlling invasive species." On page 36 "The Council will review and propose revisions of policies and procedures (i.e., advance approval for quarantine actions, pesticide applications, and other specific control techniques, and interagency agreements that address jurisdictional and budget issues).." New pesticides provide opportunities for a rapid response to new infestations of invasive plants when they are relatively small in size. Failure to use USEPA approved pesticides early in the invasion cycle will likely lead to use of larger amounts of pesticide to control the invasive plants once their population has expanded because of the lack of intervention early in the invasive process. Rapid response is effective in eradicating invasive plants before they Spread. We encourage the BLM to consider a way to respond more rapidly to the use of new EPA registered herbicides.

Response: See response to Comment EMC-0566-008 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response.

EMC-0446-034
The Nature Conservancy

Comment: Protocol for Identifying, Evaluating, and using new Herbicides (Appendix D of the Draft PEIS): This protocol should include a requirement for coordination with other resource specialists, including wildlife and fisheries biologists, botanists, and hydrologists, and for consultation with agencies, including U.S. Fish and Wildlife Service and National Marine Fisheries Service on potential effects of new herbicide use on public land to Federally listed and candidate species and migratory birds of conservation concern and with State wildlife agencies on potential effects to state-listed and other special status species.

Response: As noted on page E-4 of Appendix E of the Final PEIS, a peer review process would be used during the evaluation of new herbicides. In addition, the risks to federally-listed and proposed species would be evaluated as part of the ecological risk assessment and human health risk assessment. We have added a section under "Special Status Species" that discusses the need to consult with the Services when evaluating and using new herbicides.

FL-0004-009
EMC-0214-048
EMC-0221-012
EMC-0256-002
EMC-0272-002
EMC-0299-002
EMC-0305
EMC-0325-007
EMC-0328
EMC-0332
EMC-0347
EMC-0348
EMC-0368
EMC-0370
EMC-0371
EMC-0376-007
EMC-0382
EMC-0387
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EMC-0391
EMC-0392

Comment: Appendix D [of the Draft PEIS] Protocol for Identifying, Evaluating, and Using New Herbicides. Overall I support this process with one change needed. "Determining the Need for New Herbicides" requires an additional valid reason for considering approval of a new active ingredient of "to expand availability of the number of substitute products to avoid resistance". It is understood this could be covered under "but are not limited to:"

Response: The issue of herbicide resistance management is just one of the many different factors that will be taken into consideration, as outlined in Appendix E of the Final PEIS, and is included under the scope of "any other relevant factors."

EMC-0393
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EMC-0438
EMC-0443
EMC-0482
EMC-0483-010
EMC-0501
EMC-0578
EMC-0596

RMC-0101-004
Custer County Board of Commissioners

Comment: We also support the "Protocol for Identifying, Evaluating and Using New Herbicides" to facilitate evaluation and addition of new chemicals as they become available in the future. The process still seems slow at two years-best case scenario, but is much better than what appeared to be "no process" before. We offer as an example the use of Plateau® (imazapic) on BLM lands. The chemical has been on the market for at least five years, has a proven record of being very effective on leafy spurge (Euphorbia esula) one of our major noxious weeds of concern In addition, Plateau® offers less environmental issues, is less expensive to use when compared to other recommended chemicals and opens an additional window of opportunity for control and yet it could not be used because it was not on the approved list!

Response: See response to Comment EMC-0566-008 under PEIS Alternatives, Prevention of Weeds and Early Detection and Rapid Response. Imazapic is one of the herbicides considered for use in the PEIS analysis.

Appendix H – Alaska National Interest Lands Conservation Act (ANILCA) § 810 Analysis of Subsistence Impacts

EMC-0108-002
Banks, Helen

Comment: I understand that the area in question includes parts of Alaska, where people depend on wild-gathering of food. To put these people's health at risk, and to introduce toxic substances into the wild in this way, with no knowledge of their long-term impact and interactions, seems reckless, shortsighted and irresponsible to me.

Response: The BLM does not plan to use herbicides in Alaska in the near term, and does not plan to use herbicides on more than about 1,000 out of 85.5 million acres annually in Alaska. The BLM conducted an ANILCA Section 810(a) assessment to evaluate the effects of proposed herbicide treatments on foods and other resources used by Alaska Native (see Appendix H of the Final EIS). The conclusion of the assessment was that there would be no significant impacts to subsistence resources. In addition, the assessment noted that the BLM in Alaska would conduct individual, site-specific NEPA analyses for any herbicide treatments that are proposed. In this way, the BLM will be able to define, with local input, the required Standard Operating Procedures and mitigation that will be applied to prevent damage to subsistence plants and animals. For all proposed projects, local communities would be given the opportunity to participate in the planning process and assist with design of proposed treatments.

Appendix I – Restore Native Ecosystems Alternative

EMC-0457-007
Ryan, Eleanor (North American Butterfly Association)

Comment: We commend especially these specific ideas in Appendix G [of the Draft PEIS]: A. Identification of Hotspots for their diversity of plant and wildlife, and designate these for specific protection. B. Use of mechanical treatment in restoring native vegetation. All of these ideas in Appendix G [of the Draft PEIS] were better alternatives to herbicides. Yes, they are labor intensive but herbicides are also expensive.

Response: Special management of plant and wildlife resources is determined at the land use planning level and is outside the scope of this PEIS (refer to Chapter 1, Scope of Analysis, in the PEIS). Identification of special areas would follow established program procedures under land use planning (e.g. regulatory criteria at 43 CFR [Code of Federal Regulations] 1610.7-2 to identify areas of critical environmental concern). The BLM is not aware of any established criteria to determine what comprises a "hot spot" for plant and wildlife diversity. The BLM utilizes an integrated pest management approach to vegetation treatments, and use mechanical treatment to restore native vegetation is one option the agency can and does implement under this framework.

Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report

General Comments and Reponses

EMC-0646-015
Californians for Alternatives to Toxics

Comment: It should be noted that the url given [on page 2-15 of the Draft PER, paragraph 1] here is incorrect, and leads to a dead page. The correct url ends with shtml, not htm

Response: The url given in the PER is incorrect. It has been corrected for the Final PER.

EMC-0646-046
Californians for Alternatives to Toxics

Comment: Second, on page PER 2-15, as stated above, the location for reviewing the SERA supporting documents is given as http://www.fs.fed.us/foresthealth/pesticide/risk.htm. Once discovering that this url is a disconnect, I was finally able to link through sera-inc.com. The proper url is http://www.fs.fed.us/foresthealth/pesticide/risk.shtml.

Response: We have corrected Chapter 2 of the Final PER to show the correct url.

EMC-0646-047
Californians for Alternatives to Toxics

Comment: Third, upon downloading the SERA 2,4-D RA, the report date of 1998 was noticed. Having already reviewed SERA 1998, we expected SERA 2003a (as cited in the BLM PEIS) to be an update. However, SERA 2003a was the same as SERA 1998, as evidenced by the same TR numbers. The proper citation, as listed in FS IPEIS [Forest Service Invasive Plant EIS] 2005, is SERA 1998 (FS IPEIS 2005 references-22 [U.S. Department of Agriculture Forest Service. 2005. Preventing and Managing Invasive Plants, Final Environmental Impact Statement. U.S. Department of Agriculture Forest Service Pacific Northwest Region. Available at: http://www.fs.fed.us/r6/invasiveplant-eis/.). Though some typos and misprints have no effect on the material, wrong citations can lead to hours of frustrating search looking for something that doesn't exist. This is in violation of NEPA and the APA [Administrative Procedures Act].

Response: We have revised the references to the Syracuse Environmental Research Associates, Inc., human health and ecological risk assessment of 2,4-D to show that the document was produced in 1998 and not in 2003.

Purpose of the Environmental Report, Scope of Report

EMC-0584-119
Western Watersheds Project

Comment: We believe you must provide extensive analysis of the impacts of post-fire "salvage" logging or thinning. Is that contemplated under this [P]EIS/PER? If so, what are its impacts to soils, vegetation, weed invasion risks, wildlife habitats, fisheries, recreational and other uses of the affected lands? What have been the impacts to, and what is the condition of, lands where this has occurred in the past?

Response: As stated in Chapter 1 under Scope of Report, the PER does not evaluate vegetation management that is focused primarily on commercial timber or other forest product enhancement or use activities that are not related to improving forest health, hazardous fuel reduction, or work authorized under the Healthy Forests Restoration Act. Where removal is determined to be necessary to recreate the native fire regime, to facilitate forest regeneration, or to improve forest or woodland health, all such treatments will be preceded by additional environmental analysis in compliance with the National Environmental Policy Act to disclose the potential environmental effects of biomass removal through post-fire logging or thinning.

Purpose of the Environmental Report, Federal Laws, Regulations, and Policies that Influence Vegetation Treatments

RMC-0077(2) –002
Lovato, Andrew and Anhara, and Marise Korn

Comment: Cows should never have been allowed in public forest lands in the first place. The Animal Damage Control and welfare ranching on forest lands has resulted in the decimation of predator species that understandably eat the prey in their protected land and have decimated innocent animals that get caught in traps and poisons by the thousands contributing to wildlife imbalance and extinction. This was on nature that is causing widespread extinction seems the intentional intention of BLM. To get rid of the wild life and forests so that it can become grasslands for cows is an outrage! This ignorance is so dire that I doubt there is any intention to protect the wildlife but only a pathetic, shortsighted effort to line a few ranchers pockets at the expense of all the wildlife in America. All wildlife is already squeezed out and endangered due to human over expansion and these national forests should function as wildlife refuges for these endangered species.

Response: Authority to graze livestock on public lands derives from the Taylor Grazing Act of June 28, 1934. The BLM is required by law, regulation, and policy to not contribute toward the extinction or listing of any species and has an affirmative duty to protect and conserve wildlife species. BLM forest management practices do not include conversion of forest resources to grasslands.

Purpose of the Environmental Report, Interrelationships and Coordination with Agencies

RMC-0144-008
Wyoming Game and Fish Department

Comment: We are also disappointed that vegetation treatments will not be incorporated into approved land use plans as noted in 1-5 of the Treatment [Draft] PER. Over the projected 10-year life span, 6 million acres treated per year, would amount to 60 million acres or roughly 22% of the 262 million acres managed by BLM. We believe this is a significant amount of acreage that has the potential to impact fish and wildlife populations and their habitat. We strongly urge BLM to create a strong partnership and consult with state fish and wildlife agencies prior to

planning or conducting treatments.

Response: Land use plan implementation actions often include vegetation treatment activities, which are conducted in conformance with existing land use plans goals and objectives. This PEIS is not a land use planning effort and does not propose any allocations of vegetative resources for treatments; allocations are determined through local land use planning. See Relationships among Land Use, Land Use Planning, Land Health Standards, Ecosystem Functionality, and Vegetation Treatments in Chapter 1 of the PER for a discussion of the interrelationship of the PER, PEIS, and land use planning. All vegetation treatment projects are coordinated at the local field office level and include coordination with state and federal regulatory and resource management agencies. Also see Interrelationships and Coordination with Agencies in Chapter 1 of the PER for a discussion of interrelationships and coordination with agencies.

Vegetation Treatment Programs, Policies, and Methods, Programs, Policies, and Initiatives Influencing Vegetation Treatment Activities

EMC-0446-008
The Nature Conservancy

Comment: Restoration objectives: Although the Draft PEIS and PER state that 50 percent of the acres planned for treatment will be treated to restore historic fire regimes, these documents do not address specific goals for restoration of historic fire regime or land health condition by ecoregion or plant community type. The PER should distinguish between hazardous fuels treatments, restoration of historic fire regimes, and restoration of plant community health – they are not synonymous and may require different treatment methods to achieve. The assumption made in the PEIS that, "Treatments that remove hazardous fuels from public lands would be expected to benefit the health of plant communities…" does not apply to all or even most circumstances since the health of plant communities depends on many variables, including plant species composition, the amount of existing alteration from the native plant community, and what species and amount of fuels are removed in a given area. We are particularly concerned that the PEIS and PER focus largely on goals for what vegetation, both weeds and fuel, is to be reduced or eliminated. The PEIS and PER and the majority of BLM's older land use plans include few specific descriptions of ecological goals for the desired future condition of the plant community composition and vegetation structure that proposed fuels treatment and other vegetation management projects are designed to achieve.

Response: The intent of this document is to provide a broad overview of fire ecology and vegetation treatments that is understandable to the general public. Specific goals for restoration of historic fire regime or land health condition by ecoregion or plant community type will be determined at the land use planning level. Decisions that consider all the factors listed in this comment will be made as each land use plan is updated.

EMC-0446-035
The Nature Conservancy

Comment: Once approved, the PER can be incorporated by reference in the planning, justification, and review of local level projects. In order for it to be useful to assist local planning, the PER needs additional detail in several areas, including restoration goals, monitoring at multiple scales, the need for pre- and post treatment noxious weed and invasive species control, and guidelines for the use and limitations of livestock grazing to control weeds.

Response: See response to Comment EMC-0446-071 under PER Vegetation Treatment Programs, Policies, and Methods, Monitoring. See Vegetation Treatment

Standard Operating Procedures and Guidelines in Chapter 2 of the PER for a discussion of livestock grazing to control weeds.

EMC-0446-040
The Nature Conservancy

Comment: Purpose and Need: The Draft PER states that the purpose of the BLM's proposed increase in vegetation management treatments is to: "...reduce the risk of wildfire by reducing the occurrence of hazardous fuels...restoring fire-adapted ecosystems, and repairing lands damaged by fire" ([Draft] PER [page] 2-1). Yet the remainder of the document focuses almost exclusively on hazardous fuels reduction. There is insufficient discussion of methods and priorities for the restoration of fire-adapted ecosystems, even though the stated goal for 50 percent of acres to be treated will be to restore historic fire regimes. There is also insufficient discussion of the need, opportunity, and proposed treatments to maintain intact areas that are already in Condition Class I to prevent degradation to higher condition classes.

Response: The programs and policies guiding Wildland Fire Management are discussed in Chapter 2 of the PEIS in the section on BLM Programs Responsible for Herbicide Treatments. The methods employed to restore fire-adapted ecosystems are the same as those listed in the PEIS and PER for vegetation treatments. Local site-specific land use plans and activity plans will identify priorities for the local field office. The BLM does need to accomplish treatments in the areas of hazard fuels reduction, restoration of fire-adapted ecosystems, and repair of lands damaged by fire. Estimated needs in all three of these areas helped determine overall treatment needs across the BLM. Further discussion about the appropriate mix of treatments is addressed at the Resource Management Planning level. This is the level at which the land use decisions will be proposed and analyzed, and decisions made. Maintenance of intact areas and Fire Regime Condition Class 1 landscapes is included within the range of treatment activities undertaken by the BLM. This has been clarified in Chapter 4, Assumptions for Analysis.

EMC-0584-049
Western Watersheds Project

Comment: Juniper and other woody vegetation throughout the West have been vilified by the ranching industry. Pinyon-Juniper and juniper on many BLM-managed lands have been greatly fragmented by purposeful fire, escaped prescribed fire and wild fire. BLM has not demonstrated that it can fix the cheatgrass mess it has made in juniper habitats, as with prescribed-fire on lands such as Rice Canyon in the Burley District. Until BLM shows it can show restoration of the many already treated arid sites and return them to good or better ecological condition, BLM should not set out on a course of new disturbance.

Response: Adverse effects of the use of fire are described in the Vegetation section of Chapter 4 of the PER under Adverse Effects of Treatments, and effects of fire treatments on pinyon and juniper are described under fire effects for the Temperate Desert Ecoregion of this section. Benefits of treatments using fire are described under Beneficial Effects of Treatments in the Vegetation section of the PER. In the case of wildfire, the BLM authorizes numerous post-wildfire restoration plans on an annual basis. Each restoration project plan that is approved and funded contains a monitoring component to evaluate treatment success and progress towards meeting vegetation or restoration objectives. In the case of prescribed fire, post-treatment monitoring is also a component of the project design. In cases where success in meeting objectives is not demonstrated, the BLM has the flexibility to adjust its vegetation treatment practices to account for the factors influencing project outcomes.

EMC-0584-051
Western Watersheds Project

Comment: A careful scientific evaluation and assessment of past BLM "treatments" must be prepared. How many acres have been burned in prescribed fires? What post-fire management was done by BLM? What were the results? What are their current vegetative communities? What past herbiciding has been done by BLM? Where? How many acres? What were the results? How many acres, and where, was post-fire rehab. done? What is the current condition and vegetation of these lands? Please provide maps that adequately depict the above information.

Response: Through data requests to field offices, the BLM acquired data on treatments and acreages for current and future planned activities projected over the next 10 years, rather than past activities. Detailed results of past treatments, in many cases, cannot be summarized because monitoring data are often lacking. The BLM states, under Monitoring in Chapter 2 of the PER that many sites treated in the past lack monitoring data for a variety of reasons. The assumptions for analysis and cumulative effects discussion in Chapter 4 of the PEIS, together with Chapter 3, Affected Environment, provide the broad scale baseline of vegetative conditions as it relates to current and future vegetation treatments. The Draft PEIS does not summarize all BLM vegetation treatments or their results that have occurred over the last 50 years.

Vegetation Treatment Programs, Policies, and Methods, Planning and Management at the Local Level

EMC-0584-107
Western Watersheds Project

Comment: BLM must assess the status of populations and habitats within the larger landscape area, and determine the likely effect of a fire on special status species and other important biota. BLM must also act to take protective measures – not only on the fire-affected allotments, but also on surrounding lands, and to buffer habitat loss until the habitat that has been lost can be restored.

Response: An assessment of the status of populations and habitats and special status species is typically done by BLM field offices. The effects of fire on special status species are discussed in the PER and Biological Assessment; these documents also include measures to protect special status species from fire. The BLM considers the effects of habitat loss when preparing fire management plans.

Vegetation Treatment Programs, Policies, and Methods, Site Selection and Treatment Priorities

EMC-0584-055
Western Watersheds Project

Comment: All fuels reduction projects must be based on comprehensive restoration assessments before any reduction takes place.

Response: See response to Comment EMC-0584-064 under PER Vegetation Treatment Programs, Policies, and Methods, Site Selection and Treatment Priorities.

EMC-0584-064
Western Watersheds Project

Comment: All fuels reduction projects must be based on comprehensive restoration assessments before any reduction takes place. The DEIS [Draft PEIS]/PER fails to provide any methodology to do so, and completely ignores restoration assessments.

Response: The BLM uses the Fire Regime Condition Class (FRCC) process to complete restoration assessments before planning/prioritizing fuel reduction projects. FRCC serves as an interagency measure of vegetation and fire regime departure from historic conditions. It provides the information needed to develop a fuels reduction program that can establish priorities based on the greatest need for restoration (i.e. greatest departure from the historic condition). Chapter 3 of the PER under Vegetation Condition and Fire Regimes provides a description of this process, which

is an interagency, standardized tool in support of national-level fire planning and risk assessment efforts. More details can be found at www.nifc.gov/fuels. Also, the land use health assessment process referred to in Chapter 1 of the PER under Relationships among Land Use, Land Use Planning, Land Health Standards, Ecosystem Functionality, and Vegetation Treatments is another methodology used to determine the need to restore vegetation to desired conditions.

RMC-0049-016
Wilson, Robert E. (University of Nevada Cooperative Extension)

Comment: Page 4-3 [of the Draft PER] Practices to minimize herbicide treatment This section needs to talk in depth about how the concepts of Integrated Invasive Weed Management can be incorporated into all other aspects of land management – especially the range and fire programs – of the BLM.

Response: See the discussion on integrated vegetation management in Chapter 2 of the Final PEIS and PER. The PER is intended to provide information that can be incorporated into all BLM programs. BLM policy and manuals have integrated the concepts of weed management and other vegetation management into all BLM programs. In integrated pest management programs, herbicides are considered transition tools that enable the manager to manage vegetation and replace them with desirable, competitive vegetation. BLM guidance on herbicide treatments and treatment options are contained in BLM Manual 9011 *Chemical Pest Control*, which recommends selecting the least toxic low-residual herbicide that is effective against the target vegetation and applying it in a judicious manner, and Manual 9015 Integrated Weed Management. Each treatment project is designed and analyzed under NEPA at the site-specific level, taking into account specific ecological conditions.

Vegetation Treatment Programs, Policies, and Methods, Vegetation Treatment Methods

EMC-0111-002
Seraphinoff, Mike

Comment: I have seen considerable success controlling weeds here by our county road crews using alternative methods, and I have my own experience as an organic farmer, that mechanical means, cover cropping etc. can control most weed problems. I am also aware of the work of Dr. Fred Provenza at Utah State, using selective grazing to control some weed problems. The agency needs to make a real commitment to reducing reliance on herbicides.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0121-004
Gladstone, David

Comment: In addition, if it is to use any herbicides, BLM needs to make a specific, measurable commitment to reducing the use of these poisons. It should also contact WSU [Washington State University] and other universities which are researching alternative ways to control invasives.

Response: See response to Comment EMC-0076-002 under PEIS Alternatives, Herbicide Modes of Action and Treatment Methods. The PER discusses non-herbicide treatment methods the BLM would use to treat vegetation; only approximately 16% of BLM-administered lands would be treated using herbicides. The BLM works closely with researchers, and even funds research associated with the different management options available for addressing invasive species on BLM-administered lands at several universities, including the University of California at Davis, Colorado State University, University of Wyoming, Montana State University, University of Idaho, Washington State University, Oregon State University, University of Arizona, New Mexico State University, and Utah State University.

EMC-0159-002
Tepfer, Gary

Comment: There are very good alternatives that the BLM should be getting serious about employing widely. The most effective is hand eradication. This is also good for rural economies where there are few living wage jobs and widespread unemployment among youth. This work is actually healthy for the workers as opposed to potentially dangerous to their health.

Response: The BLM proposes to use a variety of treatment methods in addition to the use of herbicides, as discussed in the response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation. Much of the non-herbicide related work is done by private contractors. In addition, the BLM and other federal, state, and local agencies actively recruit and use schoolchildren and other volunteers to help with vegetation removal. Volunteer opportunities with the BLM can be found at: http://www.blm.gov/volunteer/, while information useful to teachers and students can be found at: http://www.blm.gov/education/LearningLandscapes/explorers/lifetime/invasive.html.

EMC-0161-011
Richards, Vivien

Comment: Non-herbicide vegetation treatment options are available! The proposed actions appear to meet financial needs of chemical companies and other large corporate interests, rather than for support ecological integrity and public interests. I worry about the long-term costs of all these pesticide applications, particularly those to the environment, the natural area, and the people who live near and use BLM public lands and natural areas.

Response: See responses to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation, and Comment EMC-0026-003 under PEIS Environmental Consequences, How the Effects of the Alternatives Were Estimated.

EMC-0162-002
Anderson, Shelly

Comment: There are natural and less invasive and less dangerous methods of controlling noxious weeds. A blow torch will kill vegetation without harmful residue. Goats can be confined to an area until the noxious weeds are killed. Certainly the spread of weeds would be preferable to poisoning our environment even further.

Response: See response to Comment RMC-0003-005 under PER Vegetation Treatment Programs, Policies, and Methods, Revegetation.

EMC-0446-058
The Nature Conservancy

Comment: All of the tools identified for vegetative treatments (fire, mechanical, etc.) may be needed and appropriate in varying degrees. However, the restoration outcomes relative to each tool are poorly defined. This section of the PER should include additional detail on specific objectives for the use of each vegetative treatment type in order for this material to be useful when incorporated by reference at some later date into local project reviews.

Response: Restoration outcomes for any particular vegetation treatment may be met through a variety of treatment methods and tools within an integrated vegetation management framework. Restoration outcomes relative to each tool are established through the site-specific project design at the time the vegetation treatment is proposed, depending on the local circumstances and site-specific goals. The Vegetation Treatment Methods section of Chapter 2 of the PER describe the general range of objectives appropriate for each tool. Chapter 4 of the PER describes the general range of effects on public land resources associated with application of each tool or method.

RMC-0057-015
California Wilderness Coalition

Comment: The Vegetation Treatment Method Selection should include a consideration of an area's proximity to existing communities. Areas that are not immediately adjacent to existing communities should be considered appropriate for fire treatments instead of mechanical treatments.

Response: The text of the PER has been changed in response to this concern. See the Vegetation Treatment Methods section of Chapter 2. The decision to use fire instead of, or in addition to, another treatment method will depend on a variety of factors; the proximity of the treatment area to human lives and property is only one factor that will be considered when making this decision.

RMC-0170-004
Carson Forest Watch

Comment: Backpack, portable propane torches are an effective method successfully used in the Northwest we would urge the BLM to include. They are cost-effective.

Response: The BLM utilizes these tools successfully where they are appropriate. See Vegetation Treatment Methods in Chapter 2 of the PER, which describes the use of backpack sprayers and propane torches.

Vegetation Treatment Programs, Policies, and Methods, Fire Use

EMC-0584-053
Western Watersheds Project

Comment: BLM must provide information on the risks of prescribed fire escape, or raging out of control. This has happened repeatedly on Ely BLM lands, including near Cherry Creek in 2005.

Response: Implementation of prescribed fires does lead to the possibility that there may be some fires that exceed prescription and need to be suppressed. For the BLM, this occurs less than one percent of the time. The BLM does go to great lengths to ensure that fires do not escape, and always has contingency plans in place to suppress the fire if the need arises.

EMC-0641-016
Idaho Conservation League

Comment: We support the careful use of fire to manage noxious weed infestations so long as it is used to reestablish historic fire regimes and it is accompanied by the replanting of native vegetation. Disturbance from fire can serve as a vector for the spread of certain noxious weeds. The use of fire thus also needs to be accompanied by a strict monitoring program designed to ensure the rapid detection and containment of noxious and invasive weed species in order to ensure re-infestation.

Response: Chapter 2 of the PER and PEIS under Prevention and Early Detection of Weeds acknowledges that weeds colonize highly disturbed ground as well as degraded plant communities or even intact communities. It reiterates that the BLM is required to develop a noxious weed risk assessment when an action may introduce or spread noxious weeds, that modification of actions must take place to reduce likelihood of infestations when the risk is determined to be moderate or high and that control measures to be implemented be identified if weeds do infest the site.

The Fire Monitoring and Inventory System (FIREMON), an interagency standardized monitoring tool, is the primary process used post-fire to detect infestations, as well as document fire effects, assess ecosystem damage and benefit, evaluate the success or failure of a burn, and appraise the potential for future treatments. The FIREMON project's primary objective is to establish a standard fire effects monitoring and inventory protocol. More information can be found on FIREMON at www.fire.org.

Vegetation Treatment Programs, Policies, and Methods, Mechanical Treatment

EMC-0115-008
Steele, Mark

Comment: I observed chaining activities, quite by accident, last November, 2004, at Jim Sage Mountain on the Idaho/Utah border while on a late season archery hunt for mule deer. Jim Sage had recent fires on the mountain and the flats. Those areas had massive and total and near total cheatgrass invasions. I left the area as chaining began and voiced concerns from a livestock person's views that the chained areas would become immediately invaded with cheatgrass [downy brome] because of the seedbeds surrounding them. I returned a year later on Dec. 24, 2005 to the same area. I could not get to all of the chained areas because of the road conditions, but every parcel that I could view was covered with cheatgrass as one would have expected. This is the part that makes absolutely no sense to me with my background in grazing, spraying weeds, and establishing CRP [Conservation Reserve Program] ground: Why would the BLM knowingly disturb thousands of more acres of established juniper, native grasses, and sage that are right next to recent fire burns that are choked with cheatgrass? The outcome is that those additional acres will now also have to be treated at some large expense and questionable success in addition to the already burned acres. And even if it is done right and reseeded with native species, it will be a number of years before livestock can again or should be put into such grazing units. That will greatly impact the very users that BLM is trying to help. I urge the BLM to halt any further land disturbances, such as chaining, until we can get a handle on the invaded acres of weeds we already have. If we determine it is in everyone's interest to eliminate 300-year-old junipers, don't do it with a chain, but use a chainsaw. Have the fire crews start thinning them in their down time, not clear cutting them. They were selling for about $5 each in our neighborhood for fence posts and they last forever. Those actions would be a lot more cost effective than helicopter spraying of herbicides and then aerial seeding and fertilizing after tearing the surface up with chaining.

Response: The BLM agrees that surrounding vegetation and presence of existing invasive species, such as downy brome, should be considered when selecting sites and appropriate methods for vegetation management. These are considered primarily at the local level during project level planning, within the direction set in our Resource Management Plans and under the authority and guidelines discussed at the beginning of Chapter 2 of the PER, which outlines the national strategies and reasons for vegetation management on BLM lands. The beginning of Chapter 2 describes the direction used in selecting sites for resource and vegetation management. The general criteria used to select the appropriate treatment methods, discussed in Chapter 2 under Vegetation Treatment Methods, include historic and current site conditions, need for subsequent revegetation, success of past restoration treatments conducted under similar conditions, and cost effectiveness. Chaining is only one of several mechanical treatments available; other types of treatments such as manual or chemical are often also considered when planning projects. Table 2-5 of the PER provides Standard Operating Procedures that can be used to help prevent invasion of unwanted species associated with vegetation management activities, including avoiding the use of chaining in areas where it is not considered appropriate (e.g., areas with less than 6 to 9 inches rainfall and where downy brome is present). However, there is research indicating that chaining can be an effective tool in vegetation management, as discussed under Mechanical Treatment in the Vegetation Treatment Methods section of Chapter 2 of the PER. Project proposals and site-specific mitigation measures can also be designed to minimize the impacts of surface disturbance, such as choosing manual or chemical treatment methods rather than mechanical methods on more sensitive sites. Vegetation management in areas with known infestations of downy

brome can be difficult. Chapter 4 of the PER under Vegetation discusses the potential impacts of mechanical treatments in evergreen woodlands such as pinyon-juniper. The BLM also recognizes that there is a need to learn from past mistakes, and in Chapter 2 under Monitoring discusses monitoring and the need to improve monitoring and record keeping in order to improve restoration efforts, especially in difficult areas like those dominated by cheatgrass.

EMC-0405-009
Hoover, Victoria N.

Comment: Mechanical treatments are a serious problem. While the publicity regarding this document centers mainly on herbicides, the actual proposals in this EIS to use mechanical treatments broadly could cause even much more devastation to natural ecosystems westwide. That so much of the document's discussion concerns chemicals effectively obscures the fact that most of what is planned is chaining, In spite of claims to the contrary, such mechanical treatments are designed to provide one single benefit, namely to cattle grazers, while ruthlessly sacrificing natural, native ecosystems that provide essential benefits to wildlife. These other treatments, mostly chaining, would increase from 500,000 acres to 6 million acres per year on BLM lands under the PER.

Response: During preparation of the PEIS and PER, BLM field offices were asked to provide information on the types of vegetation treatment projects they planned to conduct during the next decade. Field offices provided information on the type of vegetation to be treated, treatment method, number of acres to be treated, location, etc. Based on this information, it was determined that mechanical treatments would occur on about 2.2 million acres annually, and of these chaining would occur on about 130,000 acres annually. Over a third of the mechanical treatments would consist of drill seeding, which would result in minimal disturbance to the soil and would lead to revegetation of the site. Mowing and tilling would each comprise about 10% of mechanical treatments. Treatments that substantially alter the soil, including blading, dozing, and plowing would comprise only about 10% of mechanical treatments.

EMC-0584-061
Western Watersheds Project

Comment: BLM should focus on use of mechanical methods of weed control that have been identified as effective in current scientific literature (mowing, spot fire (flamer), weed eaters, mulching).

Response: The BLM will focus on mechanical and other methods of weed control that have been identified as effective in the current scientific literature, and in the field based on prior treatments by the BLM.

Vegetation Treatment Programs, Policies, and Methods, Biological Control

EMC-0027-007
McNeel, Hank

Comment: Page 2-12, Second Column, Paragraph 3 [Draft PER]. You should also include [the] duration that domestic animals are in an area by closely watching the stage of utilization of both the target and the non-target vegetation present. Also you need to stress the importance of proper management techniques in this program in order for this practice to work correctly. Often times overall management practices need to be altered in order for any vegetation management practice to be successful.

Response: The Final PER discusses the need to observe the utilization of target and non-target species, and to properly manage grazing animals for livestock control to be effective.

EMC-0148-003
Rosenzweig, Marcie A.

Comment: Dr. Hudson Glimp of the University of Nevada, Reno, has presented wonderful programs on the use of grazing animals in the elimination of weed and invasive species and the improvement of habitat for native birds and grazing species. I urge the BLM to contact Dr. Glimp and access his collection of paradigms that work.

Response: As discussed in Chapter 2 of the PER, domestic animals were identified as a biological control method to be used to control weeds and other invasive species.

EMC-0226-001
Ernst, Harley L.

Comment: What Manage Grazing Plan is being used for noxious weeds and grass improvement?

Response: A specific grazing management plan that could be used to control noxious weeds and improve native vegetation in every situation could not be described at this level of analysis. This document acknowledges the potential to use grazing by domestic animals to help accomplish these goals, but the details of such a plan would need to be developed at the site-specific level. The grazing plan would need to consider the targeted plant's sensitivity to grazing at various times during the year, the palatability and/or toxicity of the targeted plant to the species of grazing animal being considered for use, and the potential affects of prescribed grazing on other resources, such as soils, the desired native vegetation, or habitat for threatened or endangered species. The grazing plan would need to specify grazing by a particular species of animal during a specific season of use, and would likely specify the use of fencing, herding, or some other method needed to concentrate the use on the plant species targeted for control.

EMC-0315-008
Arizona Game and Fish Department

Comment: We recommend the BLM use domestic grazing animals as a means of vegetation treatment with caution. While certain grazing systems can and do provide benefit to certain plant communities, our experience in arid ecosystems is less than satisfactory. Additionally, due to disease concerns, use of domestic sheep and/or goats is not acceptable in areas inhabited by bighorn sheep, or in any adjacent area where the potential for any contact with bighorn sheep could occur.

Response: The use of domestic grazing animals as a means of vegetation treatment references using "prescribed grazing" designed to address specific vegetation management needs. While we recognize the potential for the impacts identified in this comment, as well as additional impacts, in many situations "prescribed grazing" could be used to address vegetation management needs. This programmatic analysis allows for the use of domestic animals to control undesirable vegetation, but the site-specific analysis must address the potential adverse impacts, document the potential for success using this treatment, and compare the treatment with other options available.

EMC-0446-060
The Nature Conservancy

Comment: Livestock grazing: Biological control as described in the PER includes the use of livestock for the control of unwanted vegetation. We do not believe that it is appropriate to categorize livestock grazing as a "biocontrol" option ([Draft] PER [page] 2-12), although it may be appropriate to discuss it as a possible "cultural control" technique. "Classical" biocontrol targets a non-native pest species with one or more (non-native) species of host-specific biocontrol agents from the pest species native range. Livestock grazing does not fit this definition, since these vertebrate grazers are not host-specific, feeding instead on many species, rather than just one or a few. Livestock species are not native to the same regions as many of the weed and invasive plant species they might be used to control. While goats have been used

successfully in some parts of Colorado to control weeds, the areas treated had extremely high levels of weed infestation and the goats were controlled by a herder who ensured that they grazed only in designated local areas, for relatively short periods and at high grazing intensities. As the PER points out, without proper management controls and significant herding effort, livestock grazing can result in the increase of unpalatable, non-native species at the expense of native species or other desirable forage species.

Response: The use of livestock as a tool for specific vegetation control should not be confused with classical biological control. The biological control of weeds is broadly defined as the use of an agent, a complex of agents, or biological processes to bring about weed suppression. All forms of microbial and microbial organisms are considered as biological control agents. Examples of biological control agents include, but are not limited to arthropods (insects and mites), plant pathogens (fungi, bacteria, viruses, and nematodes), fish, birds, and other animals. "Biologically-based weed management is a much broader category of approaches that may include gene modification, genetic processes, and gene products. Human activities intended to remove weeds directly or indirectly, such as hand-weeding and burning, deliberate uses of plant competition, allelopathy, and cultural and soil management practices that alter the biotic balance of soil are considered important adjuncts to biological control in integrated weed management systems." We agree that grazing animals would have to be closely controlled to make sure that the targeted vegetation would be harmed while the potential for adverse impacts to more desirable vegetation or other resources is minimized. Also see response to Comment EMC-0446-061 under PER Vegetation Treatment Programs, Policies, and Methods, Treatment-specific Standard Operating Procedures and Guidelines.

EMC-0446-062
The Nature Conservancy

Comment: Biological control agents: The only requirement in the Draft PER for the use of biocontrol agents (insects, mites, pathogens) is that the agents be approved by USDA-APHIS [Animal and Plant Health Inspection Service]. We recommend that the BLM utilize a more rigorous approval process with stronger guidelines for release of biocontrol agents on public land. Before releasing a biocontrol agent, the BLM should be able to demonstrate that the proposed agent is effective on the target weeds, that the agent is documented to have limited impact on off-target species, and that there exists a plan for long-term monitoring of impacts on the targeted weed(s) and on desirable species. There are dozens of biocontrol agents available for release for the control of certain knapweeds and Canada thistle, for example, but none that have been documented to actually contain or reduce populations of these weeds. Post-release monitoring of biocontrol should not only measure the survival of biocontrol agents, but also their effectiveness on target weeds and off-target impacts.

Response: The permitting for importing and releasing biological control agents to control weeds in the United States is the responsibility of the USDA-APHIS, and triggers compliance with the NEPA and the Endangered Species Act. The BLM accepts that the process utilized by APHIS provides sufficient guidelines to address the commentor's questions about efficacy and specificity. The process used by APHIS to test and approve biological control organisms is rigorous and designed to address the commentor's concerns, as discussed in Chapter 2 of the PER under Biological Control in the Vegetation Treatment Methods section.

EMC-0446-064
The Nature Conservancy

Comment: The use of livestock as a "cultural" practice should be evaluated separately and comprehensively from other targeted biocontrol agents. As described the use of livestock grazing does not appear to be targeted or controlled through

herding and could likely result in overgrazing of native species ([Draft] PER [page] 2-21). Additional SOPs [Standard Operating Procedures] are needed to provide guidelines on where livestock grazing in specific plant communities (e.g. sagebrush) would adversely affect wildlife species (e.g. sage-grouse). True biocontrols should have additional SOP's to protect closely related native vegetation, non-native plant communities utilized by Special Status animal species, etc.

Response: The BLM agrees that using livestock to contain or control undesirable vegetation requires careful planning and execution to be successful. The Draft PER, under Biological Control in the section on Vegetation Treatment Methods, specifically identifies the need to consider other multiple use objectives, and identifies use of herders, fencing, and placement of mineral blocks as potential methods to restrict grazing to the targeted vegetation. For most resources addressed in Chapter 4 of the PER, livestock treatments are discussed separately from other biological organisms, because there are different effects associated with the two types of treatments. However, cultural controls typically include preventive measures, rather than use of livestock. The PER only identifies the potential to use livestock to control undesirable vegetation, with general SOPs applying to all projects that could occur in all plant communities. At this level of analysis, it is not feasible to anticipate every potential situation and identify necessary mitigation. The specific practices needed to successfully use this livestock grazing as a treatment method would be identified in the site-specific analysis developed for a specific vegetation control project.

EMC-0512-006
Hells Canyon Preservation Council

Comment: Bio-controls should not be released in the wild without stringent testing to ensure no damage to native plants will occur.

Response: See response to Comment EMC-0446-062 under PER Vegetation Treatment Programs, Policies, and Methods, Biological Control.

EMC-0548-033
Utah Farm Bureau Federation

Comment: BLM might consider changing the tradition grazing patterns in areas dominated by cheat grass [downy brome]. Allowing permittees to graze earlier those pastures dominated by cheat grass would allow better utilization by livestock while pro-actively addressing unwanted wildfires.

Response: The BLM has authorized this kind of change to address specific situations. Making these kinds of changes in the season requires careful planning to address potential impacts to the remaining perennial vegetation, as well as other resources. To be successful, grazing these areas earlier usually requires the animals to be removed early enough to reduce the impacts on perennial vegetation that generally initiates growth later than the downy brome. Although this technique cannot be applied in every situation, changes in the season of use to address downy brome invasion is an option that has and can be considered, but potential benefits must be weighed against the potential for creating additional impacts to other resources.

EMC-0553-007
Callihan, Robert H.

Comment: Use of biological controls, including grazing animals (p. [page] 2-12-13 [of the Draft PER]), is well summarized, but omits a significant point. The draft fails to acknowledge that, even though the weeds may be significantly suppressed, biological controls do not prevent seed dispersal and expansion of infestations, and their use therefore does not protect adjacent areas against invasion, and does not constitute compliance with the noxious weed laws of most states. This omission should be corrected.

Response: Depending on the targeted species and the biological control agent, suppression or stressing as presented in Chapter 2 of the Programmatic Environmental Report can be the result of a reduction in seed produced. Reduced seed production corresponds to reduced seed dispersal, which results in a reduction in expansion.

EMC-0559-007
Daniel, Bill

Comment: Biocontrols are exotic organisms that should not be released in the wild without stringent testing to ensure they will not decimate native plants.

Response: Biological control agents currently used by the BLM have been tested by the USDA Agricultural Research Service to ensure that they are host specific and will feed only on the target plant and not on crops, native flora, or endangered or threatened plant species. A discussion of the process required to use biocontrol agents in the U.S. is discussed in Chapter 2 of the PER under Biological Control.

EMC-0584-056
Western Watersheds Project

Comment: Livestock (cattle and sheep) should not be used as a "tool" or termed a "biological control". They are only a temporary, stop-gap measure and simply mowing weeds to ground level does not address the fundamental problem of eliminating weeds, and getting native species to grow. Native species will not recover if sites are grazed by livestock. In fact, the extreme disturbance caused by livestock will make sites more fire prone, harm remaining native species, increase likelihood of new or accelerated weed invasions, and increase disturbance to, or competition with, native wildlife. In most instances, it would be just as effective to mow weeds as to use livestock, and would have far less impacts to soils. Plus, the possibility of introduction of new weedy species as a result of livestock disturbance would be minimized. BLM should examine the appalling fire history of the Jarbidge Field Office and assess how seeding of crested wheatgrass, harmful levels of livestock use, high stocking rates, etc. – have resulted in extensive and large acreage fires.

Response: Livestock grazing and other biological controls generally do not eliminate undesirable vegetation by themselves, but can be effectively used to control reproduction, and when used in conjunction with other control methods can help to eliminate the targeted vegetation. Grazing must be carefully planned to avoid impacts to other resources, but if carefully timed may be used to impact undesirable vegetation while minimizing the effects on native species or other resources. Grazing is less labor intensive and in many cases is less expensive than mowing or manually removing the targeted vegetation. Seeding of crested wheatgrass can have impacts to native plant communities. In many cases these seedings have resisted reestablishment of sagebrush or other shrub species, but crested wheatgrass has not often been associated with increased frequency or intensity of wildfires. In most situations, crested wheatgrass seedings are more likely to reduce the frequency and intensity of fires rather than increase them as stated in this comment. In some situations improper grazing can promote changes in a the plant community, such as increases in downy brome that can lead to more frequent wildfires. In general, however, grazing removes grass and other vegetation (fine fuels) and therefore is more often associated with reducing rather than increasing fire intensity and frequency.

EMC-0585-048
Western Watersheds Project

Comment: At the same time that BLM described grazing as a biological treatment, it refuses to deal with changes in grazing regimes as treatments that reduce causal factors of weed, hazardous fuels, or other ecological problems.

Response: Grazing animals (including, but not limited to goats, sheep, livestock, llamas, and alpacas) can be used effectively as biological control agents in vegetation

treatment projects. Changes in grazing practices for permitted livestock grazing activities are addressed through the livestock grazing regulations at 43 CFR [Code of Federal Regulations] 4100.

EMC-0592-001
Peacock, Delores (Dog Valley Ranch)

Comment: Why not use Goats to control the weed and weed problem? I have goats and have found they really like weed over grass. They also can be used as a means to build fire brakes and such.

Response: See response to Comment EMC-0148-003 under PER Vegetation Treatment Programs, Policies, and Methods, Biological Control.

EMC-0641-014
Idaho Conservation League

Comment: Though we support the use of grazing as a biological control under certain conditions, the BLM should utilize this type of treatment very cautiously as grazing activities can contribute to the spread of noxious weeds and can be incredibly detrimental to ecosystem health. The PEIS needs to consider the cumulative impacts of grazing and associated management activities on native vegetation, water quality, soil conservation, and ecosystem integrity. Grazing on wetlands and in riparian areas should be minimal, and the BLM needs to establish appropriate buffer zones to protect streams from sedimentation and to maintain riparian ecosystem integrity. In addition, we feel that the proposed use of livestock for 60% of biological treatments is excessive. The BLM should consider alternatives that rely less on livestock and more on other biological controls in combination with other types of treatment and prevention techniques.

Response: The BLM agrees that using livestock to contain or control undesirable vegetation requires careful planning and execution to be successful. The PER under Biological Control in the Vegetation Treatment Methods section specifically identifies the need to consider other multiple use objectives, and identifies the use of herders, fencing and placement of mineral blocks as potential methods to restrict grazing to the targeted vegetation. Table 2-5 (Vegetation Treatment Methods Standard Operating Procedures and Guidelines) identifies the need to minimize the use of grazing within riparian and wetland areas due to the potential to cause unintended impacts in those sensitive areas. Cumulative impacts are analyzed in the Cumulative Effects section of Chapter 4 of the PEIS, and impacts of grazing are discussed in relation to the identified resources in that section. The 60% figure is only an estimate. Although the use of livestock for 60% of the acres treated with biological control may sound excessive, in reality it may not be. In some situations livestock may be used in a very targeted "prescribed grazing" management plan where grazing for a very specific time period is used to help control undesirable vegetation on a relatively small site. There may be other more frequent situations where existing grazing permits are adjusted to help manage vegetation over an entire pasture or allotment. Situations where the season of use is modified to allow grazing earlier when downy brome might be more vulnerable to grazing, and then removing the livestock later in the spring when perennial grasses initiate their growth and they would be more sensitive to grazing impacts would be an example of this more frequent situation. Because these situations (where adjustment in a grazing permit is used to help influence the plant community) affect an entire allotment or pasture, the acreage affected is far greater than that under most biological treatments. If these situations are considered as biological control, then the 60% figure may actually be low.

EMC-0641-015
Idaho Conservation League

Comment: The BLM must carefully consider a variety of factors when deciding how, where, and when to utilize grazing as a biological control including the species of livestock to be used, season, and intensity and duration of grazing, all of which significantly impact the effectiveness of livestock grazing at controlling noxious weed infestations. Additionally, steps must be taken to ensure that livestock do not unintentionally spread weed seeds. One method of minimizing such spread is to avoid grazing during flowering and seeding stages. Livestock should also be allowed ample time to pass all seeds through their digestive systems before being released into uninfested areas.

Response: The BLM agrees with this comment, and the PER identifies many of these same factors under the Biological Control in the section on Vegetation Treatment Methods and in Table 2-5 (Vegetation Treatment Methods Standard Operating Procedures and Guidelines).

RMC-0050-002
Sierra Club Rocky Mountain Chapter

Comment: As far as we can tell from perusing the document, there is no mention of, or plan for the use of, insect predators to control the exotics that can be controlled by them.

Response: Use of insect predators to control exotics is a form of biological control. Biological control is one of the treatment methods used by the BLM to manage vegetation. Use of biological control and its potential effects on resources is discussed throughout the Final PER.

RMC-0217-023
Sierra Club Utah Chapter

Comment: In the PER the BLM is also confused about some problems related to invasive species and plant community composition and the relationship to wildlife habitat. A successful treatment program can enhance habitat for wildlife. For example, cattle and sheep feeding in the spring and early summer can thin understory forbs and grasses, reducing competition for light, nutrients, and water for desirable shrub species. The shrub species will increase their vegetative output for winter browsing by deer and other wildlife (USDI BLM 1991a) [[Draft] PER [page] 2-12]. Yet this describes the precise problem for many kinds of wildlife – the loss of adequate understory vegetation. This is the problem with degraded sage grouse habitat. This is also part of the reason fire no longer functions properly in the landscape. The proper mix of fuels is no longer available to sustain low intensity-low severity fires because of commercial livestock grazing. The BLM fails to not properly the effect of grazing on wildlife habitat and fails to note one of the causes (and thus the origin for the need to "treat") of fire suppression.

Response: The ability of the land to sustain low intensity and low severity fires is primarily the result of fire exclusion policies over the last 100 years allowing build-up of hazardous fuels, not commercial livestock grazing. Commercial livestock grazing occurs primarily in rangeland situations of the Interior West and Southwest. Many of the ecoregions addressed in this PEIS are comprised of vegetation communities that are not regularly grazed by livestock and have not had significant livestock grazing in the past (timber, tundra, boreal forest, evergreen deciduous, etc.). Thus, fire behavior cannot be generally attributed to this one activity as a cause of catastrophic fire. See Scope of Analysis in Chapter 1 of the PEIS. The effects of livestock grazing on wildlife habitat are beyond the scope of analysis of this PEIS.

RMC-0218-003
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: Non-chemical manipulation includes the release of exotic biocontrol insects that have generally not been tested for their appetite for native plants.

Response: See response to Comment EMC-0446-062 under PER Vegetation Treatment Programs, Policies, and Methods, Biological Control.

RMC-0218-018
Blue Mountains Biodiversity Project, League of Wilderness Defenders

Comment: Biocontrols are exotic organisms that should not be released in the wild without stringent testing to ensure they will not decimate native plants.

Response: See response to Comment EMC-0446-062 under PER Vegetation Treatment Programs, Policies, and Methods, Biological Control.

Vegetation Treatment Programs, Policies, and Methods, Vegetation Treatment Standard Operating Procedures and Guidelines

RMC-0217-028
Sierra Club Utah Chapter

Comment: Another example of a failure of the BLM to identify the impacts of various treatments can be found in Table 2-4 [in Chapter 2 of the Draft PER], Vegetation Treatment Methods Standard Operating Procedures and Guidelines. The contents of the columns for Biological Treatments, Mechanical Treatments, and Manual Treatments should have many more common entries. This is especially true for impacts to soil resources. For instance all three treatments should contain concerns about soil disturbances, soil compaction, and leaving plant debris behind for mulch. This also points to the absurdity of using livestock for treatment since this technique would not leave plant debris behind. Why would it be desirable to leave plant debris behind for some treatment techniques and not with others. The PER or PEIS should explain this in full.

Response: Table 2-5 of the Final PER identifies common Standard Operating Procedures (SOPs) used by the BLM; however, the list is not all-inclusive. Additional SOPs would be identified at the local level. Leaving plant debris was identified as an important SOP for several treatment methods, but not biological control. The commentor is correct in that use of livestock might not result in much plant debris being left behind. Thus, using livestock to create mulch was not identified as an SOP in Table 2-5 of the Final PER.

Vegetation Treatment Programs, Policies, and Methods, Revegetation

EMC-0584-094
Western Watersheds Project

Comment: Sagebrush and other appropriate native shrubs (winterfat, shadscale, rabbitbrush) must be included in all post-treatment seedings, and repeated efforts must be made to establish native shrub cover, due to its importance to many native wildlife species.

Response: See responses to Comment EMC-0584-077 under PEIS Alternatives, Herbicide Treatment Planning, and Comment EMC-0584-092 under PEIS Alternatives, Herbicide Treatment Planning. The Native Plant Materials Development program includes sagebrush and native shrubs.

RMC-0003-005
West, Robin

Comment: These safe weed-removal practices include, but are not limited to fire, manual, cultural, and biological control methods. Instead of wasting taxpayer money on toxic chemicals that themselves destroy ecosystems, and instead of wasting taxpayer dollars on the ever increasing cost of fossil-fuel powered methods of reduction, please consider sane, healthy and life-enhancing non-depleting methods of doing your job.

Response: As discussed in the PEIS and PER, the BLM would use prescribed fire and mechanical, manual, and biological control methods, in addition to the use of herbicides. Only about 16% of acres would be treated using herbicides, and these treatments would often occur where the use of herbicides is more cost-effective than other methods and has minimal environmental risk.

Vegetation Treatment Programs, Policies, and Methods, Treatment-specific Standard Operating Procedures and Guidelines

EMC-0139-011
Troutman, Doug

Comment: Keeping livestock off burned areas for a minimum of five years, not two growing seasons, will do more than coming in with chemicals to irradicate weeds livestock bring into the burn area. When the Cook Well area burned here a number of years ago, upwind were native seed sources, and cheatgrass/pepperweed. Post fire, the regrowth was almost totally favored native bunchgrasses, no weeds! Cattle were brought in after the "second growing season", and left to nuke the area. The site was then left with nothing but cheat, pepperweed, and other noxious species. Fire didn't damage the area, cows did.

Response: Post-fire management of grazing can significantly affect the resulting plant community. Although the PEIS team cannot address the specific example described in this comment, some invasive species including species we consider to be weeds, are usually present at least temporarily following a disturbance such as fire, with or without the presence of livestock grazing. Poor livestock management could exacerbate weed problems; however, removal of livestock for 5 years would not be necessary in all cases. The BLM has used two growing seasons of rest as the basic standard, and in many cases that amount of rest following the burn has been adequate. However, depending on the specific situation (plant community present before the burn, precipitation available following the burn etc.), more or less than two growing seasons may be appropriate. If grazing following the rest period is excessive, the resulting plant community is likely to be inferior to the site's potential, regardless of how long of a rest follows the burn.

EMC-0315-005
Arizona Game and Fish Department

Comment: The use of prescribed fire is the [Arizona Game and Fish] Department's preferred alternative for vegetation treatments outside of the Sonoran and Mojave Desert ecozones. Fires timed to provide low-intensity, mosaic burns are preferred. We recognize fire may be ineffective in achieving management goals for areas dominated by cheatgrass and other invasive species, and that alternatives need to be explored. We strongly recommend that post-fire management include an appropriate level of grazing deferment, preferably at least two growing seasons.

Response: These comments are in agreement with current BLM policy. The need to restrict livestock grazing is identified in Table 2-5 (Vegetation Treatment Methods Standard Operating Procedures and Guidelines in the Final PER). Current BLM policy recommends that prescribed burns be rested for two growing seasons following treatment; however, the period of rest can be shorter or longer if there are valid reasons for prescribing a different rest period.

EMC-0446-055
The Nature Conservancy

Comment: Restoration of fire-adapted ecosystems on public land should also be a primary objective of any proposed increase in the use of prescribed fire. More clearly articulating this goal in the PER will assist local field offices in designing appropriate projects. Maintenance of landscapes in Fire Regime Condition Class [FRCC] 1 should also be identified as a high priority in the fire use section. It is not currently identified as an objective. In addition, there is a specific need for both pre- and post-

fire monitoring of invasive species to determine the need for herbicide use or other control methods in both burned area rehabilitation projects and prescribed fire treatment areas.

Response: The objective of restoration of fire-adapted ecosystems is articulated in the policy guidance identified in the Program Objectives and Goals section of Chapter 1 of the PER. Maintenance of favorable vegetative conditions is also described on in Chapter 2 of the PER under Site Selection and Treatment Priorities. The BLM agrees that maintenance of landscapes within FRCC 1 is an important objective relative to fire use. Additional text has been added to both the Treatment Priorities and Fire Use sections to clarify this important objective.

EMC-0446-061
The Nature Conservancy

Comment: The PER provides only general discussion of what management controls are needed to ensure positive benefits from livestock grazing used to control weeds. The discussion of the benefits of livestock grazing to wildlife habitat is too brief and simplistic to be either useful or accurate. While livestock grazing, in some situations, may benefit certain, shrub-browsing species (e.g. deer), it can have an equal negative benefit on species needing forbs and grasses under those shrubs for food and shelter (e.g. sage grouse). There are no standard operating procedures or guidelines offered to protect wildlife species or habitats from excessive livestock use ([Draft] PER [page] 2-26). While we recognize that livestock grazing can be used as a tool for weed control in some specific, controlled situations, it is misleading to include it as part of the general biocontrol discussion. We recommend that livestock grazing be discussed in its own management section for cultural practices with a careful discussion of appropriate situations for its use as a weed control measure, and specific parameters and guidelines for its control in weed management practice. Included should be a discussion of the potential negative impacts to native plant species and wildlife and fish habitat from excessive or improper livestock grazing use.

Response: The PEIS team agrees that the discussion of the use of livestock grazing was too brief and we have modified the discussion under Biological Control in the section on Vegetation Treatment Methods and in Table 2-5 (Vegetation Treatment Methods Standard Operating Procedures and Guidelines) of the Final PER. There is potential for using specifically planned "prescribed livestock grazing" to help control undesirable vegetation, and current research may lead to more opportunities to use this practice in the future. This analysis is not intended to support a decision to use a specific method of treatment; it only documents the possibility of using livestock grazing as well as other various treatments alternatives. Therefore, considering livestock grazing with the other biological controls should be acceptable. Prior to project approval, additional site-specific analysis would be accomplished to compare the site-specific impacts of various alternatives, and develop any needed mitigation measures. In the site-specific analysis it may be necessary to analyze livestock grazing separate from other biological control alternatives to help compare and contrast those alternatives.

EMC-0446-065
The Nature Conservancy

Comment: SOPs [Standard Operating Procedures] and Guidelines for vegetation should be presented by plant community and ecoregion specific for each treatment type and should follow guidelines developed through other BLM strategies, including conservation and recovery plans, such as the BLM's National Sage-Grouse Strategy. For example no additional fire should be allowed in sagebrush communities invaded by or likely to be invaded by downy brome, however, higher intensity fire may be appropriate for other plant communities where low frequency/high intensity fire was the historic pattern.

Response: Many of the SOPs and guidelines are general practices that apply to multiple plant communities and ecoregions and are therefore, presented together. Specific SOPs and guidelines for vegetation management have also been developed as part of BLM policies and directives. Land use planning and the fire management planning process are used to determine where use of fire is appropriate or inappropriate. See Scope of Analysis in Chapter 1 of the PEIS. Determining land use allocations are outside the scope of this PEIS. The information presented in this PEIS and PER will be available to field offices for incorporation into their local planning, and for determination of which SOPs and guidelines are appropriate for their particular plant communities and ecoregion.

EMC-0446-066
The Nature Conservancy

Comment: Additional SOPs [Standard Operating Procedures] and Guidelines should be provided for all treatment methods based upon BLM guidance for sagebrush and other shrub and grass habitats, including: 1) Guidance for the Management of Sagebrush Plant Communities for Sage-grouse Conservation (BLM November 2004) mandatory guideline (1.4.1) from National Sage-grouse Strategy (BLM IM 2005-024); 2) Management Guidelines for Sagebrush (Artemesia) in Western United States (BLM 2002); and 3) Guidance for Addressing Sagebrush Habitat Conservation in BLM Land Use Plans.

Response: These documents were reviewed during preparation of the PEIS and PER. We have included additional Standard Operating Procedures and guidelines from these documents in the Final PEIS and PER.

EMC-0584-063
Western Watersheds Project

Comment: All off-road travel should be minimized during any mechanical treatment. The Draft PEIS/PER fails to take necessary measures to do this.

Response: As discussed in Table 2-5 of the Final PER, several Standard Operating Procedures have been identified to minimize the effects of mechanical treatments to soil, vegetation, and other resources. The BLM minimizes off-road travel associated with all treatments where feasible, but given that many mechanical treatments occur in areas that are off-road, some disturbance to off-road areas is likely during mechanical treatments.

EMC-0584-067
Western Watersheds Project

Comment: Nowhere does the [P]EIS/PER address the acreage, location or expected impacts of biomass under the proposed actions.

Response: See response to Comment EMC-0585-051 under PEIS Alternatives, Determination of Treatment Acreages. Without knowledge of the exact location of treatment, time of year, and biomass that would exist at the time of treatment, it would be difficult to estimate impacts to biomass under the proposed treatment program.

EMC-0584-099
Western Watersheds Project

Comment: Livestock Facilities: Post-treatment actions/EFR [Emergency Fire Rehabilitation] must sharply limit the use of federal fire funds in construction of post-fire livestock facilities. BLM's typical response to fire/treatment is to place a fence, often permanent, around the perimeter of the disturbed area, and often to develop additional water facilities outside the fenced/treated/burned area. These actions (fences that often become permanent, new water facilities) are not part of post-fire/post-treatment rehab, they are part of livestock management on surrounding lands. Such projects inflict, in an unplanned and unnecessary manner, a new array of disturbances to wildlife habitats already impacted by fire disturbance. Existing pasture fences should be used, and new fences should not be built.

Response: The use of Emergency Fire Rehabilitation funding to construct water developments outside of the burned area is not a typical response by the BLM. However, if the fire damaged a water source or an existing fence, reconstruction of those facilities may be accomplished as part of the fire rehabilitation effort. When considering new facilities to control grazing following a burn, the BLM does try to use existing fencing when possible, but depending on the size and location of the fire, the existing fencing is not always a useful and/or reasonable alternative for controlling grazing. In many cases, temporary electric fencing is used to restrict grazing following a fire, although temporary electric fencing can be less effective in some situations and does not provide adequate protection for the site. Additionally, the BLM believes that in some situations the fence used to protect the burned area would also be useful for improving livestock management and distribution even after the burned area has initially recovered following the fire. Improvements in the plant community that can be sustained over longer periods may indicate that the more permanent fence has a better benefit/cost ratio when considered over the longer term. In these situations, a permanent fence may be constructed, after considering potential impacts to other resources, and after considering the use of existing fences and/or more temporary and less costly fencing alternatives.

EMC-0584-104
Western Watersheds Project

Comment: AUMs [Animal Unit Months] Should Not Be Shifted Elsewhere: BLM should not shift AUMs from treated lands to other areas. All AUMs from burned lands should be placed in temporary suspension until rehab, or restoration, success occurs.

Response: If there are other public lands where additional grazing use is available within existing grazing permits or leases, livestock grazing could be shifted to those areas without creating any new or unnecessary impacts. However, this use must not occur on areas where livestock grazing has not been authorized, or be inconsistent with the current permitted use, without further analysis to identify the potential impacts of this additional grazing use. In these alternate areas, the potential impacts of grazing would have been analyzed and assessed previously, so additional analysis for authorization would not be necessary. Decisions about whether other public lands could accommodate the grazing use displaced from the treatment or burned area would be made by the local manager, based on site-specific conditions and issues.

EMC-0584-105
Western Watersheds Project

Comment: Regrettably, in some recent post-fire documents, BLM has merely been shifting livestock use elsewhere, and thus impacts of livestock on watersheds, wildlife, habitat, etc. are magnified and amplified to the detriment of native species and the ecosystems upon which they depend. BLM has never assessed the impacts of these shifted AUMs [Animal Unit Months].

Response: See response to Comment EMC-0584-104 under PER Vegetation Treatment Programs, Policies, and Methods, Treatment-specific Standard Operating Procedures and Guidelines.

RMC-0040(1)-004
Resource Concepts, Inc.

Comment: Pg. [Page] 2-23, in Table 2-4 [of the Draft PER] Vegetation Treatment Methods Standard Operating Procedures and Guidelines, soil resources section, one of the Mechanical and Manual SOPs [Standard Operating Procedures] is to leave plant debris on site to serve as mulch. This SOP is not always appropriate, especially when treatments are occurring for fuels management purposes. By leaving plant debris on site, treatments could actually increase the fuel hazard. This SOP should rarely if ever be used within Wildland-Urban Interface (WUI) areas. Secondly, this SOP does not allow for successful programs such as Fuels for Schools and other rural

economic development or stewardship contracting activities to occur. Some plant materials (biomass) could be utilized as a valuable renewable energy source. Additionally, leaving mulch materials on-site could change species composition to favor grasses and shrubs, while reducing occurrence of both annual and perennial forbs (Resource Concepts, Inc. 2004; Benson Glimp, and Perryman, 2005). Both annual and perennial forbs are important forage for sage grouse. Also, leaving downed or even chipped pinyon material could attract pinyon ips beetles if chipped between April and October (Bureau of Land Management 2004).

Response: The Standard Operating Procedures and Guidelines found in Table 2-5 of the Final PER and discussed under Treatment-specific Standard Operating Procedures and Guidelines of the PER are designed to give an overview of practices that should be considered [underline added for emphasis] when designing and implementing a vegetation treatment project on public lands managed by the BLM. Not every procedure or guideline would be appropriate for all projects at all times, but all should at least be considered and evaluated against all the others when designing projects.

Leaving some material behind to act as mulch in a WUI fuels reduction project is likely appropriate, depending on the type of material, how much is left, and where it is left. Reducing the amount of burnable material to an acceptable level would be the goal of such a project. Removing all material and leaving soils bare and prone to erosion would probably not be an acceptable consequence of such a project.

This SOP is not in conflict with programs such as Fuels for Schools, as it is not desirable to remove all biomass from an area to provide it for schools at the expense of all other resources. Only that amount of material deemed to be excess would be removed. Some could be left behind to help provide soil stability. The amount of biomass left behind and its composition would have to be evaluated for its effect on other resources, such as sage-grouse habitat and other wildlife habitat.

RMC-0040(1)-005
Resource Concepts, Inc.

Comment: Pg. [Page] 2-23, in Table 2-4 Vegetation Treatment Methods Standard Operating Procedures and Guidelines [in the Draft PER], water resources section, one of the Mechanical SOPs [Standard Operating Procedures] is to maintain a minimum 25 foot buffer near streams and wetlands. There may be many cases when leaving a 25-foot buffer does not meet the objectives of fuel reduction projects, for example in instances where a community evacuation route is also adjacent to a stream. A qualified specialist should determine an appropriate buffer width based upon site-specific conditions, instead of making 25 feet the standard width for an SOP.

Response: Table 2-5 of the Final PER provides SOPs and guidelines that are appropriate for the associated method for most BLM projects. Local field offices would have the opportunity to develop different buffer widths during development of local projects, and their recommendations would be subject to public review before implementation.

RMC-0040(1)-006
Resource Concepts, Inc.

Comment: In the Fire Use SOPs [Standard Operating Procedures] in the same section [Table 2-4 of the Draft PER], light application of fire in riparian areas is not always possible if a buffer must be maintained between treated areas and streams and wetlands, especially since many riparian areas in the West are less than 25 feet in width.

Response: Buffers along riparian areas typically refer to the removal of large trees, not the realm of all possible management activities. Prescribed burns, one form of

treatment, are often undertaken in riparian areas to reduce concentrations of fuels, and to stimulate beneficial riparian vegetation, which can protect and enhance the health of a particular riparian area. As the commentor suggests, a light application of fire is not always possible or desirable in all riparian areas, but it is not necessarily precluded and it should be considered along with all the other SOPs, and evaluated for applicability depending on the project-specific circumstances.

RMC-0040(1)-010
Resource Concepts, Inc.

Comment: Pg [Page] 2-28 [of the Draft PER], typos in Table 2-4, cultural resources, in the SOP [Standard Operating Procedure] on consulting with tribes for the mechanical and manual treatments.

Response: These errors have been corrected in the Final PER.

RMC-0222-140
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: In addition to myriad nonnative species that have spread across public lands, the BLM is also rightly concerned about the spread of native pinyon pine and juniper trees into sagebrush habitats. Fire is identified as a tool to control encroaching pinyon-juniper ([Draft] PER: [page] 4-75). However, the BLM does not direct that areas be rested from livestock grazing following a burn to allow for proper recovery. Miller et al. (2005) (another reference missing from the DEIS [Draft PEIS]/PER) notes that (1) livestock grazing is primarily to blame for pinyon-juniper encroachment onto western landscapes and (2) livestock should be (at least temporarily) excluded from areas where juniper has been burned to allow grasses, forbs and sagebrush to recover following a prescribed burn. If livestock are not excluded from burned areas, then they will continue to remove emerging grasses and forbs, damage sagebrush and disturb the soil, creating conditions that encouraged pinyon-juniper encroachment in the first place.

Response: Domestic livestock can enhance conditions that would encourage the introduction or spread of pinyon pine and juniper, but there are also numerous situations where these species have increased and expanded their range even though livestock are not a contributing factor. Livestock grazing is usually temporarily removed following a prescribed burn to allow recovery and establishment of desirable grass species and other native vegetation. Current Bureau policy recommends that prescribed burns be rested for two growing seasons following treatment, however the period of rest can be shorter or longer if there are valid reasons for prescribing a different rest period. The Final PER identifies the possibility of livestock restrictions in areas treated with fire in Table 2-5 (Vegetation Treatment Methods Standard Operating Procedures and Guidelines). However, we have added discussions of post-treatment livestock grazing management to better identify these actions within the documents.

Vegetation Treatment Programs, Policies, and Methods, Monitoring

EMC-0446-071
The Nature Conservancy

Comment: Mitigation/Monitoring: This PER will be incorporated by reference into local fuels treatment projects. Given the recent emphasis on multiple agency treatments and monitoring protocols, it would be appropriate to detail a common fuels treatment monitoring program that will apply at the landscape scale and include actions by multiple agencies and multiple treatment methods. The information contained on p. 2-32 of the [Draft] PER briefly describes current monitoring practices but provides no guidelines to field offices in developing additional monitoring strategies need for the proposed increased scale of vegetation treatment practices. We believe that an adequate monitoring strategy would include a discussion of regional and plant community goals by ecoregion and a discussion of how to integrate

monitoring at a landscape scale to include multiple types of vegetation management treatments conducted by multiple agencies.

Response: The Fire Monitoring and Inventory System (FIREMON), an interagency standardized monitoring tool, is the primary process used post-fire to detect infestations as well as document fire effects; assess ecosystem damage and benefit; evaluate the success or failure of a burn; and appraise the potential for future treatments. The FIREMON project's primary objective is to establish a standard fire effects monitoring and inventory protocol. More information can be found on FIREMON at www.fire.org. FIREMON, together with the Fire Regime Condition Class (FRCC) process and LANDFIRE, provides a means of assessing and monitoring at the landscape scale. Also see response to Comment EMC-0446-050 under PEIS Alternatives, Site Selection Methods for a discussion of ecologically-based goals for restoration.

EMC-0446-072
The Nature Conservancy

Comment: Adaptive management is more than monitoring the effectiveness of site-level activities. There are no measures offered at the West-wide or ecoregion scale to determine if programmatic goals are being reached. An adaptive management process should be in place to ensure large-scale goals are being reached, and to describe what will trigger a change in programmatic strategy ([Draft] PER [page] 2-32). As described in our general comments and comments specific to the PEIS, LANDFIRE data (http://www.landfire.gov) can be used to help design and populate an effective and efficient monitoring protocol.

Response: Based on guidance for Department of Interior agencies, adaptive management is defined as "a system of management practices based on clearly identified outcomes, monitoring to determine if management actions are meeting outcomes, and if not, facilitating management changes that will best ensure that outcomes are met or to re-evaluate the outcomes." This definition was included in the BLM Planning Handbook. Standardized interagency protocols, including Fire Regime Condition Class, LANDFIRE and FIREMON, provide the basis for landscape-level monitoring that provides the information needed for adaptive management. Between these tools and authorities such as the Healthy Forest Restoration Act, which requires monitoring of authorized treatments, more landscape level management and monitoring at multiple scales is taking place. We have also included this definition in the glossary for the PEIS and PER.

EMC-0584-118
Western Watersheds Project

Comment: BLM must also assess impacts of poor pre-fire land conditions and management on the outcomes of any post-fire recovery, and of the likelihood of success of any post-fire rehab.

Response: See responses to Comment EMC-0584-051 under PER Vegetation Treatment Programs, Policies, and Methods, Programs, Policies, and Initiatives Influencing Vegetation Treatment Activities, and Comment EMC-0584-011 under PEIS Alternatives, Monitoring.

EMC-0585-045
Western Watersheds Project

Comment: BLM mixes two different types of organisms under the rubric of "biological control" – placing unspecific cattle and sheep grazing in with biological control insects that target specific weed species. We believe it is inappropriate to lump highly selective insects that target specific plants (appropriately termed "biological control") in with broad spectrum grazers and browsers such as domestic cattle that are often responsible for causing the damage to native vegetation lands such that weeds invade and "treatment" is deemed necessary. We fear BLM may be

using this terminology to open the door to use fire funds to pay ranchers for grazing livestock (biological control by BLM's definition) on public lands. Just how many acres does BLM plan to "treat" with cattle or sheep? Where? What will the ecological impacts be? What will be the cumulative impacts of "treating" and grazing on watersheds, important, special status and T&E [threatened and endangered] species, recreational uses, etc?

Response: Livestock are living organisms, and thus would fall into the category of "Biological Control." However, most of the resource discussions in Chapter 4 of the PER separate out the assessment of impacts associated with livestock from those associated with insects and other biological control organisms. Livestock would be used to treat approximately two-thirds of the approximately 450,000 acres of lands treated using biological controls. The effects of using livestock on the different resources described in the PER are discussed in Chapter 4. The cumulative effects of using livestock to treat vegetation are discussed in Chapter 4 of the PEIS.

Public Land Resources, Air Quality

EMC-0446-039
The Nature Conservancy

Comment: The PER should discuss barriers to success of the strategy to the extent necessary to ensure they don't restrict successful implementation of the goals. For example, the PER should discuss where air quality regulations might restrict the use of prescribed fire or where the lack of fire capacity might limit BLM's ability to implement restoration opportunities and how these limitations will be addressed.

Response: Air quality and smoke management considerations are presented under Air Quality in Chapter 3 of the PER. Any limitations encountered through application of air quality regulations or the lack of fire capacity would be addressed at the local project level through contingency planning.

Public Land Resources, Vegetation, Fire Ecology

EMC-0446-044
The Nature Conservancy

Comment: Ecological Justification and Intent of Fuels Treatments: General descriptions of fire regimes ([Draft] PER [pages] 3-22 through 3-42) do not describe historically fire-independent types, like many desert plant communities, where fire frequencies have increased due to species invasions and altered ignition patterns as a result of human development. These fire-independent regimes are addressed in detailed descriptions of fire regimes in the desert ecoregions and how they've been altered, but the general descriptions and purpose and need sections of the [Draft] PER seem to imply that all western ecosystems are fire-adapted in some way.

Response: It would be difficult to say that fires never occurred historically in these plant communities, as many of them produce fine fuels that could carry surface fire during high precipitation years, particularly if wet years occurred in sequence. Information on the effects of altered fire regimes in plant communities where fire was not historically common is provided in the description of the subtropical Desert Ecoregion under Fire Ecology and Vegetation by Ecoregion in the Vegetation section of Chapter 3 of the PER. In the description of the Subtropical Desert Ecoregion, we state: "Although major fires were not historically common in this region due to the wide spacing between plants and sparse fuels, the invasion of fire-prone species (e.g. red brome, downy brome, and buffelgrass) has shortened the fire interval in some areas, resulting in significant changes in plant communities." We later state: "In many areas of the Mojave and Sonoran deserts plant communities are too sparse during most years to adequately carry a prescribed burn. Therefore, this type of

treatment would not be suitable for these areas. In areas that have increased fuel loading as a result of invasive annuals like red brome, prescribed fire would negatively affect plant communities by encouraging the further spread of these invasive species. In the denser desert shrubland, where there is an adequate amount of fuel to support a fire, many shrubs, trees, and cacti could be severely affected by burning, as these species are not adapted to fire. Paloverde, burroweed, bursage, broom snakewood, ocotillo, and creosotebush are examples of desert species that can suffer high mortality rates from burning." In addition, we state: "Prior to 1900, fires in paloverde-cactus shrub were not considered to be important and occurred mainly in the restricted desert grasslands." We also include information on the increased frequency and size of fire in paloverde-cactus shrub caused by exotic grasses.

EMC-0446-047
The Nature Conservancy

Comment: The references provided on biodiversity mostly discuss the effects of fire on forested ecosystems, a small proportion of BLM-managed public land. Fred Sampson in *Prairie Conservation* (1996) concludes that the forces affecting biodiversity are complex and include forces operating at multiple temporal and spatial scales including topography, climate, competition, drought, and herbivory, as well as fire. Much of the description of vegetation communities and related fire processes also focuses on forest communities (including eastern species such as longleaf pine, shortleaf pine, red pine, Eastern red cedar, jack pine, and red maple) rather than describing plant communities most commonly found on western BLM public land: woodlands, perennial and deciduous shrublands and perennial grassland and desert ecosystems. We recommend including additional material on fire history and the effects of fire on sagebrush and saltbush shrublands, juniper woodlands, perennial grasslands and other plant communities proposed for treatment in order to better display potential effects of treating these habitats.

Response: The purpose of the PER is to provide support for the cumulative effects analysis, and to provide information onto which local planning documents can be tiered. We agree that the discussions on fire history and effects are brief. However, the level of detail requested in this comment is not appropriate for a general environmental review. Additionally, there is very little published information about fire history and historical fire regimes in non-forested habitats because there is no way to date past fires if trees are not present. The Brown (2000) reference cited does contain a review of available literature on fire regimes and effects on most plant communities of the U. S., including sagebrush and saltbrush shrublands, juniper woodlands, and perennial grasslands. Detailed information on fire history and effects is generally included in project plans, or incorporated by reference.

EMC-0446-048
The Nature Conservancy

Comment: The PER provides no evidence that high frequency/low severity fire regimes produce more diversity in all habitat types, particularly those managed by the BLM, than low frequency/high severity regimes. Biodiversity in a given area is dependent on more than fire regime. Heavy grazing following a fire can counteract any benefits to a plant community gained by burning. The focus of fire management should be on maintaining and restoring native fire *dynamics,* whatever *they* are ([Draft] PER [page] 3-22) rather than on maintaining the same type of regime (high frequency/low severity) for all habitats. Fire is presented as a factor that 'alters" successional pathways ([Draft] PER [page] 3-22). However, in fire-dependent and fire-influenced systems, natural fire dynamics are a part of the natural successional process (through evolution of fire-adapted species) and should not be considered apart from it.

Response: The PER does recognize the importance of variability in fire regimes. In Ecological Process that Underlie the Effects of Fire on Flora (Biodiversity) in the Vegetation section of Chapter 3, the PER states that "Variability of fire regimes in time and space creates the most diverse complexes of species. Thus, landscapes having fires with high variability in timing, intensity, pattern, and frequency tend to have the greatest diversity in ecosystem components (Swanson et al 1990)." It is unclear which statement(s) led to the deduction that the BLM proposes maintenance of high frequency/low severity fire regimes for all habitats. This is not appropriate for plant communities that historically had long fire return intervals. The text of the PER in the section on Ecological Processes (Successional Pathways) regarding how fire influences the rate of successions has been revised to address this comment.

We have revised the wording in the Final PER in Chapter 3 under Ecological Processes that Underlie the Effects of Fire on Flora (Successional Pathways) to address some of your concerns.

FXC-0075-005
Citizens for Fire Safety Sanity

Comment: The BLM is greatly ignorant about the current research regarding measures to prevent fire. We encourage you to start consulting the scientific literature which is concluding that "flammability" of native plants has little to do with the occurrence of wildfires. The factors that do contribute to wildlife include amount of dry fuels that build up, plant architecture, weather, particularly wind, proximity to human habitation and most importantly, human behavior.

Response: The BLM has been a partner in fire research efforts, most recently the Joint Fire Science program, which has supported applied research projects since 1999. The BLM has also been a leader in preventing unwanted wildfires for some years, and is cognizant of the various methods that can be employed to reduce the number of unwanted human-caused ignitions. Collaborative efforts initiated under the National Fire Plan have strengthened and expanded prevention programs. The commenter is correct in listing some of the many factors that contribute to the occurrence of wildfires. Lightning, however, is the cause of most wildfires on BLM-administered lands. The ultimate purpose of treating fuels in many locations is to protect various values, whether they be human or natural, from the risk of wildfire, whatever its cause. Preventing human-caused fires is one tactic that will help protect these values, but there are other tactics that can be used as well, depending on circumstances.

RMC-0049-009
Wilson, Robert E. (University of Nevada Cooperative Extension)

Comment: Page 3-29 [of the Draft PER] Fire Ecology – This section is an oversimplification, and in some cases an inaccurate description, of the ecological factors involved. Secession is a complex processes that we have not fully learned to appreciate. Overgrazing in the late 1800's and fire suppression for the past 90 years have had more impact on most of the west than is indicated in this brief description of fire ecology. A reference to "State & Transition" succession models would be a much more defendable description than the section as it is currently written.

Response: The intent of this document is to provide a broad overview of fire ecology that is understandable to the general public. More detailed descriptions of processes in individual systems would be appropriate for inclusion in Land Use Plans and project-scale documents. State and transition models are a difficult concept. The lack of science on fire regimes in non-forested vegetation types only allows state and transition models to approximate plant succession in rangelands.

RMC-0049-010
Wilson, Robert E. (University of Nevada Cooperative Extension)

Comment: Page 3-30 2nd paragraph [of the [Draft] PER]; emphasized that downy brome can be out-competed with adequate precipitation or by the 2nd year. This statement is usually inaccurate if sufficient downy brome is present to carry a fire in the second year or in subsequent years before perennial vegetation has had an opportunity to produce reproductive propagules. The 4th paragraph is inaccurate. "The major human influence on pinyon-juniper woodlands and fire's role in these ecosystems has been ranching." While the 1800's overgrazing is accurate, most of the fire suppression of 1940-present has been management action by the agencies. Paragraph 7 is inaccurate in that it does not address PJ [pinyon-juniper] encroachment into grass/shrub rangelands. This encroachment has occurred primarily because of the fire suppression of the past 90 years and has allowed trees to proliferate on soils where the PJ woodlands are not sustainable. This omission is a major error to this discussion.

Response: We agree with the first comment regarding downy brome, but we do not think the discussion in the text is misleading. There is obviously variation in the way different sites respond after fire, depending on the site, the amount of downy brome in the seed bank, and such factors as precipitation; the discussion was attempting to capture how this variation may occur. More discussion on downy brome can be found in Chapter 4 in the Vegetation section.

The second comment regarding grazing can be interpreted in a number of ways. The paragraph says that ranching is the main influence, but then goes on to state that fire suppression by land management is also a culprit.

There is a statement in paragraph 4 discussing the establishment of juniper woodlands in many rangelands. A more detailed discussion of pinyon juniper encroachment can be found in Chapter 4 in the Vegetation section.

EMC-0446-046
The Nature Conservancy

Comment: The Draft PER states that, "Biodiversity can be increased by fire and reduced by eliminating fire…" ([Draft] PER [page] 3-21). While that may be true in certain circumstances, the converse can also be true in ecosystems that are not fire-adapted or in fire-dependent ecosystems with too frequent (e.g. systems invaded and dominated by downy brome, *Bromus tectorum*, and red brome, *Bromus rubens*) or too severe fires (systems in the southeastern U.S. invaded and dominated by cogongrass, *Imperata spp.*). We question the basis for the implication that biodiversity has a direct relationship to variation in fire frequency and seasonality throughout the West.

Response: The Ecological Processes that Underlie the Effects of Fire on Flora (Biodiversity) in the Vegetation section of Chapter 3 of the PER addresses the concern about ecosystems dominated by invasive annual bromes: "However, biodiversity can be reduced when fires occur much more frequently than they did under the historical fire regime." This statement also applies to cogongrass, a rhizomatous grass that replaces native species and can lead to fires of higher frequency and intensity (rate of heat release). Whether the accumulation of layers of cogongrass litter can also result in more frequent fires that are of higher severity (effects on the ecosystem, both above and belowground) is not known.

Public Land Resources, Vegetation, Vegetation Condition, and Fire Regimes

EMC-0446-041
The Nature Conservancy

Comment: Hazardous fuels treatments and restoration of historic fire regimes are not necessarily compatible actions and the PER should clearly distinguish this fact. Meeting the goals for one does not automatically meet the goals for the other. Vegetation management can include a wide spectrum of activities. Some, but not all, vegetation management actions will reduce fuels and have beneficial restoration impacts. Some will be focused only on hazard fuel reduction, while others will focus solely on ecosystem restoration. The PER should address the full spectrum of actions and impacts of each action. For example, the PER should describe how the BLM would prioritize treatments if the characteristic fire regime consists of stand-replacing fire, rather than assuming that all fire regimes are similar. The BLM should also address how ecologically-based criteria will be integrated into BLM's decision-making on fuels treatment, fire regime restoration and other treatment goals in order to achieve their stated objective of land health restoration ([Draft] PER pp. [pages] 3-21-42).

Response: We agree with the premise you lay out regarding hazardous fuels treatments in relation to restoration of historic fire regimes. However, as noted in response to Comment EMC-0446-008 under PER Vegetation Treatment Programs, Policies, and Methods, Programs, Policies, and Initiatives Influencing Vegetation Treatment Activities, these are decisions that need to be made at the Land Use Planning level and project implementation level. It is beyond the scope of the PER to make decisions on treatment types or levels.

EMC-0446-049
The Nature Conservancy

Comment: The need for increased fuels treatment is based substantially upon the Forest Service's 2000 FRCC [Fire Regime Condition Class] assessment ([Draft] PER [page] 1-6). The current FRCC is less accurate in shrub and grass community types, which make up the majority of BLM-managed habitats and was not designed to identify project-level work. Field offices, in coordination with adjacent landowners, should be required to complete additional FRCC assessments based on current vegetation mapping before planning projects to transition FRCC 3 areas to FRCC 1. The PER should include the process that the BLM will use to update its estimates of treatment needs based on newer FRCC mapping that is currently underway (LANDFIRE mapping project). We believe that the coarse scale FRCC data currently under development as part of LANDFIRE should be considered one key criterion for assessing current fire regime conditions and determining larger-scale treatment priorities.

Response: Fire Regime Condition Class serves as an interagency measure of vegetation and fire regime departure. As such, it is one consideration in fuels management and project-level planning. It is important to recognize that FRCC can be characterized at multiple scales. Published in 2002, the first national FRCC map was published in a Forest Service General Technical Report (Schmidt, K.M., J.P. Menakis, C.C. Hardy, W.J. Hann, and D.L. Bunnell, D.L. 2002. Development of Coarse-Scale Spatial Data for Wildland Fire and Fuel Management. General Technical Report RMRS-GTR-87. Fort Collins, Colorado). The intended applications of this summary were state and regional-scale comparisons, not project planning. To further refine this map, the Rapid Assessment phase of LANDFIRE recently completed a revised national FRCC layer. This map has been included in the Final PEIS and PER and replaces the first national FRCC map included in the Draft PEIS and PER. While the Rapid Assessment map better characterizes FRCC for non-forested vegetation, it is intended for broad-scale interpretations. Upon completion of

all LANDFIRE National data layers, an FRCC map will be delivered for each of the mapping zones making up the United States, Alaska, and Hawaii. Again, the application of these data will be for broad-scale comparisons, not site-specific planning. For local planning efforts where FRCC is used in project development, a more specific FRCC analysis should be done. Tools available for local FRCC analysis include the FRCC Standard Landscape methodology, FRCC Standard Landscape software, and FRCC Standard Landscape Geospatial Mapping method. These tools are further explained in *the Interagency Fire Regime Condition Class Guidebook* (Hann, W.J., D. Havlina, and A. Shlisky. 2005. *Interagency Fire Regime Condition Class Guidebook*, Version 1.2.).

The FRCC concept is currently applied in several BLM planning processes. FRCC is an important element in Fire Management Plans, in projects implemented under the authority of the *Healthy Forests Restoration Act* (2003), in Land Use Planning efforts, and in describing ecological conditions at multiple scales. It is not the sole consideration used in project development, but one factor considered in addition to urban interface, habitats, land health, and other resource values. We agree that when assessed at the appropriate scale using the appropriate method, FRCC is a meaningful tool describing fire regime conditions and informing project development.

Public Land Resources, Paleontological and Cultural Resources

RMC-0049-013
Wilson, Robert E. (University of Nevada Cooperative Extension)

Comment: Page 3-63 [of the Draft PER] The effect of herbivory by bison and other grazing animals (including insects, rodents, and rabbits) is part of this environment with subsequent effects from that use, especially when in concentrated numbers for long periods of time.

Response: Comment noted. Historically, the effects of grazing animals upon the landscape was spread over the western U.S., and impacts to soil and other resources were likely less than occurs today in areas where herbivores are more concentrated.

RMC-0049-014
Wilson, Robert E. (University of Nevada Cooperative Extension)

Comment: Page 3-65 6th paragraph [of the Draft PER]. The sentence: "However, no lands were withdrawn from public domain to form these public lands." is incorrect.

Response: This sentence has been revised for clarity in the final PER. See the European Settlement Resources section in Chapter 3.

Public Land Resources, Social and Economic Values

RMC-0049-015
Wilson, Robert E. (University of Nevada Cooperative Extension)

Comment: Page 3-77 Last paragraph [of the Draft PER] – This needed to be addressed also in other areas talking about changes that are occurring in vegetation composition elsewhere in the document.

Response: See responses to Comment RMC-0144-020 under PEIS Affected Environments, Comment EMC-0585-036 and Comment EMC-0585-034 under PEIS Affected Environments, Vegetation, and Comment RMC-0042-010 under PEIS Proposed Action and Purpose and Need, Purpose and Need for the Proposed Action.

Effects of Vegetation Treatments, Subsequent Analysis before Projects are Initiated

EMC-0584-054
Western Watersheds Project

Comment: Prior to conducting any prescribed burn, BLM must establish a methodology to thoroughly consider and analyze, in an open NEPA process with full public comment and review periods, the following: Long-term damage to microbiotic

crusts, soil erosion through wind and runoff events, long-term loss of nutrients from already nutrient-deficient landscapes, loss of native species, radionuclide levels in surrounding vegetation, interrelation between prescribed burns and other "treatments" on neighboring federal/state/private lands, increased risks of exotic species invasions, impacts on habitat for native wildlife, indigenous uses of plants that may impacts, air quality impacts. We are very concerned that BLM may initiate a program of widespread "prescribed" burns on lands that have been, and continue to be, seriously damaged by livestock grazing and other abuses, and which will are very vulnerable to exotic invasions in post-fire environments.

Response: See response to Comment RMC-0221-047 under PEIS Proposed Action and Purpose and Need, NEPA Requirements of the Program.

Effects of Vegetation Treatments, Air Quality

EMC-0505-021
U.S. Environmental Protection Agency

Comment: Emissions Inventory: A). The emission inventory (EI) chapter [Chapter 4 of the Draft PER] and EI methods appear to be consistent with typical EI practices. However, there have been some recent method refinements that have been made to visibility and PM [particulate matter] models that would improve the methodology used by BLM. The Agency would welcome the opportunity to work with BLM on refining its emission inventory. B). Supporting information is needed to justify all of the emission rates in section 3.3. For example, in Table 2-1 [in Chapter 2 of the Draft PER], for Fairbanks, the TSP [total suspended particles] emission rate for prescribed burns is 1.7 E+04 (-350 thousand tons). The same value is used for PM10 [particulate matter less than 10 microns in diameter] and a lesser value for PM2.5 [particulate matter less than 2.5 microns in diameter].

Response: The BLM has reviewed USEPA's most recent revisions to the *Compilation of Air Pollution Emission Factors, AP-42, Fifth Edition* (including *Volume I: Stationary Point and Area Sources,* and *Volume II: Mobile Sources*), as well as *Exhaust Emission Factors for Nonroad Engine Modeling – Spark Ignition*, and determined that only the latter has been modified to estimate lower emissions from newer chain saw technology than those estimated in the PER. However, USEPA does state that *AP-42, Volume II: Mobile Sources* is no longer maintained. Given the minor contribution that assumed chain saw emissions add to the total overall emission inventory, and since the values used in the PER are slightly greater than those that may occur in the future (a conservative assumption), there is no need to refine the emission inventory. "Supporting information [needed] to justify all of the emission rates " is detailed in the *Annual Emissions Inventory for BLM Vegetation Treatment Methods – Final Report* (ENSR 2005a), and used as described in *Air Quality Modeling for BLM Vegetation Treatment Methods – Final Report* (ENSR 2005m). Analysis assumptions included in ENSR (2005a) were referenced to USDI BLM (2003) as well as the *Development of Emissions Inventory Method for Wildland Fire* (Battye and Battye 2002). The same wildland fire emission rates were assumed for TSP and PM_{10}, although separate rates were provided for $PM_{2.5}$. For example, the hourly TSP/PM_{10} emission rates used in the Fairbanks, Alaska, example modeling (reported as 1.07E+04 in Table 3-1 of ENSR 2005m) were calculated as follows:

1) A 24-hour burn duration was calculated to consume 100,000 tons of fuel based on 2,000 acres burned with a 100 ton per acre fuel loading and a 50 percent consumption rate (2,000 x 100 x 0.50 = 100,000);
2) A day/night weighted flaming phase adjustment factor of 0.475 was calculated based on 60 percent flaming for nine hours per day plus 40

percent flaming for fifteen hours per day ([9/24 x 0.60] + [15/24 x 0.40] = 0.475), and a similar day/night weighted smoldering phase adjustment factor of 0.525 was calculated based on 40 percent flaming for nine hours per day plus 60 percent flaming for fifteen hours per day ([9/24 x 0.40] + [15/24 x 0.60] = 0.525);

3) Based on Battye and Battye (2002), the flaming phase would emit 665,000 pounds of TSP/PM_{10} based on 100,000 tons of fuel at 47.5 percent flaming phase and a 14 pound TSP/PM_{10} emission rate per ton of fuel burned (100,000 x 0.475 x 14 = 665,000). Similarly, the smoldering phase would emit 1,365,000 pounds of TSP/PM_{10} based on 100,000 tons of fuel at 52.5 percent flaming phase and a 26 pound TSP/PM_{10} emission rate per ton of fuel burned (100,000 x 0.525 x 26 = 1,365,000), resulting in a total of 2,030,000 pounds of TSP/PM_{10} emitted during each burn day (665,000 + 1,365,000 = 2,030,000);
4) Finally, a total TSP/PM_{10} hourly emission rate of 1.07E+04 grams per second is calculated based on 453.6 grams per pound and 86,400 seconds per day conversion factors (2,030,000 x 453.6/86,400 = 1,066).

Similar calculations were made for other locations, prescribed fire assumptions, and emission sources. Detailed Microsoft Excel© spreadsheets that include emission calculations are available upon request.

EMC-0505-022
U.S. Environmental Protection Agency

Comment: Air Quality Modeling: In Table 4.3 [of the Draft PER], the CALPUFF-lite concentrations are mostly less than background and this is unusual. There are insufficient data to determine why CALPUFF generated these results. This should be addressed in the final PEIS [Final PER].

Response: Table 4-3 of the Draft PER presents the direct concentration estimates for particulate matter for typical, but hypothetical (example) emission scenarios for each of five treatment methods at six representative locations throughout the western United States, as detailed in the *Annual Emissions Inventory for BLM Vegetation Treatment Methods – Final Report* (ENSR 2005a). As stated in the PER (Page 4-7), "As shown in Table 4-3, predicted short-term and annual particulate matter effects at each of six example locations were extremely small (< 0.1 [$\mu g/m^3$]) for all treatments other than prescribed fire. Even for prescribed fire, short-term and annual impacts were less than 1.3 $\mu g/m^3$ for all locations except for Fairbanks, Alaska, where 24-hour TSP and PM_{10} were predicted to be as high as 38 $\mu g/m^3$ (34 $\mu g/m^3$ 24-hour $PM_{2.5}$). Assuming a rural background 24-hour $PM_{2.5}$ concentration of 30 $\mu g/m^3$, the total concentration of 64 $\mu g/m^3$ would approach the applicable $PM_{2.5}$ National Ambient Air Quality Standard (NAAQS) of 65 $\mu g/m^3$. In all instances, particulate matter [impacts] due to the five treatment methods would not exceed the applicable NAAQS at any of the six locations, based on the assumptions of the analyses (ENSR 2005a)." In addition, USEPA's short-term particulate matter NAAQS is based upon 98th Percentile (high) modeled values, corresponding to the "maximum eighth highest" value. Since the Fairbanks, Alaska, example assumes less than 8 days of operation, it is unlikely even the hypothetical (example) modeled impact would violate the NAAQS.

EMC-0505-023
U.S. Environmental Protection Agency

Comment: For the 6 locations modeled in the BLM report only one year of meteorological data was used. Although one year of data is adequate to facilitate a CALPUFF run, Appendix W recommends that 5 years of National Weather Service (NWS) or 3 years of mesoscale meteorological data should be used (see Appendix W language below). In addition, according to Table 4-1 of the report, the maximum

potential impact period for each location is 6 days or less, with the exception of the biological treatment period (30 days). Due to the persistence of some synoptic features, a single year of NWS meteorological data does not adequately capture the variation of meteorological conditions at these locations. Because the requisite meteorological data is readily available, we suggest that BLM consider running the CALPUFF model with a more extensive data set for inclusion in the final [P]EIS [Final PER].

Response: As stated in the Draft PER under Air Quality, the purpose of the PER is to disclose "the general impacts on the environment of using non-herbicide treatment methods, including fire use, and mechanical, manual, and biological control methods, to treat hazardous fuels, invasive species, and other unwanted or competing vegetation." For air quality, the PER analyzed and disclosed current and proposed annual air pollutant emissions for five different treatment methods. Similarly, the PEIS air quality analysis was prepared subject to Council on Environmental Quality regulations to analyze and disclose potential impacts from five alternative methods of Herbicide Treatment, including "No Use of Herbicides." Tables 4-2 through 4-5 of the Final PEIS estimate annual emissions of six air pollutants by state and alternative. Given the lack of specific proposed activities (location, timing, amount, conditions, etc.), it is not possible to further quantify potential air quality impacts. However, as stated in the *Annual Emissions Inventory for BLM Vegetation Treatment Methods – Final Report* (ENSR 2005a) "The purpose of this report is to provide modeled concentration estimates of particulate matter for typical, but hypothetical (example) emission scenarios for each of the five treatment methods at six representative locations throughout the western United States." For this purpose, 1 year of meteorological data is adequate to provide examples of potential air quality impacts; "a more extensive data set for inclusion in the final [P]EIS" is neither necessary nor beneficial. It should be noted that maximum direct predicted hypothetical (example) particulate matter modeling result in the PEIS (0.0082 $\mu g/m^3$ 24-hour PM_{10} assumed for Medford, Oregon) was insignificant (the applicable NAAQS is 65 $\mu g/m^3$); all other hypothetical particulate matter modeling results were much less.

EMC-0505-024
U.S. Environmental Protection Agency

Comment: In a related matter, modeling guidance in Appendix W states "For Long Transport situations (subsection 6.2.3) and for complex wind situations (paragraph 7.2.8(a)), if only NWS [National Weather Station] or comparable standard meteorological observations are employed, five years of meteorological data (within and near the modeling domain) which is readily available should be used. Consecutive years from the most recent, readily available 5-year period are preferred. Less than five, but at least three, years of meteorological data (need not be consecutive) may be used if mesoscale meteorological fields are available, as discussed in paragraph 8.3(d). These mesoscale meteorological fields should be used in conjunction with available standard NWS or comparable meteorological observations within and near the modeling domain."

Response: The USEPA's *Guideline on Air Quality Models* (also published as Appendix W of 40 CFR Part 51) addresses the regulatory application of air quality models for assessing criteria pollutants under the Clean Air Act, and is used by the USEPA, states, and industry to prepare and review new source permits and State Implementation Plan revisions. The hypothetical ("example") emission scenario analyses prepared for the PEIS and PER are not subject to the Appendix W guideline; therefore, there is no requirement that "Less than five, but at least three, years of meteorological data" be used.

EMC-0505-025
U.S. Environmental Protection Agency

Comment: The final PEIS should clarify the following values in Table 2-1 (of ENSR 2005a). For example, the surface roughness for Glasgow, Montana, is 0.04 m. This is a value that is only slightly higher than the value of surface roughness over very smooth surfaces such as water.

Response: Table 2-1 of ENSR (2005a) is correct. The "Applied roughness length" for "Grassland" of 0.04 m, used in the PCRAMMET meteorological data preprocessor, is based on Sheih *et al* (1979).

EMC-0505-027
U.S. Environmental Protection Agency

Comment: The Agency recommends that BLM eliminate modeling for TSP because there is not a TSP NAAQS [total suspended particle National Ambient Air Quality Standard], and recommends that BLM focus on the PM10 [particulate matter less than 10 microns in diameter] and PM2.5 [particulate matter less than 2.5 microns in diameter] NAAQS.

Response: ENSR (2005b) quantified annual emissions of several air pollutants (carbon monoxide [CO], carbon dioxide [CO_2], nitrous oxides [NOx], TSP, PM_{10}, $PM_{2.5}$, lead, sulfur dioxide [SO_2], and volatile organic compounds [VOCs]) to provide the decision-maker and the general public a basis for comparing potential air quality impacts from five different vegetation treatment methods (including five alternatives for herbicide use). ENSR (2005a) provided modeled concentration estimates of particulate matter (including TSP, PM_{10}, and $PM_{2.5}$) for typical, but hypothetical emission scenarios for each of the five treatment methods at six representative locations throughout the western United States. The BLM not only "focuses" on NAAQS criteria pollutants, but also discusses ambient air quality standards (including TSP) and other pollutants of interest (such as CO_2 and VOCs).

EMC-0505-029
U.S. Environmental Protection Agency

Comment: EPA recently proposed lowering the 24-hour PM2.5 NAAQS [particulate matter less than 2.5 microns in diameter National Ambient Air Quality Standard] to 35 $\mu g/m^3$. Based on the modeling results presented in Table 4-3, the modeled emissions for the 24-hour PM2.5 NAAQS (63.54 $\mu g/m^3$) from a prescribed fire in Fairbanks, Alaska, would exceed the proposed new 24-hour PM2.5 NAAQS.

Response: In the January 17, 2006 Federal Register, the USEPA published its proposal to lower the 24-hour $PM_{2.5}$ NAAQS from 65 to 35 $\mu g/m^3$, retaining the annual $PM_{2.5}$ NAAQS of 15 $\mu g/m^3$, retaining the 24-hour PM_{10} NAAQS at 150 $\mu g/m^3$, and, revoking the annual PM_{10} NAAQS. The USEPA also requested comment on various other standards for PM_{10} and $PM_{2.5}$, including using other standards or retaining the current NAAQS. The USEPA issued final standards on September 21, 2006.

Both the PEIS and PER (Chapter 4 under Air Quality) have disclosed and analyzed a detailed air pollutant emission inventory to compare potential air quality impacts among proposed vegetation treatment methods. In addition, concentration estimates of particulate matter for typical, but hypothetical emission scenarios (ENSR 2005a) were prepared to demonstrate how future quantitative air quality impacts can be evaluated once site-specific activities are actually proposed. Given the minimal predicted direct particulate matter impacts, if the 24-hour $PM_{2.5}$ NAAQS is eventually set to 35 $\mu g/m^3$, the hypothetical scenarios would not cause significant, adverse air quality impacts. The hypothetical modeled impacts (including the Fairbanks, Alaska, example) are the 1st maximum predicted values. The USEPA's short-term particulate matter NAAQS is based upon the 98th Percentile (high) modeled values, corresponding to the "maximum eighth highest" value. Since the Fairbanks, Alaska,

example assumes less than eight days of operation, it is unlikely even the hypothetical modeled impact would violate a more restrictive 24-hour $PM_{2.5}$ NAAQS. Finally, even if the 24-hour $PM_{2.5}$ NAAQS is eventually lowered, and a site-specific prescribed burn was predicted to exceed the new NAAQS, it is likely the ultimate operational conditions would be modified from those assumed in this analysis (i.e., shorter burn duration, smaller individual burns, more aggressive "mop-up," etc.).

Effects of Vegetation Treatments, Soil Resources

RMC-0222-086
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Example: Differing Direction for Biological Soil Crusts.

The Restoration Alternative [Alternative_E] provides the following detailed directions for biological soil crusts: (DEIS [Draft PEIS]: [page] G-8): Action- Prevention 3. Reduce spread of invasive weeds caused by domestic livestock grazing: …avoid grazing in systems still containing a strong component of native perennials, biological soil crusts, or other features known to act as natural barriers to invasion or increase of invasive exotic species. (DEIS [Draft PEIS]: [page] G-12): GOAL- Prevention 6 - Biological soil crusts shall be maintained as a partial shield preventing establishment or spread of invasive exotic species. Action – Prevention 35 - Using existing data, map and describe the presence and integrity of biological soil crusts at the Ecoregion and watershed levels within the 16 western states; locally develop maps at the subwatershed level. Action- Prevention 36 – Prepare and implement a general plan for damaged biological soil crusts. Action- Prevention 37 - Prohibit livestock grazing for at least five years following a fire in areas capable of maintaining biological soil crusts. Return of livestock will be delayed past five years if significant recovery of the biological soil crust has not occurred. (DEIS [Draft PEIS]: [page] G-14): Action- Restoration 20 - Consideration of the following must be documented prior to prescribed burns, if relevant: 1. long-term damage to biological soil crusts…

In contrast, the following vague statements constitute the sole PER direction for biological soil crusts: (D[raft] PER: [page] 2-22): [During manual treatments]: Minimize damage to soil crusts. [During use of domestic livestock for vegetation management:] Minimize use of domestic animals if removal of vegetation may cause significant soil erosion or impact biological soil crusts. (D[raft] PER: [page] 2-23) [During mechanical treatments]: Minimize damage to soil crusts. These differing directions for biological soil crusts are one example that reveals that significant impacts and significant linkages with promotion of invasive species will be associated with the vegetation treatments proposed in the PER. This necessitates the preparation of an EIS.

Response: See Appendix I of the Final PEIS regarding analysis of the Restoration Alternative. The standard operating procedures listed in Table 2-5 of the Final PER are accepted practices and explicit. The guidance for manual and mechanical treatments in this table state: Minimize damage to *biological* soil crusts (emphasis added). The PER does not prescribe how effects are to be minimized at this programmatic level, as specific mitigation of impacts to biological crusts is determined at the project and site-specific level. The requirements for biological soil crusts, as proposed in the Restoration Alternative, include actions that are beyond the scope of the PEIS analysis.

Effects of Vegetation Treatments, Water Quality and Quantity

RMC-0233-034
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The relative use of water by tamarisk as compared to native species remains inconclusive. Studies (McDonnell et al., 2004; Glenn and Nagler, 2005) have shown that water use by tamarisk depends on many factors, including multiple environmental variables, time of year, and life stage of the plant. The Service recommends the final PEIS/PER provide more evidence/research to support this claim other than the USFS [U.S. Forest Service] unsubstantiated claim. We recommend that the BLM take a more circumspect approach that reflects the questions and unknowns about this topic.

Response: It is because of the variability associated with numerous species and site-specific conditions that the PEIS has remained at a broad programmatic level. At the local level, factors such as those suggested in the comment will be assessed, along with the impacts besides water use that tamarisk is causing to the native plant community when determining the appropriate treatment for the species.

Effects of Vegetation Treatments, Wetlands and Riparian Areas

RMC-0233-035
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The draft PER states that approximately 9,000 acres of wetland and riparian habitat would be treated annually, using insects as the biological control method. There is no specific discussion, however, of using the tamarisk leaf beetle *(Diorhabda elongata),* nor the potential effects from its use. For the final PEIS/PER, we recommend an expanded discussion on the tamarisk leaf beetle, particularly regarding the need for post-treatment revegetation to mitigate loss of habitat and to prevent re-invasion by tamarisk or other non-native species.

Response: See response to Comment EMC-0446-062 under PER Vegetation Treatment Programs, Policies, and Methods, Biological Control. The commentor's issues regarding the tamarisk leaf beetle (*Diorhabda elongate*) will be addressed on a site-specific basis, using information provided in the PER.

RMC-0233-036
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: It is unclear in the D[raft] PEIS/PER if livestock will he used to control vegetation in wetland and riparian areas. On page 4-26 [of the Draft PER], the PER states, "...no livestock would be used ..." whereas on page 4-28 it states, "... there would be some use of livestock." Please clarify this for the final PEIS/PER.

Response: The statements referenced in the comment have been edited for clarity under Adverse Effects of Treatments and Effects of Biological Treatments in the Wetland and Riparian Areas section of the Final PER. There are no current plans to use livestock to control undesirable vegetation within wetland and riparian habitats, and any future plans to use livestock within these habitats would require extra attention to avoid potential impacts to the native riparian vegetation and physical characteristics of the stream channel or wetland. Although the opportunities to use grazing animals within wetland and riparian areas may be more limited, there is at least some potential for using domestic grazing animals to help control vegetation in these habitats, and the document has been revised to identify that possibility.

RMC-0233-039
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The text states "Sensitive sites, such as wet meadows and riparian areas should be protected from excessive grazing". The Service suggests that the BLM expand and further describe the methods to be used to protect these sensitive areas from excessive grazing in the final PEIS/PER.

Response: When using domestic animals to control invasive plants it would be necessary to ensure the protection of wet meadows, riparian areas or other sensitive sites. This would most likely be accomplished through either temporary or permanent fencing, or herding. This section was revised to more clearly discuss the use of "prescribed grazing" as a specific treatment designed to control vegetation.

Effects of Vegetation Treatments, Vegetation

EMC-0446-037
The Nature Conservancy

Comment: The PER should describe positive vegetative objectives by plant community and ecosystem as well as what plant species and fuel loads projects are trying to remove. The PER should state what plant community and structure the BLM is trying to achieve by their proposed vegetation treatments in specific plant communities and ecosystems.

Response: The PER discusses the beneficial effects of treatments in the section entitled Beneficial Effects of Treatments under each resource in Chapter 4. Benefits and objectives by plant community are described in the Vegetation section, and more specifically in the Wildlife Resources section, of Chapter 4 of the PER. We have also revised Table 2-2 in Chapter 2 of the Final PER that lists target species for treatments in different habitat types.

EMC-0446-051
The Nature Conservancy

Comment: The PER states that 70 percent of Fire Regime Condition Class 3 occurs in Temperate Desert Ecoregion, that over half of fuels reduction projects will occur there, and that the treatments that will be most frequently used are prescribed fire and mechanical treatments (chaining, plowing, disking, etc.). Information in the report does not appear to support the need for treatment or these methods of treatment. Many of these communities have been invaded by invasive species that have made them highly susceptible to wildfire and increased the fire frequency in many areas. For example, in large areas of the Temperate Desert Ecoregion downy brome (*Bromus tectorum)* invasion has led to, or threatens to lead to, sharply increased fire frequencies and subsequent devastation of native plant and animal communities. Sagebrush communities, the perennial shrub plant community that makes up 75 percent of this ecoregion, has a fire return frequency of 50-100 years ([Draft] PER [page] 4-34). Sagebrush is typically killed during a burn and most species require 30-50 years to return to dominance on the site. The PER states that fires at intervals of less than 30-50 year cycles would adversely affect native communities and that on sites with invasive annual grasses, such as downy brome, prescribed fire would likewise negatively affect sagebrush communities. It is not clear how additional prescribed fire will benefit these community types, since downy brome and other invasive species that provide the hazardous fuels in these communities will increase with increased fire and native species such as sagebrush will be killed.

Response: In part, a large number of acres in this ecoregion would be treated using fire and other methods because the majority of BLM-administered lands and Fire Regime Condition Class 3 lands occur in this ecoregion. Although all treatment methods would be used in this ecoregion, BLM land managers recognize that prescribed fire or other methods may not be appropriate for all treatment situations. Prescribed fire can harm sagebrush communities, but when conducted with other treatments, including mechanical pre-thinning, prescribed fire, and seeding with native vegetation can reduce the amount of downy brome found in or near sagebrush communities. Also, there is a significant grassland component in the Temperate Desert Ecoregion that is greatly reduced from historic levels. Chapter 3 of the PER under Vegetation describes how turn-of-the-century grazing and management

practices have led to degraded grass and shrublands and significant increases in pinyon juniper woodlands at the expense of shrublands and grasslands. It also describes how some shrublands have been reduced in sagebrush with increased components of rabbitbrush, horsebrush, and broom snakeweed. What land managers have tried to do in more recent times is to learn from those past mistakes, and with improved technology and planning, and to conduct better restoration treatments in order to improve conditions of the grasslands and shrublands in the Temperate Desert Ecoregion. Improved grazing practices coupled with prescribed fire, mechanical, and chemical treatments are used to control undesirable vegetation components, and then areas are seeded to help establish and maintain desired perennial species. Prescribed fire would be most useful in areas where the desired plant community was perennial grassland, and that would over time become dominated by shrubs. Many of these treatments would also be used to create fuel breaks and protected areas around communities to reduce more intense burning fuels such as pinyon and juniper.

EMC-0446-052
The Nature Conservancy

Comment: Mechanical treatments without a substantial investment in reseeding with native species, including native shrubs, will likewise not benefit these communities [temperate desert communities that have been invaded by invasive species]. The [Draft] PER states that while mechanical treatments may increase grass production in the short term, they would have adverse effects to native shrublands over the long term ([Draft] PER [page] 4-45). The PER should more explicitly analyze and display the trade-offs being made between short-term benefits and long-term harm to these ecosystems and the many species that depend upon these shrublands. The level of investment in native seed production appears to be inadequate to support the needs of these proposed vegetation treatments as well as the Burned Area Emergency Rehabilitation program.

Response: The Vegetation and Wildlife Resources sections of Chapter 4 of the PEIS discuss some of the short- and long-term trade-offs of modifying plant communities using vegetation treatments. Additional information is provided in the Cumulative Effects Analysis section of Chapter 4 of the PEIS. The trade-off between losing weedy and other invasive plant communities and gaining native plant communities is analyzed in more detail at the local level. Also see responses to Comment MC-0584-012, Comment EMC-0584-092, and Comment EMC-0584-095 under PEIS Alternatives, Herbicide Treatment Planning for the level of investment in seed production.

EMC-0446-053
The Nature Conservancy

Comment: Two references to fire return intervals for the pinyon-juniper community appear to contradict each other, one stating that the return interval is 100-200 years and another (from 1924) stating 10-30 years. Those two figures are not reconciled but cause quite different results when looking at departure intervals for this plant community. The PER states that, "In pinyon-juniper communities that have been altered by past land use, burning could negatively affect native plant species" ([Draft] PER [page] 4-36) while pointing out in Chapter 3 [of the Draft PER] that most of these communities have been altered by past land use. The issues that were raised under item #4 above regarding reference conditions and interactions between fire and local vegetation also apply to this issue. More specific consideration of the interaction of fire with native shrubs and downy brome should be included, including an analysis of potential undesirable effects and guidelines for appropriate fire use in different shrub/invasive plant situations.

Response: The text of the Final PER under Vegetation has been changed in response to these concerns. See the Vegetation sections discussing pinyon-juniper communities

in Chapters 3 and 4. Also see responses to Comment EMC-0446-051 and Comment EMC-0446-052 under PER Effects of Vegetation Treatments, Vegetation.

EMC-0446-054
The Nature Conservancy

Comment: The Draft PER calls for substantial increases in the amount of vegetation that will be treated with both prescribed and wildland fire, up to 2.1 million acres each year. The Nature Conservancy strongly supports the use of fire as a management tool, where appropriate, as it is an important and natural ecological factor in many vegetation types and ecoregions. The Draft PER calls for increases in the use of fire "primarily for historic fire regimes and to control wildfires in the WUI [wildland urban interface]" ([see] p. 1-6 [of the Draft PER]), however it targets 63 percent of fire treatments in the Temperate Desert Ecoregion, with nearly half (48 percent) in evergreen shrublands. Chapter 3 of the PER discusses the historic increase of fire frequency and severity in these same shrublands. It is not clear that the appropriate plant community is being targeted for these treatments.

Response: In Chapter 1 of the PER under Determination of Treatment Acreages, HFR refers to "hazardous fuels reduction" (acronym defined on under Terminology in Chapter 1 of the PER), not "historic fire regime." Chapter 3 mentions that junipers were historically restricted to shallow, rocky soils and rough topography by occasional fire in sagebrush grass. The data that were collected from field offices did not differentiate between burning in pure sagebrush grass and burning in sagebrush grass with conifer encroachment. Some percentage of the prescribed fire in evergreen shrublands of the Temperate Desert Ecoregion is for control of pinyon and especially juniper that has encroached into highly productive mountain big sagebrush communities. If these communities still have a remnant understory of native species, they can often recover on their own without additional treatments. Analysis performed at a more site-specific level should limit prescribed fire use in lower elevation sagebrush sites dominated by Wyoming big, basin big, or low sagebrush, that are more likely to be dominated by downy brome after fire. As stated in Chapter 4 of the PER under Beneficial Effects of Chemical Treatments in the Vegetation section, the focus of treatments in the Temperate Desert Ecosystem is to benefit sage-grouse and other wildlife. Such treatments would occur as part of the 1 million acres treated to restore ecosystem health (see Determination of Treatment Acreages in Chapter 1 of the PER). The PER does acknowledge that treatments in evergreen shrublands on sites with a large component on invasive annual grasses could negatively affect evergreen shrublands. However, some level of restoration could be attempted if followed by intensive monitoring and revegetation. As stated in Chapter 4 of the PER under Beneficial Effects of Chemical Treatments in the Vegetation section, the success of treatments would depend on numerous factors, and could require the use of a combination of methods to combat undesirable species. Chapter 2 of the PER under Prevention of Weeds and Early Detection and Rapid Response acknowledges that weeds colonize highly disturbed ground as well as degraded plant communities or even intact communities. It reiterates that the BLM is required to develop a noxious weed risk assessment when an action may introduce or spread noxious weeds, that modification of actions must take place to reduce the likelihood of infestations when the risk is determined to be moderate or high, and that control measures to be implemented must be identified if weeds do infest the site. This direction as well as direction for monitoring post-treatment is part of BLM policy in BLM Manual 9011.

EMC-0446-059
The Nature Conservancy

Comment: The BLM is proposing to treat 2.2 million acres of public land each year using mechanical treatments including tilling, plowing, chaining, drilling, seeding and other means. Eighty percent of all mechanical treatments will occur in the Temperate

Desert Ecoregion; forty-one percent in evergreen shrubland with the target being woody species such as sagebrush ([Draft] PER [page] 4-43). The rationale for these treatments is not clear unless it is to temporarily increase forage production. These shrublands have historically been adversely affected by previous mechanical treatments, invasion of noxious species and increased fire frequency. The PER concludes that these treatments could have adverse effects to native evergreen shrublands over the long term ([Draft] PER [page] 4-45). Additional analysis and discussion of the trade-offs being made between short-term benefits and long-term negative effects on this ecosystem and the species it supports should be presented, since there appears to be a high likelihood that special status species, such as sage grouse could be affected by targeting treatments toward sagebrush in this ecoregion.

Response: The primary reason for proposing treatment of 2.2 million acres each year on public lands is Presidential and Congressional mandates to reduce the risk of wildfires and improve ecosystem health in publicly managed forest and rangelands, as discussed in Chapters 1 and 2 of the PER. Chapter 3 of the PER contains a description of the Temperate Desert Ecoregion, and a discussion of the current condition of many rangelands and woodlands in this ecoregion, which have been altered by invasion of non-native species, exclusion of fire, and past management activities. Chapter 4 of the PER, under Effects of Mechanical Treatments in the Vegetation Section, states that 41% of treatments would occur in evergreen shrubland communities and 18% in evergreen woodlands, but that these treatments would not target woody species such as sagebrush for removal. The discussion in Chapter 4 also states that the primary mechanical treatment proposed is drill seeding, which is used in restoring degraded sites, such as those that have been invaded by annual grasses following wildfires. There may be some instances where mechanical treatments would be used specifically to control or reduce sagebrush in order to reduce fuel loading or create fuel breaks around communities or provide for more landscape diversity for wildlife or forage. Other likely treatment scenarios include mechanical treatments in woodlands that have encroached on former shrublands or are heavily infested by insects to reduce hazardous fuel cover and restore shrubland habitat. Where resource management planning and local objectives require repeated treatments of evergreen shrublands to meet resource objectives, mechanical methods could have adverse effects to native communities over the long term. Land use plans guide land use and vegetation management decisions within a geographic area and provide specific goals, standards, and objectives to apply to vegetation treatment projects (see Vegetation Treatment Planning and Management, Site Selection and Treatment Priorities in Chapter 2 of the PER). Site-specific analyses will be used to determine the best way to meet resource objectives while minimizing unintended impacts to natural resources. The overriding goal is to restore desirable vegetation based on site-specific analyses, which include assessment of site potential, land health and current conditions, causes of existing degradation, and likely effectiveness of treatments.

EMC-0503-017
John Day-Snake Resource Advisory Council

Comment: We [the John Day/Snake Resource Advisory Council] like the use of ecosystem divisions in the report to discuss vegetation treatments. The BLM lands within our RAC [Resource Advisory Council] area are located in the Temperate Desert Ecoregion. The document states that 60% of fire treatments would occur in these vegetation types although the review of fire effects in the report state that in the evergreen shrubland (sagebrush types) repeated fires in less than 30 to 50 years would generally have an adverse affect on native communities with an increase of annual grasses. We want to emphasize that those using prescribed burning should proceed with caution in these sagebrush and juniper communities with tendencies for non-

native annual grasses to dominate. Monitoring is essential.

Response: Fire treatments are one of a suite of treatments that would be used to restore Temperate Desert communities. Over half of the manual treatments an overwhelming majority of the mechanical treatments, and over 70% of the acres treated using herbicides would be in the Temperate Desert. The BLM is aware of the risks associated with use of fire in sagebrush communities, and would take them into account when developing vegetation treatment programs. For instance, prescribed fires may be timed to occur before downy brome produces seeds, and may be combined with reseeding to encourage establishment of more desirable species. For more information about monitoring, please see the Monitoring section of Chapter 2 of the Final PER. We have included additional information on monitoring objectives and requirements that was not included in the Draft PER.

EMC-0584-066
Western Watersheds Project

Comment: Use of material for biomass fuels should not be allowed. Biomass projects export nutrients from often nutrient-deficient sites, and reduce litter and ground cover, leading to greater site aridity. Biomass removal results in removal of woody debris and other important habitats for native wildfire, or plant materials that may be important for watershed stabilization, and that ultimately provides in-stream habitat structure for aquatic species, including TES [threatened, endangered, and sensitive] fish species. Biomass use is an extractive, commercial use of public lands with widespread harmful ecological impacts.

Response: The program analyzed in the PER would utilize only a portion of the woody residue that is in excess of the levels necessary to maintain natural functions. The BLM Biomass Utilization Strategy (implemented through Instructional Memorandum No. 2005-192) has established the requirements that biomass will be offered for 50% of mechanical fuels treatments by Fiscal Year 2008. Where treatment includes removing biomass, best management practices will be applied that leave an appropriate amount of down woody to maintain ecological functions, such as nutrient cycling, wildlife habitat, and the native fire regime. These practices include avoiding whole tree removal, scattering tree tops, and prescribed burning following biomass removal to release nutrients from needles, twigs, and limbs left on site. Research has shown that the preponderance of nutrients is retained in needles, twigs, and small limbs rather than tree boles.

RMC-0040(1)-013
Resource Concepts, Inc.

Comment: Pg. 4-45 [of the Draft PER], the section on the effects of mechanical treatments in the Temperate Desert Ecoregion includes a statement that mechanical treatments which do not uproot vegetation would have little effect on plant species composition, other than an increase in cover of herbaceous species. The document goes on to state that shrubs would resprout fairly quickly. Big sagebrush does not resprout after mowing treatments, but rabbitbrush, desert peach, and ephedra species do. This type of treatment would favor a change in species composition toward rabbitbrush rather than sagebrush. In general, mechanical mowing treatments are not completely effective at killing sagebrush plants (Davis 1983). In this case, sagebrush plants surviving mechanical treatments will continue to grow and provide a seed source, but they do not resprout. Also mowing treatments would change species composition to favor herbaceous species rather than shrub species for several years.

Response: Thank you for the additional information and clarifications. The text of the PER has been changed to include your information, as follows: "Mechanical treatments that do not uproot vegetation would have little overall effect on understory plant species composition. However, compositional changes to overstory shrub

species may occur, as certain shrub species are more adapted to this type of disturbance and would resprout readily, while others must reseed themselves from shrubs that survive treatment or from adjacent areas. Mowing treatments would favor herbaceous species rather than shrubs. However, mowing is generally not considered to be useful for long-term control of sagebrush, as the effects last less than 5 years (Davis 1983) and in general little overall effect on plant species composition would be expected in the long term."

RMC-0040(1)-014
Resource Concepts, Inc.

Comment: Pg. [Page] 4-50 [of the Draft PER], only six percent of the annual graminoid or forb subclass in the Temperate Desert region is proposed for biological control methods. The document does not address the use of livestock grazing to control cheatgrass in monoculture stands or areas of dense infestation. This biological control method must be addressed in this section and added as a treatment method in the Temperate Desert ecoregion, even though BLM managers did not propose this treatment during the scoping of the document. Studies are underway in Nevada that will demonstrate the value and purpose for livestock grazing to occur on cheatgrass range as a means of cheatgrass control and wildfire presuppression.

Response: The data in Table 4-12 of the PER represents projected treatments and are somewhat based on historic use of these different tools. The 6% figure in this table does not represent a cap, but is our best estimate based on projected future treatments (see Determination of Treatment Acreages in Chapter 1 of the PER). This table contains information on treatments such as "prescribed grazing," which are specifically designed to control targeted invasive species or other undesirable vegetation, and changes in permitted actions (such as changes in the livestock grazing season of use on an ongoing grazing permit) are likely not fully represented by these figures. If new research reinforces the use of livestock to control downy brome and other fuels, that information will be taken into account as the BLM develops site-specific plans, and the use of domestic livestock through either "prescribed grazing" or "permitted grazing" will likely increase.

RMC-0049-017
Wilson, Robert E. (University of Nevada Cooperative Extension)

Comment: Page 4-35 [of the draft PER] The lack of information in Table 4-5 [of the Draft PER] leads the reader to inaccurate or incomplete conclusions. For example: Why is a particular species enhanced by fire? This is key information needed to address how a manager will address weed infestations following fire. It is currently information I have not seen included in BARE [Burned Area Emergency Response] team analysis.

Response: There is much more specific information on fire effects than is appropriate for this general overview. More detailed information on the effects of fire on all but one of these species (cogongrass) can be found in the Fire Effects Information System (http://www.fs.fed.us/database/feis/welcome.htm). More detailed explanations of postfire vegetation recovery mechanisms can be found in Miller 2000 (Miller, M. 2000. Fire autecology. Chapter 2 *in* Wildland fire in ecosystems: effects of fire on flora [J.K. Brown and J.K. Smith, Jane Kapler, eds.] General Technical Report RMRS-GTR-42. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. Ogden, Utah).

Given that the recovery mechanisms and prefire abundance and condition of native plants and weedy species are known, the effects of a particular fire can be inferred from knowledge of the fire's intensity and severity, and the size of patches created. These factors control the impact of the fire on the plant's reproductive capacity, and determine the postfire environment, both of which can influence the duration of fire

effects on each species.

RMC-0081-004
Arizona Game and Fish Department

Comment: The use of prescribed fire is the Department's preferred alternative for vegetation treatments outside of the Sonoran and Mojave Desert ecozones. Fires timed to provide low-intensity, mosaic burns are preferred. We recognize fire may be ineffective in achieving management goals for areas dominated by cheatgrass [downy brome] and other invasive species, and that alternatives need to be explored. We strongly recommend that post-fire management include an appropriate level of grazing deferment, preferably at least two growing seasons.

Response: The BLM will take all available site-specific information into account when developing treatment programs. In many cases where fire is used, low-intensity, mosaic burns will likely be preferred by the BLM. The presence of downy brome on a site will also been taken into account. In some cases, another treatment may be selected, or prescribed fires may be timed to occur before downy brome produces seeds, and combined with reseeding to encourage establishment of more desirable species.

Chapter 2 of the PER, under Vegetation Treatment Standard Operating Procedures and Guidelines, lists the BLM's Standard Operating Procedure to avoid grazing by domestic and wild animals on treatment sites until vegetation is well established. The appropriate length of time would be determined at the local level when developing treatment programs.

RMC-0081-008
Arizona Game and Fish Department

Comment: Herbicide application alone, or combined with other treatments has proved effective in reducing noxious vegetation. Currently some application of this methodology, combined with mechanical control, is being used with some success in southeastern Arizona to restore Chihuahuan desert grasslands. We request close coordination between the BLM and the Department occur prior to application of herbicides due to the potential negative affects these may have on fish, wildlife, and/or native plant species.

Response: It is the BLM's intent to continue to coordinate with agencies regarding proposed vegetation treatments. As stated in Chapter 1 of the PEIS, the potential effects of herbicides on various resources will be analyzed at the regional, state, and/or project level as appropriate. The public and agencies will have an opportunity to participate in the environmental review process during the development and analysis of local vegetation management programs.

RMC-0222-087
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: As a non-NEPA document, the PER "gets away" with making claims minus scientific evidence. This reveals the lack of "equivalence" of the PER to a NEPA document. Example: Herbicides in sagebrush As noted later in these comments [page 28] in the case study regarding sagebrush and invasive species treatments in sage grouse habitats, there is a far more complicated relationship between herbicide and other sagebrush community treatments and sage grouse habitat that the simplistic conclusion that herbicide use leads to native vegetation ([Draft] PER [page] 4-53: notes in italics added):

The use of herbicides would benefit plant communities [i.e., apparently without regard to whether the plant communities are exotic European livestock forage pastures] with weed infestations by decreasing the growth, seed production, and competitiveness of target plants, thereby releasing native species from competitive pressures (e.g. water, nutrient, and space availability) and aiding in their

reestablishment. [This assumes, without evidence, that it is competitive pressures and not trampling, compaction, or other pressures that is reducing or eliminating the native species and favoring invasive species.] The degree of benefit to native communities would depend on the toxicity of the herbicide to the target species, and its effects on non-target species as well as the success of the treatments over both the short and long term. [The preceding is tautological: "The degree of benefit to native communities would depend on…the success of the treatments."] Some treatments are very successful at removing weeds over the short term but are not successful at promoting the establishment of native species in their place. In such cases, seeding of native plant species would be beneficial. [Neither the PER not the DEIS estimate what acreage would require seeding of native plant species; the amount of native seed this would require, nor the demonstrated success of such seedings under various habitat conditions] The success of treatments would depend on numerous factors, and could require the use of a combination of methods to combat undesirable species [Neither the PER nor DEIS estimate what acreage will require "a combination of methods" or what methods will be involved in those combinations.]

There are no references offered for the above conclusions, and yet there is no effective way for scientists or others to challenge the conclusions, because the report is free of NEPA requirements for accuracy.

Response: The PER summarizes information available from various scientific sources including information summarized in previous EISs undertaken by the agency. The list of references used in the development of the PER are found in Chapter 5 of the PER. See also responses to Comment RMC-0222-003 under Proposed Action and Purpose and Need, Scope of Analysis, Comment RMC-0222-005 under PEIS Proposed Action and Purpose and Need, Organization of the Vegetation Treatments Assessments, and Comment RMC-0222-082 under PEIS Proposed Action and Purpose and Need, Scope of Analysis for an explanation of the acres used and the relationship of the PER to the PEIS.

In regard to the success of treatments, numerous examples of successes in restoring native plant communities are documented for the public on several agency websites related to implementing the *National Fire Plan* and *Healthy Forest Restoration Act*. The BLM's Legacy Program also outlines the success of past treatments implemented over 25 years ago. BLM partners in Cooperative Weed Management Areas (CWMAs), such as the Montana Tri-State Weed Management Area, document accomplishments and successes in habitat restoration in their annual operating plans, also available on the Internet. Recent examples of accomplishments for the BLM from 2001 through 2006 are summarized in the U.S. Department of Interior's Sustaining Landscapes and Habitat for Wildlife through Cooperative Conservation. Mark Shaefer, Deputy Assistant Secretary for Water and Science, testifying before the Senate Committee on Environment and Public Works in 1999 summarized BLM accomplishments for 1998 in completing 465 projects to improve 1,460 miles of stream corridors and wetlands, completed assessments of over 5,000 miles of streams and 20,000 acres of wetlands, and maintained 694 riparian and wetland improvement projects. In 2004, the Office and Management and Budget generally concluded the Habitat Restoration activities of the BLM were Moderately Effective for habitat restoration activities (available at: http://www.whitehouse.gov/omb/budget/fy2006/pma/interior.pdf.

RMC-0222-138
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: Ironically, while claiming that grazing management cannot be addressed in the PER, the BLM includes "livestock" as a "public land resource" (akin to water, wildlife, wilderness and other public values) ([Draft] PER: [page] 3-55) that will benefit from vegetation treatments described in the invasive species management. Livestock grazing is also identified as a tool for managing invasive species, even though grazing is a vector for invasive weeds ([Draft] PER: [page] 4-88).

Response: See response to Comment RMC-0080-004 under PEIS Alternatives, Alternative E - No Use of Sulfonylurea and other Acetolactate Synthase-inhibiting Active Ingredients. With proper management and authorizations, grazing animals can be an effective tool in reducing hazardous fuels and maintaining the vegetative character of an area. The use of grazing animals for vegetative control is distinct from livestock grazing under the Taylor Grazing Act.

RMC-0233-038
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The D[raft] PEIS/PER stares that "most of the mechanical treatments in evergreen shrubland would involve tilling or plowing of sagebrush, followed by seeding or drilling". The Service has concerns regarding the proposed use of seeding in fragile evergreen shrubland habitats. By seeding areas, the BLM may inadvertently introduce invasive weeds to otherwise "weed-free" areas. Please reconsider this action in the final PEIS/PER.

Response: Table 2-5 in Chapter 2 of the Final PER contains Standard Operating Procedures for revegetation activities. Prevention actions include the use of weed-free seed, hay, pellets, mulch, fill, gravel, soil, and mineral materials on public lands. Other measures listed in the table include power washing of equipment. BLM Manual direction (1742-1 and 1745) and subsequent policy direction (IM No. 2006-073) provide guidance on introduction of non-native species and use of weed-free seed on BLM-administered lands. Current policy requires testing of seed for noxious weeds and other invasive species of concern before accepting seed orders as a means of complying with internal guidance, state seed laws, and the Federal Seed Act 7 USC 1551-1611. These measures are all designed to minimize the risk of introducing invasive species through revegetation and seeding activities.

RMC-0233-040
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: While there may be specific habitats for which it is true, there is no clear biological basis to support the general statement suggesting long-term benefits of prescribed fire on plants through reduction of fuel buildup. This is particularly the case in the arid west throughout which cheatgrass (downy brome; *Bromus tectorum*) is established and which spreads more readily with fire. Furthermore, this widely-distributed invasive grass increases the likelihood of future fire ignition where dense stands are established, increasing the likelihood of establishing even denser stands of cheatgrass.

Response: Although there are some situations in which prescribed fire may not be beneficial in vegetation management (e.g., some areas with downy brome), as discussed in Chapter 3 of the PER, Vegetation, Ecological Processes that Underlie the Effects of Fire on Flora, prescribed fire can be important in restoring more normal fire regimes and reducing fuels buildup. In areas infested with downy brome, several treatment methods, early burning, and reseeding may be needed.

Effects of Vegetation Treatments, Fish and Other Aquatic Organisms

RMC-0233-024
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The loss of allochthonous materials should be addressed more directly. In the effects section, BLM refers to the loss of allochthonous materials by removing plant material in a round-about way (5-11 "limit populations of terrestrial and aquatic insects"). We would suggest adding language discussing a change in the energy dynamics of the stream. This may be good (i.e. removing evergreen palms and replacing with deciduous ash) and allow more material to be blown in, etc.; however, impacts to the riparian system could affect nutrient dynamics which drive primary production and can ultimately affect aquatic listed species.

Response: The text of the PER and Biological Assessment (BA) have been changed to include the recommended information on nutrient dynamics. See Chapter 5 of the BA, under Effects Common to All Treatment Methods, and Chapter 4 of the PER, under Effects to Special Status Fish and Other Aquatic Organisms.

Effects of Vegetation Treatments, Wildlife Resources

EMC-0234-020
Dremann, Craig

Comment: The BLM document is relying on ancient supporting documents, like that on page 4-84 [of the Draft PER]: "Burning at 3- to 5-year intervals restores vigor and retards succession to optimize habitat for prairie chickens (Kirsch 1974)," --- theories that haven't proved out in practice for the last three decades.

Response: We have reviewed additional sources on burning and prairie chicken nesting and lekking habitat and found that some studies concur with the results presented above, while others disagree. We have presented both perspectives in the revised discussion of burning and prairie chicken habitat in Chapter 4 of the Final PER under Wildlife Resources.

RMC-0081-007
Arizona Game and Fish Department

Comment: We recommend the BLM use domestic grazing animals as a means of vegetation treatment with caution. While certain grazing systems can and do provide benefit to certain plant communities, our experience in arid ecosystems is less than satisfactory. Additionally, due to disease concerns, use of domestic sheep and/or goats is not acceptable in areas inhabited by bighorn sheep, or in any adjacent area where the potential for any contact with bighorn sheep could occur.

Response: The BLM would consider potential effects to plant communities and ecosystems when developing treatment programs at the local level. The site conditions and the risks to native communities would be considered carefully. As stated in Chapter 4 of the PER, 90% of biological control treatments including those involving domestic animals, would occur in the Temperate Steppe and Mediterranean ecoregions, rather than arid desert ecosystems.

The potential for domestic grazing animals to adversely affect bighorn sheep is discussed in the Biological Assessment (BA). The BA requires that the BLM implement the following conservation measure to reduce risks for transfer of viruses, parasites, and bacteria from domestic sheep to bighorn sheep: "Do not use domestic animals as a vegetation treatment in bighorn sheep habitat."

RMC-0144-012
Wyoming Game and Fish Department

Comment: Page 4-72 [of the Draft PER] statement: "The Wildlife Management Program, a sub-program under the Wildlife and Fisheries Management Program, is responsible for wildlife management on public lands." We request a clarification of this statement as the majority of wildlife management authority resides with the states

and is the responsibility of state fish and wildlife agencies. We again recommend additional development of a strong partnership in consultation and collaboration with state fish and wildlife agencies during the planning, development, execution and monitoring of vegetation treatments. We would also like assurances that current MOUs [Memoranda of Understanding] by and between state BLM offices and state agencies will be honored.

Response: The BLM is responsible for wildlife habitat management on public lands, while state fish and wildlife agencies manage animal populations (i.e., through harvest regulations) on public lands, but also have an interest in how BLM habitat management actions affect wildlife populations. As discussed in Chapter 1 of the PER, Interrelationships and Coordination with Agencies, the BLM coordinates closely with other local, state, and federal agencies in the management of fish and wildlife habitat, and would continue to abide by previous MOUs developed with these agencies.

RMC-0222-123
Salvo, Mark (Sagebrush Sea Campaign), Cox, Caroline (Northwest Coalition for Alternatives to Pesticides), and O'Brien, Mary

Comment: The following information on effects of fire on sage grouse is excerpted from Rowland (2004), which was not referenced in the PER.

> Prescribed fire has been used not only to remove sagebrush, primarily to enhance livestock forage, but also with the expressed goal of improving habitat conditions for sage-grouse and other wildlife (Klebenow 1973). Although some studies have demonstrated neutral or even positive effects on sage-grouse habitats from fire (e.g., Martin 1990, Fischer 1994, Pyle and Crawford 1996, Crawford and Davis 2002), others have documented population declines and long-term habitat degradation (Connelly et al. 2000*a*), Nelle et al. 2000). While some short-term benefits, such as increases in annual forbs, may accrue from prescribed burning, nesting cover in particular may be reduced and thus become less sustainable (Wrobleksi 1999, Nelle et al. 2000). A 9-yr [year] study in southeastern Idaho examined lek attendance in relation to prescribed burning and suggested that declines in breeding populations of sage-grouse were more severe following fire (Connelly et al. 2000*a*). The study area was Wyoming big sagebrush/bluebunch wheatgrass (*Pseudoroegneria spicata*) site, with 23 cm [centimeter] average annual precipitation. Four years of pre-treatment data were obtained before a 5,000-ha [hectare] portion was burned; nearly 60% of the sagebrush was eliminated, leaving a mosaic of sagebrush and grassland types. Although declines in lek attendance occurred throughout the study in both treatment and control sites, declines were greater in the burned area. Following the burn, the number of active leks declined 58%, from 12 to 5, in the treatment versus 35%, from 17 to 11, in the control. Furthermore, the mean number of males/lek postburn was 6 in the treatment versus 17 in the control, whereas these variable values had been similar at both sites prior to treatment. Attendance at the major leks following fire declined 90% at the treatment site versus 63% at the control.

Response: Information similar to that provided in the comment is given in Chapter 4 of the PER under Wildlife Resources. Also see response to Comment EMC-0585-211 under PEIS Environmental Consequences, Wildlife Resources. However, we have included additional information on the effects of burning on sage-grouse habitat in the Final PER.

RMC-0233-013
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Based on calculations using data provided in the draft PER and draft Biological Assessment, approximately 3,960,000 acres of temperate desert ecoregion (which includes sagebrush) would be treated on an annual basis using fire, mechanical treatments and herbicide applications. This is nearly two-thirds of all the annual treatments across all BLM lands. We are concerned at this time that only very general effects to species dependent on these habitats were provided in the D[raft] PEIS. Even though the Service has determined that the greater sage-grouse *(Centrocercus urophasianus)* is unwarranted for listing at this time, we continue to have concerns regarding sage-grouse population status, trends and threats, as well as concerns for other sagebrush obligates. We urge the BLM to use extreme caution in proposed application of vegetation management in sagebrush ecosystems in the final PEIS/PER so as to not further exacerbate causes of decline for this species, and other sagebrush obligates.

Response: As discussed in the PER under Vegetation, Adverse Effects of Treatments, approximately 50% of treatments would occur in the Temperate Desert Ecoregion. As discussed in Chapter 4 of the PER, the BLM recognizes that treatments have both beneficial and adverse affects on species using sagebrush habitats, including sage-grouse. Improving habitat for sagebrush obligate species is an important goal of vegetation management in this ecoregion, and the BLM would strive to implement projects that meet program objectives—control invasive species and reduce hazardous fuels—while also improving habitat for wildlife.

RMC-0233-015
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Mechanical treatments, if carefully designed and executed, can be beneficial to sage-grouse by improving herbaceous cover, forb production, and resprouting of sagebrush (Braun 1998). However, adverse effects have also been documented (Connelly et al. 2000). Mechanical treatments in blocks greater than 100 ha [hectare] (247 ac [acres]), or of any size seeded with exotic grasses, degrade sage-grouse habitat by altering the structure and composition of the vegetative community (Braun 1998).

Response: The PER under Wildlife Resources discusses the need to keep treatment blocks generally about 250 acres or less to ensure a mosaic of habitat types and minimize habitat fragmentation. We have included the information discussed above in the Final PER under Wildlife Resources, Effects of Mechanical and Manual Treatments.

Effects of Vegetation Treatments, Livestock

RMC-0217-025
Sierra Club Utah Chapter

Comment: The BLM is also confused about the effects of livestock grazing on exotic plants. "Domestic animals, such as cattle, sheep, or goats, control the top-growth of certain non-native invasive and noxious weeds which can help to waken the plants, and reduce the reproduction potential. ([Draft] PER [page] 2-12) This seems to happen magically to non-native invasive and noxious weeds but not to native plants. The BLM never acknowledges that grazing harms all plants in the same way it harms any plants such as exotics or weeds.

Response: The PER does not suggest that authorized grazing would automatically result in control of invasive or noxious species. The use of domestic animals to control undesirable vegetation implies "prescribed grazing" specifically designed to control a particular invasive species (grazing would occur during a period of time when it is most likely to damage the undesirable vegetation, and animals would be concentrated on the area of infestation). "Prescribed grazing" is a viable option in

many, although certainly not all, situations. For instance, if both undesirable and desirable plant species were present and vulnerable to grazing at approximately the same times, the use of domestic livestock to help control the undesirable vegetation would not be very effective. As discussed under Biological Control in the section on Vegetation Treatment Methods, the potential effects to desirable competing species are identified, and if deemed necessary, restriction of grazing during critical growth periods for these species is recommended. The potential for overgrazing desired vegetation, rather than the undesirable vegetation, is also identified. Statements indicating that domestic animals would likely affect non-target vegetation or other resources are also found under the Effects of Biological Treatments in the Vegetation and Wildlife Resources sections of Chapter 4 of the PER. The PEIS team did acknowledge that grazing can affect both undesirable and desirable plants, but if carefully timed and planned, "prescribed grazing" can be used to help control undesirable vegetation in some situations.

RMC-0217-027
Sierra Club Utah Chapter

Comment: Many weed species are less palatable than desired vegetation, so the animals may overgraze desired vegetation rather than the weeds. ([Draft] PER [page] 2-12). This is another piece of magic. Suddenly the livestock are no longer going to eat the non-native and noxious weeds noted just a few paragraphs earlier. In fact this is again one of the serious flaws in assuming that livestock can perform any kind weed control. Unless someone leads the cattle or sheep from plant to plant and forces it to eat the less desirable species it will not happen.

Response: Concerning livestock control of non-native invasive species, the PER states that domestic animals control the top growth of "certain" non-native invasive and noxious weeds. Some undesirable species can be affected by grazing, but other undesirable species may not be readily controlled by livestock grazing. Therefore, although using domestic animals to graze undesirable vegetation is a viable option in some situations, it would not be effective in all situations and must be evaluated on a site-by-site basis. Using domestic animals to graze undesirable vegetation requires careful planning and knowledge of both the undesirable plant species and the species of animal being used to help control that vegetation. There will continue to be many situations in which the use of domestic animals to control vegetation would be ineffective, and could result in adverse impacts to other resources. Recent research, however, indicates that animals can be "conditioned" or trained to consume some undesirable plant species in greater quantities without causing significant impacts to the more desirable vegetation. This research may improve our ability to use domestic grazing animals to control vegetation in the future.

Effects of Vegetation Treatments, Wilderness and Special Areas

RMC-0057-008
California Wilderness Coalition

Comment: Before mechanical treatments are used managers should consider whether the area is managed for motorized or non-motorized recreation (such as those managed under a semi-primitive non-motorized recreational opportunity spectrum) should not be subjected to mechanical treatments.

Response: The purpose of this PEIS is to provide broad environmental analysis and information for vegetation treatments that can be used by local BLM field offices to support local land-use planning. Land use plans, developed with public input, will analyze the various vegetation treatment methods suitable for specific areas. Mechanical treatments in areas where the setting character is managed to provide a semi-primitive non-motorized recreation experience generally would not be allowed. The authorized officer could use one of the other methods available, such as

prescribed fire, manual, or biological treatments for this area.

Mechanical treatments may be appropriate in areas where a decision has been made to restrict recreation access to non-motorized modes. Generally the recreation opportunity spectrum is meant to apply to the management of recreation activities, which may differ significantly in nature and impact from a mechanical treatment being applied for purposes other than recreation. Recreation and other resources must be considered on a site-specific basis in the process of making a decision to apply mechanical treatments.

RMC-0057-011
California Wilderness Coalition

Comment: The D[raft] PEIS [Draft PER] states "The focus of the PER is not to restrict, limit, or eliminate FLPMA [Federal Land Policy Management Act]-authorized activities as a means to restore land health" ([page] 1-6 [of the Draft PER]). Yet by allowing mechanical treatments in areas with wilderness characteristics, the plan is likely to encourage motorized uses that are inconsistent with land use plans. As a result, the plan will negatively impact non-motorized recreation in areas that were planned as such in local land use plans.

Response: All proposed projects are required to be in conformance and consistent with local land use plans. Effects of treatments under any method, including mechanical, to areas with wilderness characteristics, would be addressed in site-specific NEPA analysis at the time the project is proposed.

RMC-0144-013
Wyoming Game and Fish Department

Comment: [PER page] 3-107 Should add Wyoming Wilderness Study Areas.

Response: Map 3-12 has been revised in the PEIS and PER to show Wilderness Study Areas in Wyoming.

Biological Assessment for Vegetation Treatments on Bureau of Land Management Lands in 17 Western States

EMC-0238-006
California Partners in Flight

Comment: In analyzing risks of exposure from the various active ingredients proposed for use under the Alternatives, the Biological Assessment [BA] lists a risk to large ungulates and others from long-term exposure when animals spend significant time foraging within a treated area. To minimize the opportunity for such risk, we recommend that large target areas be treated in a mosaic pattern, treating an area multiple times if necessary, to decrease the likelihood that animals will forage on treated vegetation for an extended period of time.

Response: The PEIS recognizes the risks to large mammals from consuming large quantities of grass that has been treated with certain herbicides. The mitigation presented in the PEIS includes several measures to minimize impacts to wildlife that forage on grass, including minimizing the size of application areas for certain herbicides, applying certain herbicides only at the typical application rate, limiting application of certain herbicides to spot treatments in rangeland and wildlife habitat areas, and not applying certain herbicides in rangelands at all. In addition, the PEIS presents additional mitigation for threatened, endangered, and sensitive (TES) wildlife species that is based on the mitigation presented in the Biological Assessment and is more protective. These mitigation measures include (but are not limited to) not broadcast spraying many of the herbicides proposed for use in habitats used by TES large ungulates. At the local level, treatment programs will be planned to minimize

effects to any large ungulates that may be present, using these mitigation measures as a guideline. Additional mitigation may be developed at the local level, as appropriate. The decision to treat areas in a mosaic pattern, should it be appropriate, would be made at the local level.

EMC-0274-003
Noble, Emily A.

Comment: How will herbicides affect endangered species? Is this an effort to shut up those birdlovers who cherish rare and not-so-rare species?

Response: The BLM cooperated extensively with the U.S. Fish and Wildlife Service and National Marine Fisheries Service (Services) during development of the PEIS, PER, ecological risk assessment protocol, and ecological risk assessments. Members of these agencies participated in several meetings and on weekly calls for nearly a year during development of the risk assessment protocol to ensure that their concerns regarding threatened and endangered species and other species of concern were addressed. The BLM prepared a Biological Assessment (BA) to accompany the PEIS, which addressed the effects of treatments on threatened and endangered species. The Services reviewed the BA and made a determination of the likely effects to threatened and endangered species and species proposed for listing from the proposed vegetation treatments.

EMC-0525-024
Western Watersheds Project

Comment: The [P]EIS, PER, Biological Assessment, Risk Assessment and all other documents ignore the realities of the current ecological conditions and status of native biota across arid BLM lands. Instead, BLM blindly proposes more of the same activities that have caused these conditions and species declines in the first place! No effort is made to assess, in a biologically meaningful way, the direct, indirect and cumulative impacts of the [P]EIS/PER on small, isolated populations of declining native special status and T&E [threatened and endangered] species in fragmented landscapes.

Response: The direct, indirect, and cumulative impacts of treatments on special status populations is discussed in most detail in the Biological Assessment (BA), and a summary is provided in Chapter 4 of the PEIS and PER. Factors leading to fragmentation, and the role herbicides and other treatments would play in reducing fragmentation, are discussed in the Cumulative Effects Analysis in Chapter 4 of the PEIS. Loss and fragmentation of habitat has contributed to the decline of some species, as discussed in the BA. However, public lands provide large blocks of habitat that are impacted minimally by human activities. These lands reduce fragmentation and contribute to the protection and conservation of sensitive species.

EMC-0585-236
Western Watersheds Project

Comment: The wording in the Intro of the Weed BA [Biological Assessment], really twists the mind. The increase in treatments is described as the "Proposed Action". Yet, there has never been any NEPA review of the Proposed Action, which treats much more acreage than was ever proposed to be treated before, or assessed in the old stack of NEPA docs. The "treatment" covered by the BA is not just herbicide treatment - it is all methods of killing trees and shrubs such as sagebrush.

Response: The BA is required under the Endangered Species Act for federal actions that have the potential to impact listed species, and species proposed for listing. Non-herbicide treatment methods were not evaluated in the PEIS because they have been analyzed in earlier NEPA EISs. However, the Services felt that to adequately address impacts to listed and proposed species under the Endangered Species Act, especially since a BA was not prepared as part of the earlier EISs, an assessment of potential impacts to species from all treatment methods was needed under the ESA to meet

consultation requirements.

EMC-0585-237
Western Watersheds Project

Comment: BA [Biological Assessment] at [page] 1-1: "At the time earlier EISs were completed, the BLM was proposing to treat only about 16% of the total acreage that would be treated under the program that is now being proposed". This exposes the fallacy of the BLM claim that the old EISs covered the effects of the non-herbicide vegetation treatments to be conducted.

Response: The previous EISs addressed the use and effects of non-herbicide treatments in the areas for which the EISs were developed. The use of non-herbicide methods in an integrated pest management framework has been affirmed in all past EIS records of decision, based on impact analysis. This PEIS does not propose any new decisions relative to the use of non-herbicide treatments. The determination of acres assessed in this PEIS is discussed under Determination of Treatment Acres in Chapter 1 of the PER. Although the acres identified for analysis exceed estimates of earlier EISs, the actual number of acres treated is dependant upon the goals and objectives identified in individual land use plans, many of which are still in place since the previous EISs were developed. This PEIS does not authorize specific treatments nor increase the rate of treatments over current implementation. The impacts relative to non-herbicide treatments are estimated to be the same as the impacts identified in previous EISs.

EMC-0585-238
Western Watersheds Project

Comment: BLM has prepared the BA [Biological Assessment] to be used just like the Programmatic Risk Assessment – to provide ESA [Endangered Species Act] consultation coverage for all of these greatly expanded actions that have never undergone NEPA.

Response: As noted for Comment EMC-0585-236 under Biological Assessment, non-herbicide treatment actions were evaluated in earlier EISs. However, BAs to address the potential effects of BLM treatments to listed and proposed species were not done concurrently with earlier EISs. Thus, at the request of the Services, the BLM evaluated all treatment methods as part of the BA.

RMC-0208-027
California Oak Foundation

Comment: Although the Draft BA [Biological Assessment] addresses some of these special status species, it omits at least four that are known to inhabit oak woodlands. Specifically, the Draft BA failed to include discussion of the following endangered species: the long-toed salamander (*Ambystoma macrodactylum*); the loggerhead shrike (*Lanius ludovicianus*); the little pocket mouse (*Perognathus longimembris*): and the mountain beaver (*Aplodontia rufa*). Based on these omissions alone, the Draft BA is inadequate. (City of Sausalito *v.* O'Neill (9th Cir. 2004) 386 F.3d 1186, 1216 [explaining that appellate courts "will find a biological assessment inadequate only if the agency 'entirely failed to consider an important aspect of the problem' "].) Moreover, these endangered species are only those species associated with oak woodlands. It seems likely that if the BA failed to account for these species, it failed to account for endangered or threatened species that inhabit other ecosystems. This constitutes a deficiency in the Draft BA and the Draft PEIS. *(Ibid.)*

Response: These four listed species—the long-toed salamander (*Ambystoma macrodactylum croceum*), the San Clemente loggerhead shrike (*Lanius ludovicianus mearnsi*), the little pocket mouse (*Perognathus longimembris pacificus*), and the mountain beaver (*Aplodontia rufa nigra*)—do not reside on BLM-administered lands and were not identified nor included in the species list provided by the U.S. Fish and Wildlife Service for the consultation.

RMC-0233-019
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Blanket statements regarding buffers may not always be appropriate. Some taxonomic groups of plants are more susceptible to herbicide effects and may require larger buffers as protection from herbicide drift. Often these sensitivities are included on the herbicide label; i.e., legumes are particularly susceptible to Milestone. In some cases they are not on the label; i.e., the Crassulaceae as a group are generally highly susceptible to glyphosate. This information is difficult to compile because it is often based on anecdotal experience under field conditions; however some attempt should be made to differentiate buffers for specific groups of plants, where possible, and this information should be added to the BA [Biological Assessment] as general guidance to field offices. For the Final PEIS/PER, please include an allowance for field offices to be allowed the flexibility of customizing buffers based on their site conditions if sufficient technical information or field experience is available to support the buffer size.

Response: The buffer distances provided in the Conservation Measures section for plants are based on conservative models and are intended to provide broad-level guidance for preventing impacts to non-target threatened, endangered, and proposed for listing (TEP) plants. Surrogate plants species for risk assessments were selected from classes of plants most susceptible to the herbicide being analyzed, and Toxicity Reference Values for TEP plants were developed conservatively using highly sensitive endpoints (such as germination). Although buffers derived from risk assessments are intended to be protective of all TEP plant species, they do not consider all information about individual species or site conditions at the project level. It is intended that such information will be considered when conservation measures are developed at the local level. As stated in the effects summary, additional conservation measures would also need to be developed by local offices and developed into site-specific BAs in order to ensure a determination of not likely to adversely affect. The text of the BA has been changed to include modification of the conservation measures presented in the BA, as appropriate.

RMC-0233-021
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: We offer the following information for your final BA [Biological Assessment] on the Aquatics Section for this project: A) Spray herbicide applications should have adequate zones and not applied during a time that would impact spawning for each individual species. This would include run-off from seasonal events (including summer monsoons), B) Vegetation control activities should not result in an altered aquatic habitat. Alterations to aquatic habitat that should be considered include changes in sedimentation, nutrient availability, light and thermal load.

Response: The conservation measures presented in Chapter 5 of the BA incorporate the provided recommendations. These measures have been developed as the minimum steps that would be required to prevent impacts to aquatic species and their habitats. Additional conservation measures would be developed at the local level, as appropriate, based on more specific knowledge of the habitat and life history of the suite of listed species that could be affected by proposed treatment programs.

RMC-0233-022
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Overall, the species accounts for Nevada species were very good. The Service's field office in southern Nevada can provide some additional references for the Ash Meadows naucorid. We suggest they use and include updated census data for aquatic species in southern Nevada from the Nevada Department of Wildlife.

Response: Given its breadth and the time spent compiling information in the Biological Assessment (BA), it contains some outdated information, as an exhaustive

literature review for each species was not feasible. It would be impossible for the BLM to continually update the information for every species in the BA. However, the BLM believes that the information contained in the BA is suitable for a programmatic analysis of effects. Since all aquatic species were lumped together for the effects analysis, additional census information would not have a bearing on this analysis. However, updated information will be included into species accounts done for BAs at the project level and the BLM will contact local and state fish and wildlife agencies for assistance in completing biological assessments at the local level.

RMC-0233-023
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: All pupfish were combined and the section is not as thorough as, for example, the springfish sections. The section should be expanded for consistency sake. The Owens pupfish varies greatly from the Devils Hole pupfish. It will be difficult to show effects to any pupfish in Nevada from BLM activities other than residual effects within the food chain; however, there are Ash Meadows Amargosa pupfish on BLM lands in Nevada.

Response: The text of the Final Biological Assessment has been changed in response to this comment. Pupfish have been covered in more detail. See the appropriate pupfish background sections in Chapter 5.

RMC-0233-026, 028
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: There are no known occurrences for the Western prairie fringed orchid (*Plantanthera praeclara*) in Montana or Wyoming or pallid sturgeon (*Scaphirhynchus albus*) in Colorado or Wyoming. Additionally, the piping plover (*Charadrius melodus*) and interior least tern (*Sterna antillarum*) are only migrants in Wyoming and do not nest there. However, impacts to these species could still occur from activities in Wyoming if any management activities result in depletion to the South Platte River system (e.g. water drafting for fire management) This is also true for the whooping crane (*Grus americana*) and bald eagle (*Haliaeetus leucocephalus*). There are no known occurrences of the American burying beetle (*Nicrophorus americanus*) in Wyoming.

Response: The states listed in the table refer to the location of local BLM offices. In most cases the office state is equivalent to the state in which the species occurs. In some cases, however, the local office administers BLM lands in more than one state. As explained in footnote #1 to Table 1-1 of the Biological Assessment (BA), in these cases, a species may occur in one or more of these states, and may not occur in the same state as the BLM office. The western prairie fringed orchid, pallid sturgeon, piping plover, interior least tern, and American burying beetle occur in Nebraska (which falls under the Wyoming office). In response to this comment, Colorado has been removed from the pallid sturgeon line in Table 1-1 of the Final BA. The whooping crane and bald eagle appear in Wyoming, according to the USFWS Threatened and Endangered Species System Web Site.

RMC-0233-027
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The humpback chub (*Gila cypha*), bonytail chub (*Gila elegans*), Colorado pikeminnow (*Ptychocheilus lucius*) and razorback sucker (*Xyrauchen texanus*) do not occur in Wyoming. However, impacts to these species could still occur from activities in Wyoming if any management activities result in a depletion to the Green River system, including the Little Snake River of the Colorado River system (e.g. water drafting for fire management).

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See footnote #1 in Table 1-1 of the BA.

RMC-0233-029
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Critical Habitat for the desert yellowhead (*Yermo xanthocephalus*) is present on BLM lands in the amount of 360 acres.

Response: Table 1-1 of the Final Biological Assessment (BA) has been changed in response to this comment.

RMC-0233-030
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: There is an approved recovery plan for the Kendall Warm Springs dace (*Rhinichthys osculus thermal*) (USFWS, 1982).

Response: Table 1-1 of the Final Biological Assessment (BA) has been changed in response to this comment.

RMC-0233-031
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The whooping crane has been extirpated from Wyoming. We also suggest the BLM delete the paragraph regarding the Grays Lake whooping crane flock as that flock has been extirpated (page 6-87 [of the Biological Assessment]).

Response: See responses to Comment RMC-0233-027 under the Biological Assessment and Comment RMC-0233-029 under the Biological Assessment. The whooping crane occurs in Nebraska, which falls under the Wyoming office. The text of the Final Biological Assessment has been changed in response to this comment. See the whooping crane background section in Chapter 6 of the BA.

RMC-0233-032
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: There are five geographic recovery plans written for the bald eagle. For Wyoming and Montana please refer to "Recovery Plan for the Pacific Bald Eagle," (USFWS, 1986). For Colorado and Utah, refer to the "Northern States Bald Eagle Recovery Plan," (USFWS, 1983).

Response: Table 1-1 of the Final Biological Assessment (BA) has been changed in response to this comment. Local BLM offices will consult whichever recovery plan is geographically applicable when doing ESA [Endangered Species Act] consultation at the project level.

RMC-0233-033
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The gray wolf (*Canis lupus*) is listed as experimental nonessential throughout Wyoming and portions of Montana and Idaho, i.e. the Yellowstone and central Idaho nonessential experimental populations (NEPs) (FR [Federal Register] Volume 70, No. 4, 2005). However, for purposes of Section 7 consultation, the gray wolf is considered threatened on any National Park or National Wildlife Refuge within these two NEPs. In Colorado, Utah, and the rest of Montana it is listed as Endangered.

Response: Table 1-1 of the Final Biological Assessment (BA) has been changed in response to this comment. Because the state-by-state listing status for the gray wolf is complex and confusing, the table has been revised so that the states of concern are presented without their associated listing status. Local BLM offices will determine which wolf Distinct Population Segments or experimental, non-essential populations would potentially be affected by proposed treatment programs.

RMC-0233-037
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The information regarding blowout penstemon *(Penstemon haydenii)* is outdated. While this species does occur in Nebraska, it was also discovered in Wyoming in 2000. The plant's current known range in Wyoming consists of the Ferris dunes area in northwest Carbon County where the plant is restricted to two habitat types: steep, northwest facing slopes of active sand dunes with less than 5 percent vegetative cover; and on north facing sandy slopes, on the lee side of active

blowouts with 25-40 percent vegetative cover. Recent surveys have indicated that systematic surveys are warranted in all lower elevations (below 6700 feet) in Wyoming where sand blowout features are located. Threats to the plant occur when sand dunes are removed or are overly disturbed by vehicular traffic.

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the blowout penstemon background section in Chapter 4 of the BA.

RMC-0233-041
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: There is not an adequate biological basis provided to support the assumed plant responses to fire in Table 4-1 (Biological Assessment), especially the beneficial effects assumed for the blowout penstemon, Colorado butterfly plant *(Gaura neomexicanu vav. coloradensis)*, and Ute ladies'-tresses orchid (Spiranthes diluvialis). These species may have an equal likelihood of experiencing adverse effects due to fire as a result of habitat condition, species biology, life-stage of plants present and that stage's response to fire, plant community at specific location, and land management. Based on information provided, an adverse effect should be assumed for these species.

Response: Table 4-1 in the Final Biological Assessment (BA) has been changed in response to these concerns.

RMC-0233-042
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Refer to the Recovery Plan for the Endangered and Threatened Species of Ash Meadows, Nevada (http://ecos.fws.gov/docs/recovery_plans/1990/900928d.pdf) for better biological information for Ash Meadows endemic species. The additional information for Amargosa niterwort is incorrect. The niterwort is generally found adjacent to the active stream channel in the Carson Slough and appears to be adapted to periodic disturbance related to flooding and sediment deposition. Characterizing both the Amargosa niterwort and Ash meadows milkvetch as part of a climax community is not appropriate given their habitat dynamics. These communities have very little, if any, serial succession as classically defined. Additional information provided for the Ash Meadows milkvetch, Ash Meadows sunray, and Ash Meadows blazing star is also inaccurate. These species are also found in upland areas not directly associated with springs and spring flows from the Ash Meadows aquifer. See the Ash Meadows Recovery Plan and update the threats to all species. An additional threat to the spring loving centaury, Ash Meadows ivesia, Ash Meadows gumplant, Ash Meadows blazing star, Ash Meadows sunray includes competition with non native plant species.

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See Table 4-1 and the background sections for the Ash Meadows plant species in Chapter 4 of the BA.

RMC-0233-044
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Based on the lack of site specific details regarding project implementation and the lack of a biological support regarding assumptions about potential project related impacts to plants, we do not believe that the proposed Conservation Measures identified for plants reduce the level of impact to a "not likely to adversely effect" determination. To ensure this. Additional Conservation Measures would need to be developed for these species on a site-specific basis.

Response: The BLM submitted the Biological Assessment to the Services as part of consultation for the proposed vegetation treatment program. They will determine if additional conservation measures are needed to ensure a "not likely to adversely

affect" determination for plants.

RMC-0233-045
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Statement should be reworded "Where seeding is warranted, bare areas should be seeded as soon as possible after treatment ...." Many herbicides have residual effects on seed germination and seedling establishment. Reseeding and any revegetation activities following herbicide treatment should take this into account. Using "as soon as appropriate" would be better wording.

Response: The suggested rewording has been incorporated in the Biological Assessment. The BLM follows current policy, uses the best available science, and relies on the professional judgment of employees in making determinations on when seedings take place.

RMC-0233-047
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Third sentence states "....but maintains good numbers of [Pahranagat roundtail chub] adults in a single microhabitat in the lower portion of the natural channel (Hardy 1982)." This statement is inaccurate. The last survey (2001) indicated a population no larger than 17 individuals. The population is very susceptible to extirpation in the wild.

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the Pahranagat roundtail chub background section in Chapter 5 of the BA.

RMC-0233-049
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Replace last sentence with "[Woundfin] Spawning occurs April to July, depending upon the timing of snow melt runoff, which should be during the period of declining flows."

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the woundfin background section in Chapter 5 of the BA.

RMC-0233-050
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Increased turbidity may affect [Mohave tui chub] larvae or juveniles but adults appear to tolerate turbidity.

Response: The subject of this comment is not clear. The page number given in the comment (5-29) does not contain a discussion of the Mohave tui chub, as indicated.

RMC-0233-051
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Main threats [to the Nevada speckled dace] include predation by tilapia, and habitat loss due to declining water flows. The species is restricted by its cold water intolerance.

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the Nevada speckled dace background section in Chapter 5 of the BA.

RMC-0233-052
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The habitat of the Kendall Warm Springs Dace (*Rhinchthys osculus thermalis*) is currently owned and managed by the USFS [U.S. Forest Service], Bridger Teton National Forest. Therefore, this species should he removed from the analysis of effects, or the BLM should clarify if vegetation treatments would be occurring on lands where there will be potential affects to hydrology on USFS lands.

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the Kendall Warm Springs dace background section in Chapter 5 of the BA.

RMC-0233-053
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The BA [Biological Assessment] states that "a fire capable of consuming a large amount of vegetation and exposing a large area of bare soil would likely result in a surge of nutrients into the aquatic system. This temporary increase in nutrients could temporarily benefit many TEP [threatened, endangered, and proposed] fish species by increasing food production" (page 5-56 [of the Draft BA]). While there may be long-term benefits of nutrient loading of aquatic systems after prescribed fire, or other vegetation methods, we believe that the BA does not adequately address the short term, direct and indirect effects of the proposed vegetation treatment methods on threatened, endangered and proposed aquatic species. Gresswell (1999) summarizes the results of numerous research reports which have identified direct and indirect effects to aquatic species from vegetation treatments. We request this information be incorporated into the analysis of direct and indirect physical, chemical and biological effects of vegetation treatments to those threatened, endangered and proposed species and included in the final BA for the final PEIS/PER.

Response: The direct and indirect effects of fire on aquatic habitats and species in Greswell (1999) are discussed in the Draft BA. Biomass reduction and sedimentation are discussed under Effects Common to All Treatment Methods, and the other effects specific to fire are discussed under the Prescribed Fire Treatments subheading. Additional information from the Gresswell paper has been incorporated into the effects analysis of the Final BA, Chapter 5.

RMC-0233-054
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: This section seems directed towards salmon. We would recommend in the basins that do not contain trout but have other sensitive aquatics; that ground disturbing activities would be considered on a case-by-case basis and BMPs would be implemented to ensure minimal erosion or impact to the aquatic habitat. Insects and mollusks may not have a specific date where they are more sensitive to disturbance, and many of the fish in the desert have longer breeding/larvae periods (i.e. springfish).

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the Conservation Measures section in Chapter 5 of the BA.

RMC-0233-055
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The draft BA [Biological Assessment] states that "within riparian areas, do not fuel/refuel equipment, store fuel, or perform equipment maintenance (locate all fueling and fuel storage areas, as well as service landings outside of protected riparian areas)." The Service recommends revised wording for this statement as presented: "Within 150 feet of wetlands or riparian areas, do not fuel/refuel equipment, store fuel, or perform equipment maintenance (locate all fueling and fuel storage areas, as well as service landings outside of protected riparian areas)."

Response: The text of the Final BA has been changed in response to this comment. See the Conservation Measures section in Chapter 5 of the BA.

RMC-0233-056
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: We question the need for fertilizer in desert habitats, and it generally should not be used in this habitat. Additionally, excess nitrogen in runoff can cause algal blooms and eutrophication in aquatic systems.

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the Conservation Measures section in Chapter 5 of the BA.

RMC-0233-057
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Several of the bullets say the same thing. Appropriate dispersion techniques used for range management should be employed to prevent damage to riparian areas but increase weed control. This includes judicial placement of saltblocks, troughs, fencing. This should be analyzed on a case-by-case. If it is deemed that livestock will negatively impact a riparian area, then it would he logical to exclude them. If placement of these items would enhance the weed-control effectiveness without damaging the riparian system (erosion, etc.), then they should not be excluded.

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the Conservation Measures section in Chapter 5 of the BA.

RMC-0233-058
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The current distribution of the Wyoming toad is limited to Mortenson Lake National Wildlife Refuge (MLNWR) and possibly Hutton Lake National Wildlife Refuge (HLNWR). The toad was also recently reintroduced to a small research project site in the Laramie Plains (2003) and on private land in Centennial, Wyoming (June 2005) as a result of a Safe Harbor Agreement dated August 2004. Current recommendations call for surveys when proposed projects occur within 1 mile of any border of MLNWR or HLNWR during the toad's active season (May through September). Please incorporate new occupied sites as they become established into the guidelines for the final PEIS/PER. We request the BLM insure that current recovery efforts would not be impacted by the proposed vegetation management actions, and that proposed activities would not limit recovery opportunities for this species in the final PEIS/PER.

Response: The text of the Final Biological Assessment (BA) has been changed to include the information provided in the first part of this comment. See the background section on the Wyoming toad in Chapter 6 of the BA. The BLM will take current recommendations about where all TEP (threatened, endangered, and protected) amphibians/reptiles may occur into account when conducting surveys prior to treatments. As discussed under Background in the BA, information presented in the document is likely to change over time. Any new sites that become established by the Wyoming toad in the future will be considered during consultations at the local level prior to vegetation treatments. At the local level, the BLM will take into account recovery efforts for all species when developing its treatment programs.

RMC-0233-059
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The use of prescribed fire in the Mojave Desert has not been considered a tool to benefit desert tortoise habitat. The Mojave desert scrub plant community is not fire-adapted and does not recover for many years following fire. Therefore, we recommend that prescribed fires do not occur in desert tortoise habitat. The fourth sentence under *Indirect Effects* is inaccurate; desert tortoises do not require open, grassy areas.

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the sections on indirect effects of prescribed fire treatments on amphibians and reptiles, and conservation measures for amphibians and reptiles, in Chapter 6 of the BA.

RMC-0233-060
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: [Page 6-37 of the Draft Biological Assessment] States "data pertaining to contact of herbicides with reptiles is unavailable"; however, the last sentence in the paragraph states "that it is assumed that the analysis is adequate for reptiles and amphibians." Herbicides identified in the document that may result in adverse health effects should not be considered for large-scale application in desert tortoise habitat.

Response: The text of the Final Biological Assessment (BA) has been changed for clarity in response to this concern. See the section on the effects of herbicides on amphibians and reptiles in Chapter 6. Herbicides that have been identified as potentially causing adverse health effects to terrestrial vertebrates will not be considered for large-scale application in desert tortoise habitat. The Conservation Measures section for amphibians and reptiles lists the minimum that would be required of the BLM to prevent adverse effects to the desert tortoise and other species. Measures include restrictions on broadcast spraying herbicides with the potential to cause adverse health effects to the desert tortoise under any exposure scenario. See the Conservation Measures section for amphibians and reptiles in Chapter 6 of the BA for more information.

RMC-0233-061
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Further, we recommend that BLM develop and implement a study to determine what effects may occur as a result of direct contact or ingestion of herbicides that may be used in desert tortoise habitat.

Response: The risk assessments were intended to determine the potential for adverse effects to reptiles from dermal contact with herbicides and ingestion of contaminated vegetation. The BLM acknowledges that data on the effects of herbicides on herpetofauna are minimal, but conservative assumptions and uncertainty factors are used in risk assessments to overestimate risks so that the results will be sufficient for developing mitigation to protect listed herpetofauna, such as the desert tortoise. The BLM estimates that herbicide use will be relatively low in subtropical desert habitats (herbicide treatments are planned for just over 5,000 acres). The conservation measures listed in Chapter 6 of the Biological Assessment (BA) are the minimum steps the BLM would have to take to ensure protection of the desert tortoise and other listed species. When specific treatment programs are developed at the local level, it may be determined during impacts analysis and consultation with the Services that additional mitigation measures are necessary.

As discussed in Chapter 2 of the PEIS and PER under Special Status Species, "before any vegetation treatment or ground disturbance occurs, BLM policy requires a survey of the project site for species listed or proposed for listing, or special status species". This is done by a qualified biologist consulting state and local databases, and visiting the site at the appropriate season. If a proposed project may affect a proposed or listed species or its critical habitat, the BLM consults with the USFWS and/or NMFS. A project with a "may affect, likely to adversely affect" determination requires formal consultation and receives a Biological Opinion from the USFWS and/or NMFS. A project with a "may affect, not likely to adversely affect" determination requires informal consultation and receives a concurrence letter from USFWS and/or NMFS.

RMC-0233-063
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Please include footnotes or additional text that references the section in the final [P]EIS where a reader can find the more detailed information. Please include a statement in Table 6-2 [of the Biological Assessment] to reference the D[raft] PEIS section, which explains "effects to terrestrial vertebrates from the herbicides would depend on the product used, if more than one product is used, if the products are combined, how often the product(s) would be applied, the application method of the herbicide(s), and when the application(s) would occur.

Response: The PEIS does not contain more detailed information about effects of herbicides on threatened and endangered species. The PEIS discusses effects to wildlife in general (which is based on less protective risk categories). However, the text of the Final Biological Assessment (BA) has been modified to direct the reader to Chapter 2 of the BA and Appendix C of the PEIS, which do contain more detailed information about the risk assessment process. In addition, tables that summarize the risk assessment results as predicted effects on different types of species (throughout Chapters 4, 5, and 6 of the BA) have been modified to clarify the information that is being presented.

RMC-0233-064
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Please correct the information in Table 6-2 [of the Draft Biological Assessment] for the "No effects" characterization under the "Direct Spray" and "Dermal Contact with Sprayed Vegetation" columns. This pertains to grassland birds and also to mammals. The section of the final PEIS where the information used in determining the "No effects" characterization to terrestrial vertebrates should be referenced in the table. Similarly, the "Adverse effects/No effects" characterization in the "Direct Spray" column of Table 6-2 should be clarified or the appropriate section in the final EIS referenced. It is unknown if this characterization is describing acute effects, chronic effects, or both. If effects characterization is only for acute effects, the Table should state this in the title or the table headings. If chronic effects are not addressed the document should state why chronic effects are not addressed.

Response: Tables 6-1 through 6-5 and the section on ecological risk assessment methodology in Chapter 2 have been clarified in the Final Biological Assessment (BA).

RMC-0233-065
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: If chronic effects are addressed in the "Adverse effects/No effects" characterization, then the table needs to clarify what type of chronic effect is affected (e.g. reproduction, growth, etc.).

Response: The Final Biological Assessment (BA) refers the reader to the ecological risk assessments for more information. Types of chronic effects vary by chemical and surrogate species, and it is outside the scope of the BA to discuss them. The BA analysis considers any level of risk (acute or chronic) to correspond to an unacceptable adverse effect to the species in question; therefore conservation measures have been designed to avoid all potential risks.

RMC-0233-067
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The herbicides are listed in Table 6-2 [of the Biological Assessment] by chemical name except for the herbicide Overdrive (the trade name). Please provide consistency in the table, and list the chemical name as sodium salt of diflufenzopyr for this herbicide in the final PEIS. Herbicide toxicity information for effects to reptile and amphibians is lacking in the draft PEI[S]. Amphibians, in particular, are often more sensitive than mammals and birds to chemicals because of respiration through their skin. Therefore, the general classification of "No effects" to terrestrial vertebrates, if this table includes effects to amphibians and reptiles, is incorrect for

many of the herbicides. We suggest that unless specific information is available for all terrestrial vertebrate groups (e.g., mammals, birds, and reptiles/amphibians), the herbicide cannot be assumed to have no effects.

Response: On March 3, 1999, the USEPA announced approval of applications to conditionally register the following products:
USEPA Registration Number – 7969-157: Diflufenzopyr – Technical Herbicide – Acid formulation; USEPA Registration Number – 7969-151: Diflufenzopyr – Sodium Salt (93%); and USEPA Registration Number – 7969-150: Distinct® = Diflufenzopyr – Sodium Salt (21.4%) and Dicamba – Sodium Salt (55%)

Of the three products, only the diflufenzopyr + dicamba has received full registration and was originally registered for use in field corn and non-crop areas, being sold under the trade name Distinct®. As the registration process proceeded, diflufenzopyr + dicamba expanded its label to include application onto pasture, hay, and rangeland situations. These, along with the noncropland sites were placed under the trade name Overdrive® (which has the same EPA Registration Number as Distinct®) in 2004, with the cropland applications remaining under the trade name Distinct®, along with applications in what are identified as fallow and fence line areas. Therefore, the common name of the herbicide Overdrive® is diflufenzopyr + dicamba.

See responses to Comment EMC-0643-077 under PEIS Environmental Consequences, Wildlife Resources, Comment EMC-0643-079 under PEIS Environmental Consequences, Fish and Other Aquatic Organisms, and Comment EMC-0046-002 under PEIS Environmental Consequences, Wildlife Resources regarding the effects of herbicides to amphibians and how this issue is addressed in the Final PEIS. As noted in these comments, amphibians are similar to fish in their response to herbicides. Thus, risks to amphibians from use of herbicides has been modified in the Final PEIS and Biological Assessment, as needed, to show risks based on risks to fish rather than risks to other terrestrial animals.

RMC-0233-068
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: We recommend that the BLM coordinate with the Service to design a study to evaluate the potential direct and indirect effects of herbicide use on the desert tortoise. In the absence of information on the potential effects of herbicides on the desert tortoise, including persistence of herbicides on forage plants, we recommend that applications be applied when desert tortoises are less active (e.g., November through February). Desert tortoise burrows should be avoided to the greatest extent possible during herbicide treatments.

Response: Any herbicide treatments applied within desert tortoise habitat will be required to comply with all existing desert tortoise protocols (timing, burrow avoidance, pre-surveys, etc.) and will be subject to Endangered Species Act Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS). Herbicides would only be applied to target vegetation according to specific terms and conditions as set forth by the USFWS for the protection of the desert tortoise and its habitat.

RMC-0233-069
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The species [Yuma clapper rail] is also present in southwest Utah along the Virgin River and in Nevada along the Virgin and Colorado Rivers.

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the Yuma clapper rail background section in Chapter 6 of the BA.

RMC-0233-070
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Workers removing vegetation could also destroy nests.

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the section on direct and indirect effects of manual treatment methods on the Yuma clapper rail in Chapter 6 of the BA.

RMC-0233-071
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Inaccurate statement- "Most birds [Yuma clapper rails] would likely flee the site and so avoid direct exposure to herbicides during treatment"..." Birds that have not fledged are not able to flee and will receive direct exposure.

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the section on direct effects of manual treatment methods on the Yuma clapper rail in Chapter 6 of the BA.

RMC-0233-072
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: We would not recommend fire treatments in Yuma clapper rail habitat since fire often favors establishment of invasive species.

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the Conservation Measures section for the Yuma clapper rail in Chapter 6 of the BA.

RMC-0233-073
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: We recommend using the final recovery plan (August 2002) as the main source [for the southwestern will flycatcher] as it contains the most up to date information for this species.

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the southwestern willow flycatcher background section in Chapter 6 of the BA.

RMC-0233-074
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Last paragraph. This information [for the southwestern willow flycatcher] is out of date. Critical habitat was redesignated on October 19, 2005, and now includes 737 river miles of habitat in Nevada and Utah.

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the southwestern willow flycatcher background section in Chapter 6 and Table 1-1 in Chapter 1 of the BA.

RMC-0233-075
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Southwestern willow flycatcher and Bells vireo are neotropical migrants so there will be no direct mortality if burns occur in the winter.

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the section on direct effects of prescribed fire on the least Bell's vireo, Inyo California towhee, and southwestern willow flycatcher in Chapter 6 of the BA.

RMC-0233-076
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Manual removal without proper clearance surveys could result in destruction of the nest and any eggs [of the least Bell's vireo, Inyo California towhee, and southwestern willow flycatcher].

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the section on direct and indirect effects of manual treatment methods on the least Bell's vireo, Inyo California towhee, and southwestern willow flycatcher in Chapter 6 of the BA.

RMC-0233-077
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Released biological control agents could potentially compete with native species or affect prey species in some way [for the least Bell's vireo, Inyo California towhee, and southwestern willow flycatcher].

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the section on direct and indirect effects of biological control agents on the least Bell's vireo, Inyo California towhee, and southwestern willow flycatcher in Chapter 6 of the BA.

RMC-0233-078
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Replanting or reseeding treated areas with native species after treatments may be needed to speed up the creation of suitable habitat [for the southwestern willow flycatcher]. Adjust spatial and temporal scales of treatments so not all suitable habitat in any given year is affected. On large projects, revegetation of affected areas should also be timed to replace

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the Conservation Measures section for the southwestern willow flycatcher in Chapter 6 of the BA. The final portion of the comment has not been addressed, since it is incomplete and its intent could not be ascertained.

RMC-0233-079
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The draft BA [Biological Assessment] does not adequately analyze the direct effects of the proposed treatment methods to bald eagles during the breeding/nesting season. With the exception of biological control treatments, all proposed methods of vegetation treatment include some level of human activity within the treatment area. Extensive research exists documenting the heightened sensitivity of breeding and nesting bald eagles to human disturbance (Greater Yellowstone Bald Eagle Working Group (GYBEWG) 1996, Montana Bald Eagle Working Group (MBEWG 1994), Weekes 1974, Mathisen 1968). Responses to human disturbance vary and may include short term, temporal, or spatial avoidance of the disturbance, to total reproductive failure and abandonment of breeding areas (GYBEWG 1996, Anthony et al. 1995, MBEWG 1994, Stalmaster and Newman 1978). Human disturbances can still be problematic later in the season and result in premature fledging (Grier 1969). Please utilize this information for the final BA.

Response: The text of the Final BA has been changed in response to this comment. See the discussion of effects to bald eagles in Chapter 6 of the BA.

RMC-0233-080
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The draft BA [Biological Assessment] identifies a 0.5 mile buffer distance for bald eagle nest sites and a 0.25 mile buffer for winter roost sites (page 6-94 [of the Draft BA). Since this BA addresses proposed vegetation treatments across 17 States, all of which are within the range of the bald eagle, we do not believe that the proposed buffer distances are appropriate across such varied nesting habitats. The Service recommends that the programmatic conservation measures for bald eagle nest sites start with 1 mile buffer for active bald eagle nests in open country. Then in more heavily forested or mountainous areas, where the line-of-sight distance from the nest is shorter, this buffer distance could potentially be reduced (see Stalmaster and Newman 1978, USFWS 1986). For bald eagle communal winter roosts, we recommend that disturbance be restricted within 1 mile of known communal winter roosts during the period of November 1 to April 1. Additionally, we recommend that ground disturbing activities be prohibited within 0.5 mile of active roost sites year round. Please utilize this information for the final BA.

Response: The text of the Final BA has been changed in response to this comment. See the Conservation Measures section for the bald eagle in Chapter 6 of the BA.

RMC-0233-081
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Terrestrial vertebrates include grassland birds and therefore, effects to terrestrial grassland birds from the use of herbicides should be addressed in the final BA [Biological Assessment]. Effects to grassland birds from herbicide use often are different than effects to terrestrial mammals.

Response: The effects of grassland birds from the use of herbicides are addressed in applicable sections of Chapter 6 of the Final BA. Table 6-2 of the BA summarizes the effects associated with dermal exposure to the various herbicides, and Table 6-4 of the BA summarizes the effects associated with dietary exposure to the various herbicides. For dermal exposure scenarios, small mammals were used to represent all terrestrial vertebrate species because they are the type of vertebrate that is most sensitive to herbicide exposure under laboratory conditions. For dietary exposure scenarios, a surrogate bird species with the same type of diet as the species in question was used.

RMC-0233-082
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Pygmy rabbits *(Brachylagus idahoensis)* occur throughout the Great Basin. While the Service has written a negative 90-day finding for a petition to list this species throughout its range, we remain concerned with the status of any sagebrush obligate species. Therefore, we strongly encourage that the mitigation measures for this species (page 6-100, [Draft] Biological Assessment) be applied across the entire species range, and not be limited to Washington State in the final PEIS/PER.

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the Conservation Measures section for the pygmy rabbit in Chapter 6 of the BA.

RMC-0233-084 to 087
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: While the conservation measures for Preble's meadow jumping mouse (*Zapus hudsonius preblei*) (Preble's) and other rodents are likely to reduce the severity of project effects, they do not appear adequate to reduce the effects to Preble's to a level considered insignificant or discountable. Therefore, based on the information provided, we would not be able to concur with a determination of not likely to adversely affect Preble's. The nature of an "access route" is unclear on page 6-123 [of the Draft Biological Assessment (BA)]. If these will be routes cleared of vegetation to facilitate vehicle travel through areas of occupied Preble's habitat, they are likely to adversely affect Preble's though direct mortality from equipment operation and vehicle use, habitat loss and displacement, disruption of travel corridors, and increased risk of predation during the time period for which the access route is in place (through access route restoration to native vegetation). The amount and duration of vegetation removal within occupied Preble's habitat is unclear on page 6- 121 [of the Draft BA]. If significant percentages of available cover and forage are unavailable when Preble's emerges from hibernation, an adverse effect to the mouse can be anticipated. Conservation measures to reduce the potential for adverse effects to Preble's from grazing, if used as a biological control treatment, have not been identified on (pp. [page] 6-123 [of the Draft BA]). Therefore, we are concerned that grazing, if used for vegetation management, could result in habitat degradation and, thus, an adverse effect to Preble's through habitat loss and displacement, as well as increased predation risk and disruption of travel corridors.

Response: The text of the Final BA has been changed in response to this concern. See the Conservation Measures section for the Preble's meadow jumping mouse in Chapter 6 of the BA.

RMC-0233-089
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Only reduction of hazardous fuels would be expected to benefit grizzly Bears (*Ursus arctos horribilis*) by reducing the likelihood of a future catastrophic fire (page 6-133 [of the Biological Assessment (BA)]). Domestic animals that are used to control weeds may attract grizzly bears and result in human/bear conflicts (page 6-134 [of the BA]). We recommend that domestic grazers not be used to control weeds in areas with grizzly bear activity.

Response: The text of the BA has been changed in response to this comment. See the sections pertaining to the grizzly bear in Chapter 6 of the BA that discuss indirect effects common to all treatments, indirect effects of domestic animals, and conservation measures.

RMC-0233-090
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Conservation measures to avoid or minimize potential project effects to grizzly bears (page 6-135 [of the Draft Biological Assessment (BA)]) should include the enforcement of food storage and garbage disposal stipulations. In addition, contractors should be aware of, and provide to their employees and subcontractors, information on the protected status of the grizzly bear and on appropriate personal safety measures and behavior in grizzly bear habitat.

Response: The text of the Final BA has been changed in response to this comment. See the Conservation Measures section for the grizzly bear in Chapter 6 of the BA.

RMC-0233-092
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Effects of the proposed prescribed fire on Canada lynx *(Lynx canadensis)* is discussed on pages 6-138 through 6-140 [of the Draft Biological Assessment (BA)]. As discussed in the Canada Lynx Conservation Assessment and Strategy (Ruediger et al. 2000), denning habitat within a lynx analysis unit (LAU) should generally be larger than 5 acres and comprise at least 10 percent of lynx habitat. If there is less than 10 percent lynx habitat in an LAU, vegetation treatments that delay development of denning habitat structure should be deferred. Habitat connectivity within and between LAUs should be protected.

Response: The text of the Final BA has been changed in response to this comment. See the Conservation Measures section for the Canada lynx in Chapter 6 of the BA.

RMC-0233-093
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: Black-footed ferrets *(Mustela nigripes)* are dependent on prairie dogs for food. Please include a discussion of the loss of prey base on this species as indirect effects of all proposed vegetation management options in the final PEIS/PER. We also encourage the BLM to protect all prairie dog towns for their value to the prairie ecosystem and the myriad of species that rely on them in their proposed actions. We further encourage you to analyze potentially disturbed prairie dog towns for their value to future black-footed ferret reintroduction.

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the section on Effects of Vegetation Treatments on Kangaroo Rats, the Utah Prairie Dog, and the Black-footed Ferret in Chapter 6.

Protection of prairie dog towns for their value to prairie ecosystems would be addressed by the BLM at the local level, should one or more prairie dog towns occur in or near an area scheduled for treatments. While reintroduction of the black-footed

ferret is outside the scope of this PEIS/PER/BA, the BLM could consider this potential value of prairie dog towns at the local level.

RMC-0233-091
U.S. Fish and Wildlife Service Region 6 California/Nevada Operations Office

Comment: The Service/Region 6 recommends that your proposed actions comply with the Interagency Grizzly Bear Guidelines (1986) and the Final Conservation Strategy for the Grizzly Bear in the Yellowstone Ecosystem (2003).

Response: The text of the Final Biological Assessment (BA) has been changed in response to this comment. See the Conservation Measures section for the grizzly bear in Chapter 6 of the BA.

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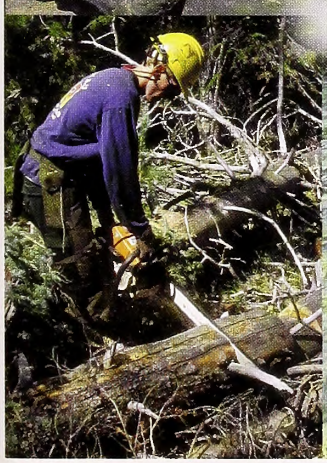




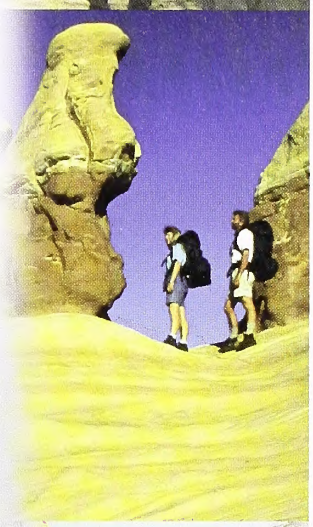

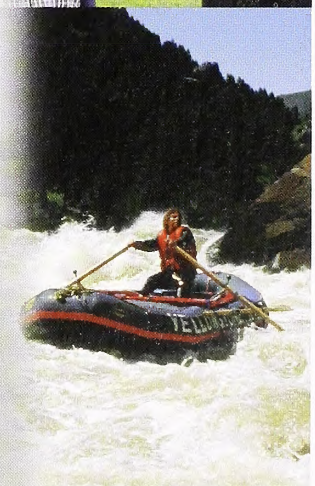

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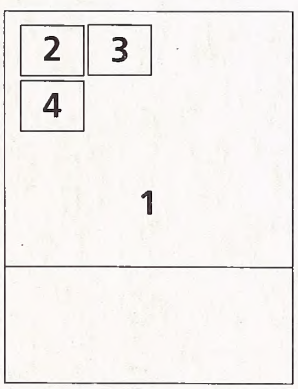

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1. Arrowleaf balsamroot (*Balsamorhiza sagittata*) in bloom near Elko, Nevada (courtesy of Stan White, Bureau of Land Management Volunteer)
2. Helicopter spraying (courtesy of Keith Duncan, New Mexico State University Cooperative Extension Service)
3. All-terrain vehicle spraying (courtesy of L. D. Walker, Bureau of Land Management)
4. Herbicide spraying using a llama (courtesy of Cindy Lair, Colorado State Department of Agriculture)

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