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Annual Report of Accomplishments

THE RIPARIAN-WETLAND INITIATIVE FOR THE 1990's

Fiscal Year 1994



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



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(The) Riparian-Wetland Initiative

For the 1990's Annual Report of
Accomplishments

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INTRODUCTION

This is the Fourth Annual Accomplishments Report of the *Riparian-Wetland Initiative for the 1990's*, a blueprint for managing and restoring riparian-wetland areas that cover 23.1 million acres of BLM lands.

The principal goal of the initiative is to restore and maintain riparian-wetland areas so that at least 75 percent are in proper functioning condition by 1997. The initiative, which complements the Healthy Rangelands initiative of President Clinton and Secretary of the Interior Bruce Babbitt, takes an interagency and interdisciplinary approach to the management of riparian-wetland areas.

This report highlights the BLM's major accomplishments in the program during Fiscal Year 1994. It gives examples of the BLM's commitment to protecting riparian-wetland areas, which are environmentally and economically valuable. It also shows how the agency is working to attain the stewardship and wetlands conservation goals of the President and the Secretary.

Importance of Riparian-Wetland Areas

Riparian areas are lands adjacent to creeks, streams, lakes, and rivers. They are sometimes called "green ribbons" because the vegetation on waterway banks forms a ribbon-like pattern when seen from the air.

These areas, containing scarce water and vegetation in the otherwise arid Western United States, are important to fish and wildlife species, as well as to livestock. Since they filter the water flowing through them, riparian-wetland areas can affect the health of an entire watershed.

Wetlands are generally defined as areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support -- and which, under normal circumstances, do support -- vegetation that is typically adapted for life in saturated soil. Wetlands include bogs, marshes, shallows, muskegs, wet meadows, estuaries, and riparian areas.

Riparian areas and wetlands are linked for purposes of reporting the BLM's progress in getting these areas into proper functioning condition.

Estimated Riparian-Wetland Acreage by State

(most recent data available)

State	BLM-Administered Land* (acres)	Riparian- Wetland (acres)	Riparian- Wetland Area (percent)	Riparian- Stream (miles)
Alaska	88,860,328	22,200,679	24.98	132,334
Arizona	14,255,889	51,027	0.36	986
California	17,284,258	139,190	0.81	3,502
Colorado	8,302,918	42,705	0.51	4,871
Eastern States	18,576**	4,300	23.15	10
Idaho	11,848,706	46,983	0.40	4,025
Montana	8,415,670#	76,871	0.91	8,237
Nevada	47,969,220	51,340	0.11	2,323
New Mexico	12,890,373##	19,488	0.15	431
Oregon/ Wash.	16,074,621	252,000	1.57	8,504
Utah	22,147,772	154,064	0.70	4,750
Wyoming	18,402,177###	92,720	0.50	7,055
Total	266,476,672	23,131,367	8.68	177,028

* Source: Public Land Statistics, 1993, Table 4.

** Includes Alabama, Arkansas, Florida, Illinois, Iowa, Louisiana, Michigan, Minnesota, Mississippi, Missouri and Wisconsin.

Includes North Dakota and South Dakota.

Includes Oklahoma.

Includes Nebraska.

Proper Functioning Condition

A riparian-wetland area is healthy and functioning when adequate vegetation, landform or large woody debris is present to dissipate energy associated with high water flow. A healthy riparian-wetland area exhibits certain characteristics, such as:

- Purifying water by removing sediments as water moves through;
- Reducing the risk of flood damage;
- Reducing streambank erosion;
- Increasing available water by holding water in streambanks and aquifers;
- Maintaining instream flows and streambanks;
- Increasing ground water supplies;
- Supporting a diversity of wildlife and plant species;
- Maintaining habitat for healthy fish populations;
- Providing water, forage and shade for livestock;
- And creating opportunities for recreationists to fish, camp, picnic and relax.

Condition of Riparian-Wetland Areas

The table below depicts the condition of riparian-wetland areas on BLM-managed lands for the 11 Western States and Alaska in fiscal year 1994. Assessments planned for riparian-wetland areas now in the "unknown" category are expected to show similar distribution in the proper functioning, functioning-at-risk and non-functional categories.

Condition of Riparian-Wetland Areas by Class in 1994

(by miles in the Western States, excluding Alaska)

Condition Class	% of All Miles	% of Miles Assessed
Proper functioning condition	15%*	31%***
Functional-at-risk (susceptible to degradation)	23%	48%
Non-functional	10%	21%
Unknown	52%**	(Not applicable)

* That is, 15% of *all* riparian miles on BLM land are known to be in proper functioning condition.

** That is, 52% of *all* riparian miles on BLM land are in the "unknown" category, meaning the BLM has not yet determined their condition.

*** That is, 31% of the riparian miles *that have been assessed* by the BLM are known to be in proper functioning condition.

What follows is information showing the functioning condition of riparian-wetland areas on BLM-managed lands at the end of fiscal year 1994. The condition classes are shown by State in miles. There are four classes: proper functioning, functional-at-risk, non-functional and unknown. Those terms are defined in the section that follows this information.

Alaska:

Proper Functioning Condition: 132,236 miles [100%]

Functional-At-Risk: 32 [0%]

Non-functional: 66 [0%]

Unknown: 0 [0%]

Arizona:

Proper Functioning Condition: 272 miles [28%]

Functional-At-Risk: 486 [49%]

Non-functional: 50 [5%]

Unknown: 178 [18%]

California:

Proper Functioning Condition: 296 miles [8%]

Functional-At-Risk: 550 [16%]

Non-functional: 60 [2%]

Unknown: 2,596 [74%]

Colorado:

Proper Functioning Condition: 1,260 miles [26%]

Functional-At-Risk: 1,165 [24%]

Non-functional: 914 [19%]

Unknown: 1,532 [31%]

Idaho:

Proper Functioning Condition: 511 miles [13%]

Functional-At-Risk: 823 [21%]

Non-functional: 257 [6%]

Unknown: 2,434 [60%]

Montana (includes North Dakota and South Dakota):

Proper Functioning Condition: 882 miles [11%]

Functional-At-Risk: 921 [11%]

Non-functional: 390 [5%]

Unknown: 6,044 [73%]

Nevada:

Proper Functioning Condition: 190 miles [8%]

Functional-At-Risk: 323 [14%]

Non-functional: 464 [20%]

Unknown: 1,346 [58%]

New Mexico:

Proper Functioning Condition: 126 miles [29%]

Functional-At-Risk: 190 [44%]

Non-functional: 107 [25%]

Unknown: 8 [2%]

Oregon/Washington:

Proper Functioning Condition: 1,551 miles [18%]

Functional-At-Risk: 3,316 [39%]

Non-functional: 861 [10%]

Unknown: 2,776 [33%]

Utah:

Proper Functioning Condition: 957 miles [20%]

Functional-At-Risk: 796 [17%]

Non-functional: 569 [12%]

Unknown: 2,428 [51%]

Wyoming:

Proper Functioning Condition: 726 miles [10%]

Functional-At-Risk: 1,723 [24%]

Non-functional: 820 [12%]

Unknown: 3,786 [54%]

Definition of Condition Classes

The functioning condition of riparian-wetland areas is determined by an interaction of geology, soil, water and vegetation. The condition classes depicted in the preceding graphs are defined as follows:

- **Proper Functioning Condition.** Riparian-wetland areas are properly functioning when adequate vegetation, landform or large woody debris is present to:
 - Dissipate stream energy associated with high waterflows, thereby reducing erosion and improving water quality;
 - Filter sediment, capture bedload and aid floodplain development;
 - Improve flood-water retention and ground water recharge;
 - Develop root masses that stabilize streambanks against cutting action;
 - Develop diverse ponding and channel characteristics to provide the habitat, water depth, duration and temperature necessary for fish production, waterfowl breeding and other uses;
 - And support greater biodiversity.
- **Functional-at-risk.** Riparian-wetland areas are considered functional-at-risk when they function but are susceptible to degradation due to soil, water or vegetation characteristics.
- **Nonfunctional.** Riparian-wetland areas are deemed non-functional when they do not provide adequate vegetation, landform, or large woody debris to dissipate stream energy and thus do not reduce erosion or improve water quality. The absence of certain physical characteristics, such as a floodplain, is an indicator of a nonfunctional riparian-wetland area.
- **Unknown.** Riparian-wetland areas in this category are those whose functioning condition has not been determined because the BLM lacks sufficient information about them.

Future Management of Riparian-Wetland Areas

As the BLM works to achieve proper functioning condition on riparian-wetland areas, the agency is developing a bureauwide standard for monitoring and reporting improvements in condition so it can better assess and document progress. In 1989, each State prepared individual strategies that identified projected funding needs for riparian management activities for fiscal years 1991 to 1995. Other needs were identified independently in *Waterfowl Habitat Management on Public Lands*, prepared as part of a *Fish and Wildlife 2000* national strategy plan series. The BLM is concentrating on inventory, planning, proper management, monitoring, project development and project maintenance. These needs are being updated as more information becomes available.

Summary of the BLM's 1994 Accomplishments

The BLM continues to make progress in meeting the goals of the *Riparian-Wetland Initiative for the 1990's*. The following summary of accomplishments, based on data collected through fiscal year (FY) 1994, shows how the agency is creating a healthier riparian-wetland ecosystem in the West. In FY 1994, the BLM:

- Completed 182 activity plans and prepared or revised an additional five resource management plans that dealt with riparian issues.
- Inventoried 183,600 acres (or 5,345 miles) of riparian-wetlands in the contiguous Western States and 20,000 acres of wetlands and 15 miles of riparian stream systems in Alaska.
- Completed an assessment of the functioning condition status for riparian-wetland areas on 4,109 miles (or 143,265 acres). That includes 4,094 miles (or 123,265 acres) in the contiguous Western States.
- Developed 645 new riparian-wetland improvement projects.
- Maintained 698 existing riparian-wetland projects.

- Monitored 538 management plans with riparian-wetland objectives.
- Acquired 24,534 acres of riparian-wetland areas, primarily through land exchanges and donation.
- Gave its Riparian Stewardship Award, which recognizes those who help the BLM carry out its Riparian-Wetland Initiative, to the Trout Creek Mountain Working Group.
- Conducted 143 instream flow assessments to determine the water quantity needed to support healthy riparian-wetland values.
- Managed 100 areas with riparian values through partnerships, primarily with State and private cooperators.
- Completed numerous training, public outreach and research efforts to promote awareness of the importance of healthy riparian-wetland areas.

The BLM trained more than 1,000 people in the techniques for assessing proper functioning condition. Nearly all of these training sessions, which were conducted by the BLM's Service Center and the Washington, D.C., Office, were conducted at the local area. About 20 percent of the participants were from outside groups, including other government agencies, various user groups and environmental organizations. This participation is important, since riparian issues almost always involve the lands of several Federal agencies, a particular State and private landowners.

In carrying out the Riparian-Wetland Initiative in FY 1994, the BLM coordinated its efforts with various agencies and parties, including the National Marine Fisheries Service, the U.S. Forest Service, the Fish and Wildlife Service, the Soil Conservation Service, State and local agencies and State legislatures. The Bureau also worked closely with professional groups -- such as the American Fisheries Society and the Society for Range Management -- and with national environmental organizations.

**State-by-State Statistical Summary
of the BLM's 1994 Accomplishments**

Riparian-Wetland Inventory (by acres)

Alaska	20,000
Arizona	6,000
California	8,000
Colorado	11,000
Idaho	2,200
Montana	2,500
Nevada	12,000
New Mexico	17,800
Oregon/Wash.	16,100
Utah	19,000
Wyoming	89,000
Total:	203,600

Riparian Inventory (by miles)

Alaska	15
Arizona	96
California	6
Colorado	1,370
Idaho	723
Montana	742
Nevada	309
New Mexico	384
Oregon/Wash.	864
Utah	311
Wyoming	540
Total:	5,360

Riparian-Wetland Functioning Condition Assessment (by acres)

Alaska	20,000
Arizona	6,000
California	7,000
Colorado	3,000
Idaho	1,000
Montana	2,500
Nevada	1,915
New Mexico	17,750
Oregon/Wash.	16,100
Utah	19,000
Wyoming	49,000

Total: 143,265

Riparian-Wetland Functioning Condition Assessment (by miles)

Alaska	15
Arizona	0
California	22
Colorado	528
Idaho	394
Montana	742
Nevada	309
New Mexico	384
Oregon/Wash.	864
Utah	311
Wyoming	540

Total: 4,109

Resource Activity Plans

Alaska	2
Arizona	3
California	4
Colorado	24
Idaho	45
Montana	17
Nevada	39
New Mexico	2
Oregon/Wash.	17
Utah	10
Wyoming	19
Total:	182

Resource Management Plans

Alaska	0
Arizona	0
California	2
Colorado	1
Idaho	0
Montana	0
Nevada	1
New Mexico	1
Oregon/Wash.	0
Utah	0
Wyoming	0
Total:	5

Resource Plans Monitored

Alaska	0
Arizona	15
California	4
Colorado	55
Idaho	62
Montana	17
Nevada	46
New Mexico	9
Oregon/Wash.	132
Utah	13
Wyoming	185
Total:	538

New Riparian-Wetland Projects

Alaska	1
Arizona	19
California	32
Colorado	143
Idaho	65
Montana	50
Nevada	72
New Mexico	44
Oregon/Wash.	84
Utah	15
Wyoming	120
Total:	645

Maintained Riparian-Wetland Projects

Alaska	0
Arizona	11
California	18
Colorado	27
Idaho	117
Montana	100
Nevada	105
New Mexico	28
Oregon/Wash.	97
Utah	22
Wyoming	173
Total:	698

Riparian-Wetland Acquisitions, Exchanges or Donations (by acres)

Alaska	0
Arizona	120
California	4,250
Colorado	9,733
Idaho	1,422
Montana	0
Nevada	0
New Mexico	1,729
Oregon/Wash.	300
Utah	6,920
Wyoming	60
Total:	24,534

Partnerships (primarily with State agencies and private groups)

Alaska	2
Arizona	0
California	6
Colorado	14
Idaho	9
Montana	3
Nevada	10
New Mexico	16
Oregon/Wash.	5
Utah	5
Wyoming	30
Total:	100

Instream Flow Studies

Alaska	1
Arizona	18
California	0
Colorado	2
Idaho	1
Montana	18
Nevada	1
New Mexico	1
Oregon/Wash.	93
Utah	6
Wyoming	2
Total:	143

Goals and Strategies

Below are the goals of the BLM's *Riparian-Wetland Initiative for the 1990's*, and the agency's progress towards reaching those goals in fiscal year 1994.

Goal 1

The BLM is working to restore and maintain riparian-wetland areas so that at least 75 percent are in proper functioning condition by 1997. Overall, the agency is working to get riparian zones into an advanced ecological state.

Strategies are implemented in various stages. For example, in those areas where plans are completed, project development is underway. In other areas, inventories are being conducted to gather baseline data, which facilitates planning and project design. Where plans have been implemented, monitoring is being conducted to determine the extent to which riparian-wetland management objectives are being met. To move toward the restoration and maintenance goal, several strategies were adopted.

Inventory and Classification

The BLM is compiling and evaluating baseline information to determine ecological status, potential and condition. Please see **Appendix I** for numerous examples.

Land Use and Activity Plan Preparation or Revision

The BLM has been developing or revising management plans that involve riparian-wetland areas or values.

- In 1994, the agency prepared or revised 182 activity plans that addressed riparian-wetland issues (e.g., Allotment Management Plans, Watershed Management Plans, Habitat Management Plans, Coordinated Resource Management Plans).

Activity plans included land use-plan objectives and provided appropriate management prescriptions -- such as livestock grazing, surface protection, fish and wildlife habitat -- related to riparian-wetland area management.

- The BLM completed new or revised existing Resource Management Plans on five resource areas in California, Colorado, Nevada and New Mexico. These plans addressed riparian-wetland related resource conflicts, complementary relationships and opportunities for improvement. In doing this, the agency developed the best mix of multiple uses that were consistent with, for example, a State's Nonpoint Source Management Plans, Endangered Species Recovery Plans, Areas of Critical Environmental Concern and the principles of ecosystem management.

Project Development and Maintenance

The BLM initiates and maintains projects to create, improve or maintain riparian-wetland ecological conditions. In 1994, the agency carried out 645 new on-site projects to restore or improve riparian-wetland areas. These projects included water developments; fence construction; tree, shrub, and grass plantings; and prescribed burning.

Instream structures were required in some areas when other restoration measures or management prescriptions were inadequate to achieve the desired level of improvement. While attempting to rely on the natural riparian-wetland function, the BLM had to make some major structural improvements so that certain riparian-wetland systems could maintain themselves and become stable for the long-term. Here are some areas requiring structural improvements:

Structural Improvements

State	Project Area(s)
Alaska	Nome Creek
Arizona	Atkin Spring, Goodwin Canyon, Cienega Creek, Gila Box Riparian National Conservation Area, Wright Creek, Rock House, Red Lake, Sycamore
California	Cosumnes River Preserve, Lower Ant Spring
Colorado	Hay Canyon, Trapper Creek, Lower Missouri Creek, Wolf Creek
Idaho	Rock Creek, Nine Mile Creek
New Mexico	Rio Bonito, Horse Mountain, Y-Ranch
Wyoming	Bolton Creek, Muddy Creek, Loco Creek, Littlefield Creek, Big Sandy River, Little Sand Coulee, Red Point Draw

In 1994, the BLM, cooperators, volunteers, land users, and various interest groups maintained 698 existing riparian-wetland projects.

Monitoring

The BLM monitors riparian-wetland areas to determine whether management actions are meeting specific objectives. In 1994, the agency monitored management actions on 2,434 activity plans or sites.

When riparian objectives are not being met, the BLM revises management prescriptions and resumes monitoring to measure progress toward management goals.

The *Riparian-Wetland Initiative for the 1990's* includes a directive to monitor water quality and to implement Best Management Practices (BMP's) to meet State and national water quality objectives. Please see **Appendix II** for details on monitoring progress.

Goal 2

The BLM protects riparian-wetland areas and associated uplands through proper land management and by avoiding or mitigating negative impacts. The objective is to protect, acquire and expand key areas to ensure their efficient management and to bring about their maximum public benefit.

In order to protect or expand these unique areas, the agency is implementing several strategies, which are described below.

Protection and Mitigation

The BLM avoids or mitigates the negative effects of surface-disturbance activities to the maximum extent practicable. Compensatory mitigation, such as creating wetlands, is being applied where feasible. Protective fencing is also being used where necessary. For site-specific protection and mitigation examples, please see **Appendix III**.

Special Designations

The BLM identifies critical or unique riparian-wetland areas that would benefit from special designation through land-use planning or other processes.

Types of special designations are Quality Management Areas (QMA's), National Riparian Conservation Areas, Areas of Critical Environmental Concern (ACEC), Research Natural Areas (RNA's) and Wilderness Study Areas (WSA's).

Please see **Appendix IV** for a list of riparian areas that were designated for special management emphasis in 1994.

Water Rights Assessments

Following the procedural requirements of various State laws, the BLM obtains on a case-by-case basis the rights or cooperative agreements for water needed to sustain riparian-wetland areas and their associated uses.

In 1994, the agency conducted 143 site-specific studies to determine water amounts, including instream flows, that are needed to support healthy riparian-wetland areas. Please see **Appendix V** for examples.

Acquisition and Expansion

The BLM acquires riparian-wetland areas through exchanges, donations or purchases, especially in areas adjacent to Waterfowl Habitat Management Areas or in areas that are critical for threatened and endangered species. For details on key riparian-wetland areas that were acquired in 1994, please see **Appendix VI**.

Watershed Approach

The BLM takes a watershed approach to riparian-wetland management that, whenever possible, focuses on the entire watershed and involves all affected landowners.

Using the principles of ecosystem management, the agency manages these riparian-wetland areas in a manner that accommodates multiple uses. In certain instances, the BLM has to restrict some uses to achieve site-specific objectives. Please see **Appendix VII** for some examples of the BLM's watershed approach.

Goal 3

The BLM carries out a multifaceted riparian-wetland information and outreach program that includes training and research. The objective is to raise awareness and understanding of the importance of healthy riparian-wetland areas.

The BLM continues to expand training to make sure it has the technical and management skills needed for planning and program implementation. The BLM makes this training available to other government agencies and to the public.

A state-of-the-art training course titled "Coordinated Riparian Area Management," which the BLM had held since 1989, was restructured in 1994 and renamed "Riparian Management." The training was conducted in the Escalante Utah Resource Area, with field exercises on Calf and Birch Creeks. BLM encourages participation by various Federal and State agency personnel, ranchers, conservationists and user groups.

The BLM also conducted, sponsored or co-sponsored numerous training sessions, workshops and conferences. Please see **Appendix VIII** for details.

Public Outreach

As the BLM, the academic community and other interested parties disseminate information about riparian-wetland areas, the public is becoming more aware of the value of these lands.

In 1994, the BLM worked to create a greater understanding of and appreciation for riparian-wetland areas among land managers, business and community leaders and the general public. The agency expanded its public outreach program through media contact and coverage, brochures, exhibits, videos and teaching material. The material was presented at workshops, conferences and schools and during tours, as noted in **Appendix IX**.

Showcase Areas and Awards

The BLM continues to showcase riparian-wetland areas where proper management is creating a variety of benefits. The agency also honors individuals or groups that have made outstanding contributions in helping the BLM reach its riparian-wetland management objectives.

Riparian Showcases

The agency has established showcase areas in each BLM State to demonstrate that well-managed riparian areas can produce multiple-use benefits while remaining healthy. Showcase and demonstration areas are also being used for education and scientific purposes. The most recently designated showcase areas are shown in the table that follows.

Showcase Areas Established in 1994

<u>State</u>	<u>Office</u>	<u>Showcase Area</u>
New Mexico	Farmington	Palluche
Nevada	Elko	Maggie Creek

The BLM's Riparian Stewardship Awards

The BLM initiated the Riparian Stewardship Award program to recognize private landowners, resource users, public agencies and private organizations that have made special contributions to riparian stewardship on public lands. The 1994 winner was the Trout Creek Mountain Working Group in Oregon, which was recognized for its efforts to resolve riparian management issues.

Members of the group sharing in the award were:

- **Environmentalists** – Mary Hansen of the Oregon Environmental Council; Kathi Myron, Cal Cole and Rick Miller of Oregon Trout; Monty Montgomery of the Izaak Walton League.
- **Members of the Oregon Cattleman's Association** – Bob and Sara Skinner, Doc and Connie Hatfield, Pete and Pam Talbot, and Ken and Anne Bentz.
- **Ranchers** – Britt and Alice Lay, Art Cherry, David and Avelina Etchart, Steve and Ammarita Maher, Richard and Jeanette Yturriondobeitia, Jock and Karen Echave, Evan and Tillie Zimmerman, Fred and Judy Wilkinson, and Gary and Marj Defenbaugh.

Riparian Awards to BLM

The Western Division of the American Fisheries Society sponsors an annual award for excellence in on-site riparian management. The award recognizes the best BLM and Forest Service work in restoring riparian areas. The BLM's Lemhi (Idaho) Resource Areas, its Vale (Oregon) District and its California State Office all received plaques for their outstanding management of riparian areas.

In addition, the Roswell Resource Area received the "1994 Riparian Achievement Recognition Award" from the New Mexico Riparian Council for the work at Fort Stanton on the Rio Bonito Project area.

Goal 4

Riparian-wetland ecosystems, which neither begin nor end at land ownership boundaries, require effective and cooperative management by all affected parties. The BLM is working to form new and maintain existing partnerships to implement the Riparian-Wetland Initiative for the 1990's. The goal is to supplement and accelerate the agency's work by using non-Federal funds and labor to complete high-priority projects.

Funding and Volunteer Opportunities

The BLM undertakes high-priority restoration projects through joint-funding ventures, such as the Challenge Cost Share Funding Program. Through its Volunteer Program, the agency seeks and receives assistance from individuals, public land users and other groups concerned about riparian-wetland management. Volunteers not only help the BLM complete projects and perform required maintenance, but also raise public awareness about the value of riparian-wetland areas.

Please see **Appendix X** for examples of land users and groups that volunteered time and labor in 1994 to help the BLM on riparian-wetland projects.

Partnerships

The BLM is working with a variety of private groups and governmental agencies to achieve riparian-wetland management objectives. Please see **Appendix XI** for details.

Standardization and Integration

To carry out its land management mission more effectively, the BLM coordinates its riparian-related work with other BLM initiatives and programs. The agency also integrates its *Riparian-Wetland Initiative for the 1990's* with complementary BLM initiatives, such as *Fish and Wildlife 2000* and *Recreation 2000*, along with other Federal programs.

Please see **Appendix XII** for examples of how the BLM is coordinating its management of riparian-wetland areas with other Federal and State initiatives or projects.

Technical Guidelines

The BLM's Service Center in Denver continues the lead role in the agency's development and implementation of standardized riparian-wetland guidelines. The guidelines relate to inventory, classification, management, monitoring and evaluation and data handling. Technical references include "The Use of Aerial Photographs to Manage Riparian-Wetland Areas" and "Process for Assessing Proper Functioning Condition for Lentic Riparian-Wetland Areas," published in 1994. What follows are riparian management technical references that have become available since 1985.

- Concepts in Stream Riparian Rehabilitation, 1986.
- A Selected, Annotated Bibliography of Riparian Area Management, 1987.
- The Use of Aerial Photography to Inventory and Monitor Riparian Areas, 1987.
- Inventory and Monitoring of Riparian Areas, 1989.
- Grazing Management in Riparian Areas, 1989.
- Riparian-Wetland Classification Review, 1991.
- Procedures for Ecological Site Inventory, 1992.
- Management Techniques in Riparian Areas, 1992.
- Greenline Riparian-Wetland Monitoring, 1993.
- Process for Assessing Proper Functioning Condition, 1993.

Also, in Idaho the Cottonwood Resource Area updated the documents for "BLM Basinwide Fish Habitat Survey Methodology," "Greenline Riparian-Wetland and Stream Channel Monitoring," "Riparian and Stream Channel Survey" and "Substrate Monitoring Methodologies." The Montana BLM and the Montana Riparian-Wetland Association developed guidelines for inventorying and determining functioning condition of lentic or still water riparian-wetland areas.

Interdisciplinary Coordination

The BLM encourages Federal, State and local interdisciplinary teams to be involved in all aspects of riparian-wetland management. Range conservationists, soil scientists, hydrologists, wildlife biologists, fishery biologists, recreation planners, ecologists, natural resource specialists and others participate in management activities, as described in **Appendix XIII**.

Interagency Coordination

The BLM coordinates with other Federal and State agencies to enhance riparian-wetland areas. For example, the Bureau works with the U.S. Fish and Wildlife Service on Regional Fish and Wildlife Concept Plans, Wetland Inventory Projects, Stewardship 2000, and other initiatives outlined in the Fish and Wildlife Service Wetlands Action Plan. The BLM works with the U.S. Geological Survey, the Bureau of Reclamation and other agencies on water quality, hydrologic and geologic studies and on rehabilitation techniques related to riparian-wetland issues.

The agency coordinates its riparian-wetland management efforts with the U.S. Forest Service, the Army Corps of Engineers, the Soil Conservation Service and other appropriate Federal and State agencies. Outstanding cooperative efforts are noted in **Appendix XIV**.

Conclusion

The *Riparian-Wetland Initiative for the 1990's* calls for the BLM to restore at least 75 percent of the riparian-wetland areas on public lands to proper functioning condition by 1997. Meeting this national goal and responding to the other challenges described in this report will require the continued support of Congress and a major commitment from the BLM and the BLM's partners. With that cooperative effort, the Bureau of Land Management can achieve healthy conditions on riparian-wetland areas throughout the West.

Appendices

APPENDIX I: BASELINE INFORMATION COLLECTION

- In Alaska's Kobuk District, 15 miles of the Clear Creek riparian stream system were inventoried and evaluated to assess the impact of mining. Also, the Glennallen District completed 20,000 acres of soil-vegetation inventory in the Gulkana Wild and Scenic River corridor.
- In Arizona, the BLM completed intensive ecological site inventories on about 6,000 acres of riparian-wetlands. The purpose was to assess proper functioning condition and ecological condition, to support instream flow water rights applications, to establish specific objectives, to prepare activity plans and to identify restoration measures.
- In California, the Ridgecrest Resource Area inventoried 22 miles of riparian streams in the East Sierra, Panamint, and White Mountains areas. The Needles Resource Area inventoried 38 wetland areas in the Colorado Desert, while the Barstow Resource Area inventoried 26 wetland areas in the West Mojave Desert. The El Centro Resource Area completed the classification process on its riparian sites and the Folsom Resource Area finished an inventory of the Poor Man's Gulch and Spring Creek areas. Also, the Arcata Resource Area completed an Interim Watershed Analysis on 11,000 acres of the Honeydew Creek watershed area.
- In Colorado, the BLM completed an inventory on 11,000 acres that included an intensive inventory on over 1,300 miles of riparian stream systems to determine the functioning condition and the management requirements for the protection of threatened and endangered species. The agency classified about 1,200 acres or 200 miles of the riparian stream system and 9,000 watershed acres using the Ecological Site Inventory method.

- Using interdisciplinary teams, the Boise, Burley, Coeur d'Alene and Salmon Districts in Idaho completed 517 miles of intensive riparian stream inventory that included a determination of the health of 394 miles of riparian areas. The Burley and Idaho Falls Districts completed 206 miles of riparian stream inventory in cooperation with the Montana Riparian Association. The Boise District finished an additional nine miles of riparian inventory in cooperation with private landowners. Also, the BLM completed over 1,000 acres of non-stream riparian-wetland inventories on the Latour Creek, Chili Slough and Salmon River areas.

- In Montana, the BLM finished more than 700 miles of intensive riparian-wetland inventories, with information on hydrologic condition, ecological status and functioning condition. The inventory procedures were developed in cooperation with Federal and State agencies, private interests in Montana and BLM specialists in other States.

- In New Mexico, a riparian ecological site inventory of 2,500 acres was completed in the Socorro Resource Area. The BLM finished functioning condition assessments on 384 miles and 17,750 acres of riparian-wetland areas throughout the State.

- In Nevada, the BLM completed 12,000 acres of inventory that included the functioning condition assessment of 309 miles of riparian stream systems. The work included a project with the National Fish and Wildlife Foundation and the Rocky Mountain Elk Foundation, which helped the BLM inventory and classify 26 miles of the Bruneau River to determine potential responses of stream reaches to changes in management.

- In Oregon and Washington, the BLM inventoried 864 miles of riparian streams and 16,100 acres of wetland areas in order to set management priorities and identify restoration measures.

- In Utah, the Bureau completed 311 miles and 19,000 acres of riparian-wetland intensive inventory and classification to assist management officials in setting resource objectives. The Salt Lake District conducted an extensive inventory of the Salt Wells Marsh area on the north arm of the Great Salt Lake. In addition, the Richfield District completed an intensive inventory of the Gandy Salt Marsh Area of Critical Environmental Concern for the management of threatened and endangered species in a unique area of Utah's West Desert.

- With assistance from Wyoming Game and Fish and the U.S. Fish and Wildlife Service, the BLM cooperated in digitizing National Wetlands Inventory maps on 40,000 acres of wetlands in Wyoming to implement management or enhance the public's understanding of wetland values. Also in Wyoming, the Resource Areas completed intensive inventories and functioning condition assessments on 49,000 acres and 540 miles of critical riparian and wetland habitat using the interdisciplinary team approach. More than 43,000 acres and 1,700 miles of riparian and stream inventory data were updated or entered into a data base in the Worland District.

APPENDIX II: MONITORING PROGRESS

- In Alaska, the Birch Creek, Delta River, Fortymile River, Unalakleet River, Gulkana River and Beaver Creek Wild and Scenic Rivers were monitored by the BLM for the effectiveness of riparian-wetland management.
- In Arizona, the BLM is monitoring over 100 riparian sites to determine and perfect instream flow needs, riparian ecological status and the effectiveness of management actions. In addition, the Phoenix District on Peoples Canyon Creek and the Safford District on Bonita Creek are monitoring water quality to ensure the maintenance of the Unique Waters Designation.
- In California, the BLM has intensified its riparian-wetland monitoring efforts in the southern Sierra Nevada, Walker Pass, Afton Canyon, Amargosa Canyon, Panamint Range, Table Mountain and Sand Canyon areas and the Bishop Resource Area to assess the effectiveness of management actions.
- In Colorado, the BLM intensified its riparian-wetland monitoring efforts in 1994. An interdisciplinary team monitored 455 activity plans and 38 specific areas to determine the effectiveness of restoration measures and the extent to which management objectives were being met.
- In Idaho, the Boise, Burley, Coeur d'Alene, Idaho Falls and Salmon Districts are monitoring water quality at almost 500 sites in over 100 grazing allotments to determine whether management actions and construction standards are achieving the riparian-wetland objectives on "stream segments of concern," as designated by the State of Idaho.
- In Montana, the BLM completed over 160 monitoring studies in cooperation with the Montana Water Quality Bureau.
- In New Mexico, monitoring station data was collected in the Rio Puerco, Gila Lower Box, Placitas Arroyo, Rio Salado, Fort Stanton, Socorro Natural and Pump Canyon and Carrizo Canyon areas.

- In Nevada, monitoring to determine whether management actions on riparian-wetland areas are meeting specific objectives was conducted for 46 activity plans. In addition, 47 monitoring studies were conducted on riparian-wetland areas not covered by activity plans.
- In Oregon and Washington, the BLM is conducting water quality studies at 585 sites.
- In cooperation with the Utah Division of Wildlife Resources and Bureau of Reclamation, the BLM in Utah established baseline monitoring stations in the Book Cliffs Conservation Initiative area. In addition, 210 riparian-wetland sites and 13 activity plans were monitored for water quality and habitat improvement and other riparian-wetland values.
- In Wyoming, the BLM is monitoring 185 activity plans or 290 sites with riparian-wetland management objectives to determine if management actions are achieving the intended results.

APPENDIX III: PROTECTION AND MITIGATION

- Arizona's Safford District constructed protective fences along the Gila River and is working with public interest groups and agencies to develop water-use strategies to protect instream flow in the San Pedro Riparian National Conservation Area.
- The BLM in California worked with various conservation agencies and unauthorized resource users to implement protective measures for establishing native vegetation on the Ione Soils Area of Critical Environmental Concern. Also, the Bureau took motorized vehicle closure actions in the Fern Creek, De Luz Creek, Rainbow Creek, Santa Ana Wash, Santa Margarita River and Barrel Spring areas.
- In Idaho, riparian protection practices and mitigation measures mainly consisted of maintenance of over 100 exclosures and the construction of 60 miles of protective fencing. The exclosures and fences protect particularly sensitive riparian areas associated with the Snake River Salmon, Snake River Mollusks, Redband trout and Bull trout species.
- In Montana, the Garnet Resource Area received grant funds from the State of Montana to reestablish and rehabilitate the Elk Creek stream channel to mitigate placer mining impacts on riparian values.
- To restore riparian values, the BLM in New Mexico constructed protective fences and compensatory measures in the Palluche Canyon, Coyote Canyon, Horse Mountain, Y-Ranch, Pelona Mountain, Rio Grande, Gila Rivers and Hungry Beaver areas.
- Nevada's Elko District initiated the Maggie Creek Restoration Project, which is designed to showcase the compatibility of mining, ranching, recreation and environmental values on both private and public land. The project includes riparian fencing, livestock grazing management and conservation easements.

- In Oregon, the BLM acquired nine parcels of key wetlands whose habitat could help restore listed and candidate species. The Bureau, which also acquired the Willamette Valley Grasslands, a rare plant community, carried out this land action with other Federal agencies and the City of Eugene.
- In Utah, the BLM's Salt Lake City District constructed a protective fence in the Kimble Creek prime riparian area in partnership with the Box Elder Wildlife Federation. The Cedar City District secured an agreement with grazing permittees to complete a protective fence for removing livestock from the Sevier River in Circleville Canyon. With the assistance of the Utah National Guard, the Moab District constructed an off-road vehicle barrier and a protective fence at the mouth of Mill Creek to alleviate negative impacts to approximately five miles of stream channel. The Vernal District completed protective fences in the Book Cliffs Conservation Initiative as part of its partnership with the Utah Division of Wildlife Resources, the Rocky Mountain Elk Foundation, the Nature Conservancy and Sackir Safari.
- Also in Utah, the Vernal District worked with an oil company to reroute an access road in critical riparian habitat. The District also worked with a permittee to develop two pipelines to provide alternate water sources and protect riparian values. Also, the Richfield and Vernal Districts, in an effort to enhance wetland values, constructed protective fences in areas adjacent to eight springs.
- Wyoming's BLM Districts, in cooperation with grazing permittees and conservation groups, are managing key riparian areas for land-use authorizations by constructing over 100 protective fences and mitigation measures to restore critical values.

Protective stipulations are incorporated in land-use authorizations and contracts to make sure that site-specific riparian-wetland management objectives are met. To ensure compliance with the Section 404 of the Clean Water Act, the BLM coordinates permits with the Army Corps of Engineers, the Environmental Protection Agency and the Fish and Wildlife Service, among other agencies.

In 1994, the BLM ensured compliance with mitigation measures for hundreds of surface-disturbing activities -- such as road building, pipeline construction, mineral exploration or development and recreation activities. Monitoring these activities to determine their success in mitigating impacts required several adjustments in land-use activities. For example:

- In Alaska, the BLM worked with placer mining operators for compliance with requirements, mitigation measures and stipulations in reclamation plans for the protection of riparian-wetland values.
- In Colorado, the BLM worked with oil and gas companies, the Army Corps of Engineers and grazing permittees to minimize negative impacts on riparian values from mineral development and livestock grazing impacts. Also, the Grand Junction District helped protect open space by installing measures to minimize recreation activity in riparian areas within the Grand Mesa Slopes Special Management area.
- Wyoming's Rock Springs District, in cooperation with the Wyoming Game and Fish Department, is taking riparian-wetland values into account in its evaluations of proposals to develop oil and gas.

APPENDIX IV: SPECIAL DESIGNATIONS

State	District	Special Designation	Project Area
California	Bakersfield	ACEC*	Salinas River, Frog Pond Mountain, Carrizo Plain, Case Mountain, Walker Pass, Erskine Creek, Point Salinas
California	Desert	ACEC	Santa Ana Wash, Million Dollar Spring, Johnson Canyon
Colorado	Craig	ACEC	White River Floodplain
Colorado	Craig	ACEC	East Douglas Creek
Utah	Richfield	ACEC	Gandy Salt Marsh

* Area of Critical Environmental Concern

APPENDIX V: WATER RIGHTS ASSESSMENT STUDIES

- In Alaska, the BLM continued its documentation of instream flow needs to protect riparian-wetland values on Birch Creek, Delta River, Fortymile River, Unalakleet River, Gulkana River, and Beaver Creek.
- In Arizona, the agency continued gathering documentation to obtain certified water rights on the Beaver Dam Wash; on the Gila, San Francisco, Babocomari, Bill Williams, Big Sandy and Virgin Rivers; on Bonita, Redfield, Francis, Burro, Bass, Wildcat, Mescal, Apache, Wright and Cienega Creeks; and on the Hot Springs Canyon.
- In Arizona, Nevada and Utah, the BLM continued the Virgin River Project to determine instream flows needed to maintain and improve riparian and aquatic resource values.
- In California, the Folsom Resource Area filed Statements of Water Diversion and Use to protect riparian-wetland values with the State Water Resources Control Board in the Lost Slough (Kraus), Crane Ranch (Fitzgerald), McCabe Flat, Willow Flat and Railroad Flat Campground areas. Also, the Ridgecrest Resource Area filed water rights applications on 17 sites.
- In Colorado, riparian areas are being protected by an instream flow analysis on Egeria Creek, West Fork Sheep Creek, Castle Creek, and Red Dirt Creek in the Grand Junction District and Currant, Texas and Tallahassee Creeks in the Canon City District. The Canon City District acquired 500 acre-feet of water rights for Blanca Wildlife Management Area and two Arkansas River diversion rights for the protection of riparian values. The Montrose District formulated a proposal for the acquisition of water rights on the Dolores River. Also, 42 water rights and eight oppositions on other uses were filed for springs and reservoirs to protect riparian values.
- In Idaho, the Coeur d'Alene District worked with the Idaho Department of Fish and Game to gather instream flow data to protect riparian-wetland values in the Gamble Lake area. Also, the BLM completed more than 1,000 water assessments for the Snake River adjudication.

- In Montana, 18 instream flow assessments were completed and 134 water rights were granted by the Montana Department of Water Resources to protect riparian-wetland values.
- In New Mexico, the BLM developed an application for change of use of an acquired water right to instream use; completed an interagency report on instream flow needs on the Rio Chama; evaluated two springs for the Rio Truchas adjudication; and identified water needs in the Socorro Resource Area.
- In Nevada, the Carson City District conducted water rights surveys on four springs in the Pine Nut Mountains Habitat Management Plan area. The Las Vegas District continued a cooperative effort to determine instream flow requirements along nine miles of the Virgin River to protect riparian-wetland values.
- In Oregon and Washington, the BLM secured 339 water rights on streams, reservoirs and springs to protect riparian-wetland values and the continued use of these water sources.
- In Utah, the BLM assessed opportunities under State law for developing and protecting water rights needed to support riparian-wetland values by asserting water rights on 10 water sources in the Richfield District. The BLM also negotiated for a diversion of use with private entities on seven miles of Cedar Creek in the Moab District. Also, the Bureau assessed instream flow assessments on Bitter Creek, Castle Creek, and Greenwich Creek.
- In Wyoming, the Casper and Rawlins Districts completed an inventory of water needs on several springs and provided instream flow assessments on two riparian stream systems. Also, the Lander Resource Area finished an assessment of water needs for the Diamond Springs Fishery Development Project.

APPENDIX VI: KEY RIPARIAN-WETLAND ACQUISITIONS/EASEMENTS

Acquisition Name	District/State	Acres
San Pedro River**	Phoenix/Arizona	48
Lower San Pedro Ecosystem****	Safford/Arizona	72
Kern River*	Bakersfield/California	500
Canbrake Creek*	Bakersfield/California	300
Salt Creek*	Bakersfield/California	1,000
Cache Creek**	Ukiah/California	2,100
Grimshaw Marsh*	Desert/California	350
Arkansas River**	Canon City/Colorado	386
Stirrup Ranch*	Canon City/Colorado	2,077
McIntyre Springs**	Canon City/Colorado	538
Deer Haven Ranch***	Canon City/Colorado	4,900
31 Mile Ranch**	Canon City/Colorado	1,832
Little Lost River***	Idaho Falls/Idaho	75
Chili Slough**	Salmon/Idaho	294
Salmon River**	Idaho Falls/Idaho	33
Hazard Creek*	Coeur d'Alene/Idaho	635
Gamble Lake**	Coeur d'Alene/Idaho	120
Cougar Bay**	Coeur d'Alene/Idaho	25

In the Grand Junction District, the Grand Mesa Slopes Special Management Area plan calls for combining the management of several watersheds.

- In Idaho, the BLM is taking a watershed approach to riparian-wetland management by coordinating its actions with the Idaho Geographic Information Advisory Committee, the Columbia River Basin Assessment, the Idaho Division of Environmental Quality, the Henry's Lake Foundation and the Lemhi Model Watershed Group. This approach is being taken on the following areas: Castle Creek, Shoofly Creek, Little Jacks Creek, Big Willow Creek, Henry's Lake and the East Fork of the Salmon River.
- In New Mexico, the BLM's Socorro Resource Area and Albuquerque and Farmington District Offices are taking a watershed approach in managing the Palluche Canyon, Rio Puerco, Rio Grande and Rio Salado areas. For example, the Albuquerque District is focusing on water quality and local community welfare issues in its management of the Rio Puerco and Rio Grande watersheds. The Socorro Resource Area is managing the Rio Salado watershed by taking an intensive inventory of riparian values and implementing management practices on an ecosystem basis. Also, the Farmington District is managing the Palluche Canyon watershed by mitigating the impacts of mineral development.
- In Oregon and Washington, the BLM is taking a watershed approach in its management of forest areas. The Eugene District continues to work with the Eugene Water and Electric Board, the Lane County government and the Nature Conservancy to protect resource values in the Mckenzie River watershed.
- In cooperation with the Forest Service, the Rocky Mountain Elk Foundation, the Nevada Department of Wildlife and other parties, the BLM's Elko (Nevada) District developed ecosystem management objectives for the Bruneau River Habitat Management Plan. Also, the BLM is working with the Carter Ranch in the Battle Mountain District in managing several watersheds in the Toiyabe Mountain Range on an ecosystem basis.

- The Richfield Utah District continues to cooperate with various Federal, State and local agencies and private landowners to implement the Otter Creek Coordinated Resource Management Plan, which promotes the restoration and protection of water quality in the critical riparian areas of Sevier and Piute Counties. The Vernal District is involved in developing and implementing the watershed approach for the Book Cliffs Conservation Initiative. The district is working with the Utah Division of Wildlife Resources, the Rocky Mountain Elk Foundation and the Nature Conservancy.

- In Wyoming, the BLM's Casper District implemented the Buffalo Creek Coordination Resource Management Plan in cooperation with the Wyoming Game and Fish Department, the Soil Conservation Service and a grazing permittee. The plan is intended to protect riparian values and achieve proper functioning condition. The Lander Resource Area implemented the Rim Pasture allotment management plan using a watershed approach to improve riparian values. To improve livestock management and road construction practices, the Great Divide Resource Area continued implementation of the Upper Muddy Creek Watershed project in cooperation with the Wyoming Department of Agriculture, the Wyoming Game and Fish Department, the Little Snake River Conservation District, the Wildlife Management Institute and grazing permittees.

APPENDIX VIII: TRAINING SESSIONS AND WORKSHOPS

- To assist the States in using Technical Reference 1737-9, *Process for Assessing Proper Assessing Proper Functioning Condition*, the Service Center in Denver gave a two-day training course and held briefings in 19 field locations.
- The Canon City District in Colorado conducted an introductory course on an ecosystem approach to resource management, with emphasis on riparian-wetland areas. The Craig District provided agencywide training assistance for the "Applied Riparian Management" course.
- The BLM cosponsored the 6th annual conference of the Colorado Riparian Association, which was held in Alamosa, Colorado.
- In Idaho, the BLM -- in cooperation with the U.S. Fish and Wildlife Service -- sponsored two training courses on basic aerial photo interpretation, a riparian inventory and monitoring training session and a wetland classification and inventory training session. The courses and sessions were designed to improve employees' technical skills and knowledge.
- In Montana, the BLM conducted field training sessions in all resource areas in cooperation with the Montana Riparian Association and the Bureau of Indian Affairs. Sessions focused on the classification and inventory process, determining functioning condition and implementing the Clean Water Act for riparian-wetland areas. The training, which was requested by the Alaska Natural Heritage Program, was given at the Montana State Wetlands Strategy meeting, the Prairie Wetland Ecosystems workshop and a meeting of the Montana Chapter of the American Fisheries Society.
- In Nevada, the BLM's Service Center provided training support to the Carson City District, the Winnemucca District and the Tonopah Resource Area to improve employees' skills for assessing functioning condition.
- In New Mexico, the BLM's Phoenix Training Center and Service Center gave riparian management training for the Farmington and Las Cruces Districts.

- The Salem, Eugene, and Klamath Falls Offices in Oregon, along the support of the Service Center, conducted training on methods for assessing the functioning condition of lentic wetlands and riparian areas.
- In Utah, the BLM's Service Center conducted riparian management training that focused on assessing the functioning condition of riparian stream systems.
- In Wyoming, the Washakie Resource Area participated in the Circle J Range Camp to discuss riparian management objectives. The BLM's Service Center gave training to all districts, emphasizing assessments of the functioning condition of riparian stream systems. Also, the Cody Resource Area gave training on riparian values, management and functionality for the U.S. Forest Service, Greybull Ranger District.

APPENDIX IX: MAJOR OUTREACH EFFORTS

State	Office	Outreach Effort (Category/Item)
Alaska	Anchorage	Outdoor Week -- Campbell Creek environmental education
Alaska	Arctic, Kobuk, Steese/White Mountain	Outdoor Days -- Fairbanks midschool environmental awareness
Arizona	Phoenix, Yuma, Safford	Presentations -- Riparian awareness for students
Arizona	Phoenix	Display and Presentations -- Hassayampa River Riparian Area
Arizona	Tucson	Field Day -- "Empire-Cienega Ranch Earth Day"
California	Barstow	Workshop -- "Southwestern Saltcedar Network"
California	Needles	Field Trip -- Needles High School
California	Ridgecrest	Field Trip -- Inyokern School
California	Ukiah	Visual Display -- Trinity County Fair
California	Susanville	Fort Sage School District -- "Adopt-a-Watershed" program
California	Susanville	Presentation -- Modoc Elementary and Modoc High School
California	Susanville	Outdoor Education -- Modoc Middle School
California	Bishop	Field Trip -- Elementary School, The Desert Survivors
California	Bishop	Presentation -- Audubon Society
California	Folsom	Visual Display -- American River Nature Center, Consumnes River Preserve

Appendix IX [continued]

Colorado	Grand Junction	Field Days -- Riparian restoration techniques on six streams
Colorado	Grand Junction	Presentations -- Riparian awareness for college students, landowners
Colorado	Grand Junction	Tour -- Developing common goals for Spring Creek
Colorado	Grand Junction	Poster exhibit -- Trapper Creek Riparian Restoration Project
Colorado	Canon City	Presentation -- High school students on watershed/riparian management
Colorado	Canon City	Field Tours -- Elementary and Secondary students to Blanca Wetlands
Colorado	Canon City	Exhibit -- Colorado State Fair with literature distribution
Colorado	Montrose	Field Tour -- Restoration ecology for Rocky Mountain Biological Laboratory
Colorado	Craig	Newsletter -- Northwest Colorado Riparian Task Force
Colorado	Craig	Presentation -- Riparian willow planting project with West Grand Middle School
Idaho	Idaho Falls	Field Day -- Riparian awareness for students
Idaho	Boise	Tour -- Riparian awareness for permittee and wild horse interest
Montana	Statewide	Workshops -- Riparian-wetland awareness for agencies and interest groups
Montana	Statewide	Exhibits -- County fairs on riparian awareness
Montana	Statewide	Presentation -- University of Montana
New Mexico	Farmington	Presentations -- Local and State environmental groups

Appendix IX [continued]

New Mexico	Farmington	News media -- local sports groups
New Mexico	Roswell, Santa Fe	Presentations -- "Riparian Restoration and Enhancement Practices on the Rio Bonito" to the New Mexico Riparian Council and Southwest Riparian Areas Shortcourse
New Mexico	Albuquerque	Tour -- Rio Truchas Riparian Demonstration Project
Nevada	Elko	Field Day -- "Kids Fishing Day" at Wildhorse Reservoir
Nevada	Elko	Field Day -- Riparian awareness for students
Nevada	Elko	Presentation -- Elko High School
Nevada	Winnemucca	Field Day -- "Kids Fishing Day" at Sonoma Creek
Oregon	State	Presentation -- University of Oregon's Environmental Law Conference
Oregon	Prineville	Tours -- Bear Creek, Camp Creek and Bridge Creek
Oregon	Eugene	Tours -- West Eugene wetlands
Utah	Cedar City	Tour -- Utah Riparian Coalition
Utah	Vernal	Media tour -- Book Cliffs Initiative
Utah	Salt Lake	News article -- "The Pelican on Horseshoe Springs Marsh"
Wyoming	Platte River	Environmental Education -- Casper Elementary School
Wyoming	Lander	Field Camp/Tours -- Riparian awareness for students
Wyoming	Great Divide	Field Day -- Environmental awareness for students; presentation -- "Sun Stewardship Program"

Appendix IX [continued]

Wyoming

Pinedale

Sponsor -- "Kids Fishing Day";
presentations -- Safari Club
International's American
American Wilderness Leadership
School, congressional aides,
local schools

APPENDIX X: MAJOR FUNDING AND VOLUNTEER EFFORTS

State	Office	Project Area(s)	Funding/Volunteer Source
Arizona	Tucson	Empire-Cienega	Students
Arizona	Tucson	San Pedro National Conservation Area	Friends of San Pedro
Arizona	Phoenix	Aqua Fria Grasslands	Central Arizona Chapter of the Society for Conservation, grazing permittees, local interests
Arizona	Yuma	Betty's Kitchen Wildlife Interpretive Area	State Parks Heritage Program
California	Folsom	Red Hills	California Department of Forestry, Baseline Conservation Camp
California	Folsom	Amber Creek	California Department of Fish and Game
Colorado	Montrose	Cunningham Creek	Durango High School, U.S. Forest Service
Colorado	Grand Junction	West Salt Creek	Elementary school students
Colorado	Grand Junction	Trapper Creek	Trout Unlimited
Colorado	Craig	Antelope Creek	West Grand Middle School
Colorado	Craig	Trappers, Cathedral, and West Douglas Creeks	Trout Unlimited, Meeker High School
Colorado	Craig	Douglas Creek	Oak Ridge National Laboratory, Mesa State College
Colorado	Canon City	Badger Creek	Trout Unlimited
Idaho	Boise	Districtwide	High school students

Appendix X [continued]

Idaho	Cottonwood	Resource Area	High school students
Idaho	Coeur d'Alene	Rock Creek	The Coors Corporation
Montana	Miles City	Walstein, Load, Pronghorn, and Adolph Reservoirs	Montana Department of Fish, Wildlife and Parks
N. Dakota	Dickinson	Mud Creek	Ducks Unlimited, Bureau of Reclamation
Montana	Lewistown	Collar Gulch	Montana State University, Montana Department of Fish, Wildlife and Parks
Montana	Butte	Big Hole River	Montana Department of Fish, Wildlife and Parks, Trout Unlimited, American Fisheries Society, Big Hole River Foundation, National Wildlife Federation, National Fish and Wildlife Foundation
Montana	Butte	Black Foot River	Montana Department of Fish, Wildlife and Parks, Trout Unlimited, National Wildlife Federation, U.S. Forest Service, Montana Power Company
Montana	Butte	Stream channel recovery	Suzanne Faughty
Montana	Butte	Muskrat Creek	Montana Department of Fish, Wildlife and Parks, Trout Unlimited, Montana State University
Montana	Butte	Stone Creek	Barret Minerals, Madison County Conservation District
Montana	Butte	Black Foot River Challenge	Trout Unlimited, U.S. Fish and Wildlife Service

Appendix X [continued]

New Mexico	Farmington	Pump Canyon	San Juan Bowhunters
New Mexico	Albuquerque	Dry Springs, Cebolla Springs	Southwest Indian Polytechnic Institute
New Mexico	Albuquerque	Bluewater	Southwest Indian Polytechnic Institute, Outdoors Club, Sierra Club
New Mexico	Socorro	Rio Salado	Local interests
Nevada	Winnemucca	Quinn River Basin	Student Conservation Association
Nevada	Ely	Water Inventory Mapping	Job Opportunities In Nevada
Utah	Statewide	Otter Creek, Lower Bitter Creek, Chipeta Creek, Red Spring	Boy Scouts
Utah	Salt Lake	Salt Wells Marsh	Utah State University
Utah	Salt Lake	Clover Wetlands	Tooele Wildlife Federation
Utah	Cedar City	Henryville Creek	German nationals, Escalante High School
Utah	Vernal	Book Cliff Initiative	Bureau of Reclamation
Utah	Moab	Hambrick Exclosure	Utah National Guard
Wyoming	Rock Springs	Salt Creek Wetlands	Medicine Butte Wildlife
Wyoming	Pinedale	Rock Creek exclosures	Oakbrook, Illinois, and Evanston Chapters of Trout Unlimited; Wyoming Council of Trout Unlimited
Wyoming	Worland	Renner Habitat Unit, Horse Creek Study Area	Rocky Mountain Elk Foundation
Wyoming	Cody	Inventory, monitoring, plantings	Cody High School

APPENDIX XI: MAJOR RIPARIAN-WETLAND PARTNERSHIPS

State	Office	Project Area	Partnership
Alaska	Arctic	National Petroleum Reserve	Ducks Unlimited, U.S. Fish and Wildlife Service, North Slope Borough Wildlife Borough Wildlife Department, Alaska Department of Fish and Game, National Oceanic and Atmospheric Administration, Pacific Meridian Resources, U.S. Geological Survey
Alaska	Glennallen	Bering Glacier	Ducks Unlimited, U.S. Fish and Wildlife Service, U.S. Forest Service, Alaska Department of Fish and Game, National Oceanic and Atmospheric Administration, Pacific Meridian Resources, Copper River Delta Institute, National Aeronautics and Space Administration
California	Folsom	Cosumnes River Preserve	California Department of Fish and Game, The Nature Conservancy, Ducks Unlimited, County of Sacramento
California	Folsom	Yuba River	Yuba River Institute, California Departments of Fish and Game and Forestry
California	Susanville	Pine Creek, Lakeshore	Eagle Lake Forum
California	El Centro	San Sebastian Marsh	California Department of Fish and Game

Appendix XI [continued]

Colorado	Grand Junction	Carr Creek	Colorado Division of Wildlife, Trout Unlimited, landowner
Colorado	Grand Junction	Grand Mesa	Thirty parties, including Federal, State and local governments, landowners, and interest groups
Colorado	Kremmling	Owl Mountain Ecosystem	Seven parties, including Federal, State and local governments, landowners, interest groups
Colorado	Craig	Northwest Riparian Task Force	Several partners
Colorado	Craig	Bald Mountain	Colorado Division of Wildlife, grazing permittees, Little Snake Motorcycle Club
Colorado	Montrose, Craig, Grand Junction	Statewide riparian classification	The Nature Conservancy, 15 other interest groups
Colorado	Montrose	Gunnison River Flow Study	U.S. Geological Survey
Colorado	Montrose	Gunnison Basin	U.S. Forest Service, Habitat Partnership Program
Colorado	Canon City	Badger Creek	Eighteen Federal, State and local agencies, and interest groups
Colorado	Canon City	Rio Grande fence, LaGarita Creek	Colorado Division of Wildlife
Colorado	Canon City	Arkansas River	U.S. Forest Service, Colorado Department of Natural Resources, Bureau of Reclamation
Idaho	Idaho Falls	Adopt-a-Wetland	Individuals
Idaho	Idaho Falls	Formation Spring	The Nature Conservancy

Appendix XI [continued]

Idaho	Idaho Falls	South Fork Snake River Cottonwood Research	The Nature Conservancy, Trout Unlimited
Idaho	Boise	Wolf Creek, Trail Creek	Idaho Bird Hunters
Idaho	Boise	Ted Trueblood Ponds	Idaho Department of Fish and Game, Ducks Unlimited
Idaho	Coeur d'Alene	Cougar Bay, Gamble Bay	The Nature Conservancy
Idaho	Coeur d'Alene	Meadow Creek	Idaho Department of Environmental Quality, U.S. Forest Service
Idaho	Coeur d'Alene	Red River	U.S. Forest Service, Idaho Department of Fish and Game, Rocky Mountain Elk Foundation, Bonneville Power Administration, Trout Unlimited
Montana	Statewide	Statewide	Montana Riparian- Wetland Association
Montana	Lewistown	Boxelder Creek	Montana Department of Fish Wildlife and Parks, grazing permittee
New Mexico	Farmington	Pump and Palluche	Amoco Oil Company, Conoco Oil Company
New Mexico	Socorro	Rio Salado	Boy Scouts, Tree New Mexico, Hawks Aloft
New Mexico	Socorro	Pelona Mountain	Wild Turkey Federation
New Mexico	Carlsbad	Playa Lakes	New Mexico Environmental Department, U.S. Fish and Wildlife Service, New Mexico State Land Office

Appendix XI [continued]

Nevada	Elko	Maggie Creek	Newmont Gold Corporation
Nevada	Elko	Beaver Creek	Nevada Mining Association, Western States Minerals
Nevada	Elko	Bruneau River	National Fish and Wildlife Foundation, Rocky Mountain Elk Foundation
Nevada	Elko	Marys River	Newmont Gold Corporation, Nevada Department of Wildlife
Nevada	Winnemucca	Quinn River Rock Basin	Nevada Department of Wildlife, Cordex Corporation
Nevada	Carson City	Lemon Valley Marsh	Washoe County
Nevada	Ely	Robinson Mountain, Bald Mountain Goshute Creek	Magma Minerals Corpora- tion, Placer Gold U.S., Nevada Department of Wildlife
Nevada Mountain	Battle	Railroad Valley	National Fish and Wildlife Foundation, Ducks Unlimited, Round Mountain Gold Company
Oregon	Eugene	West Eugene Wetlands	The Nature Conservancy, Lane County Council of Governments, City of Eugene, U.S. Environmental Protection Agency
Utah	Vernal	Book Cliffs	Utah Division of Wildlife Resources, the Rocky Mountain Elk Foundation, The Nature Conservancy, Sackir Safari
Utah	Salt Lake	Kimble Creek	Box Elder County Wildlife Federation

Appendix XI [continued]

Wyoming	Platte River	Bolton Creek	Wyoming Game and Fish Department, Westwood Elementary School
Wyoming	Lander	Diamond Springs Reservoir	Wind River Chapter of Trout Unlimited, Wyoming Game and Fish Department, The Nature Conservancy, Soil Conservation Service
Wyoming	Great Divide	Upper Muddy Creek	Wyoming Game and Fish Department, Little Snake River Conservation District, Carbon County Extension Service, Soil Conservation Service, Great Divide Flyfishers Chapter of Trout Unlimited
Wyoming	Rock Springs	Current Creek	Wyoming Game and Fish Department, Trout Unlimited, Rocky Mountain Elk Foundation, Sweetwater Wildlife, grazing permittees
Wyoming	Rock Springs	CCC Pond	U.S. Forest Service, Sublette County Soil Conservation District
Wyoming	Rock Springs	Thomas Fork	Wyoming Game and Fish Department
Wyoming	Rock Springs	Wheat Creek Meadows	Ducks Unlimited
Wyoming	Rock Springs	La Barge Creek	Wyoming Game and Fish, Department, Trout Unlimited, U.S. Forest Service
Wyoming	Rock Springs	Ten Mile Marsh	Sweetwater Wildlife Association

Appendix XI [continued]

Wyoming	Rock Springs	Upper Green River	Wyoming Game and Fish Department, Wyoming Wetland Society
Wyoming	Worland	Duck Swamp	Local school teachers, Wyoming Game and Fish Department

APPENDIX XII: COORDINATED MANAGEMENT EFFORTS

State	Office	Project Area	Project or Initiative
Arizona	Yuma	Bill Williams River	Alamo Reservoir
Arizona	Tucson	Muleshoe Ranch	Ecosystem management Plan
Arizona	Gila	Gila Box Riparian National Conservation Area	Management plan implementation
California	State	Statewide	Working Agreement for the California Riparian Habitat Joint Venture
Colorado	Grand Junction	Trapper Creek	<i>Bring Back the Natives</i>
Colorado	Montrose	North Beaver Creek	<i>Bring Back the Natives</i>
Idaho, Oregon, Washington	Statewide	Columbia/Snake River	PACFISH and Columbia River Basin Assessment
Montana	State	Statewide	Best management practices
Montana	Garnet	Blackfoot River	<i>Bring Back the Natives</i>
New Mexico	Albuquerque	Rio Puerco	Best management practices
Nevada	Elko	Bruneau River	<i>Bring Back the Natives</i>
Nevada	Elko	Marys River	<i>Bring Back the Natives</i>
Utah	Vernal	Cripple Cowboy Ranch	Book Cliffs
Wyoming	Rawlins	Muddy Creek	<i>Bring Back the Natives</i>
Wyoming	Rock Springs	Current Creek, La Barge Creek	<i>Bring Back the Natives</i>

APPENDIX XIII: INTERDISCIPLINARY COORDINATION

- BLM staffers in Arizona, Nevada and Utah are working as an interdisciplinary team to develop instream flow recommendations for protecting riparian and aquatic resource values on the Virgin River.
- The Gila Resource Area in Arizona is using an interdisciplinary team in completing the Gila Box Riparian National Conservation Area Management Plan. In addition, the Havasu Resource Area is drawing on local, State and Federal expertise in an interagency riparian ecological site inventory on the Bill Williams River.
- In California, the BLM's Desert District established an interdisciplinary Technical Review Team of agency and private individuals to develop standards for vehicle use in riparian areas. The Bakersfield District is taking the interdisciplinary approach to minimize impacts to riparian values for project design, abandoned mine clean-up and road development activities.
- Over 30 local entities in the BLM's Grand Junction (Colorado) District have developed an open-space plan that will provide long-term protection of riparian values. The BLM, a landowner, the Colorado Division of Wildlife and Trout Unlimited are working on a plan to protect a native strain of the Colorado cutthroat on Carr Creek. Also, the Bureau and Eagle County are cooperating to conduct macroinvertebrate sampling in the Eagle River to determine changes in water quality resulting from riparian management.
- In New Mexico, the BLM is using an interdisciplinary team approach in conducting functioning condition assessments and ecological site inventories.
- The Elko and Winnemucca Districts in Nevada are coordinating with the Nevada Division of Wildlife to conduct habitat surveys and stream inventories for the protection of riparian-wetland values.
- In Idaho, the BLM is working with the Payette National Forest and Boise Cascade on a Watershed Management Plan and a Memorandum of Understanding (MOU) for the Trail Creek area. The Bureau and the Payette National Forest completed the Carey Creek Ecosystem MOU.

- Also in Idaho, the BLM is working with the Idaho Department of Fish and Game and the Idaho Department of Lands on the Craig Mountain Cooperative Plan. In conjunction with the U.S. Forest Service, the Coeur d'Alene District is working to enhance riparian values in the Rock Creek area.

- In developing livestock grazing practices, the BLM in Montana is coordinating with numerous parties -- the U.S. Forest Service, the Soil Conservation Service, the Montana Department of Fish, Wildlife and Parks, Montana's Department of State Lands, Montana's Department of Health and Environmental Science, Montana State University, the Montana Stock Growers Association, the Montana Farm Bureau, the American Fisheries Society, the Bureau of Reclamation, the Montana Riparian-Wetland Association and the National Biological Service. Also, the BLM is participating in the Governor's Council to enhance riparian habitat and thus avoid a listing of the bull trout as a threatened or endangered species.

- In Wyoming, the Lander Resource Area is taking an interdisciplinary approach with numerous parties -- including private landowners, grazing permittees and recreationists -- to implement the Whiskey Peak/Sun Stewardship; the Slingerland and Rim Pasture Allotment Management Plans; and the South Deer Creek, Beaver Creek Land and Cattle, Split Rock, Three Quarter Circle and Diamond D Coordinated Resource Management Plans.

- Also, the Great Divide Resource Area in Wyoming took an interagency approach in implementing the Grizzly Allotment and Daly Allotment Coordinated Habitat Management Plans; the Beaver Dams, Ferris Mountain, Morgan-Boyer, Middlewood Hill and Filmore Allotment Management Plans; and the Upper Muddy Creek/Red Rim Coordinated Resource Management Plans.

APPENDIX XIV: INTERAGENCY COORDINATION

- In Alaska, the BLM and the Soil Conservation Service, under an interagency agreement, continue to work on a soils and vegetation inventory that includes the classification of the riparian stream system for the Gulkana Wild and Scenic River corridor. The Anchorage District is coordinating with the Landscape Ecology Modeling and Analysis (LEMA) Center in Logan, Utah to automate color infrared aerial photography of the Unalakleet corridor and to provide information on its riparian system.
- The Folsom Resource Area in California is working with local communities, the U.S. Forest Service and the California Departments of Fish and Game and Forestry to improve riparian-wetland values on its ecosystem management areas.
- The Colorado and New Mexico BLM Offices are coordinating with Federal and State agencies, water users and interest groups in the Designwrights Collaborative Upper Rio Grande Basin Project. The purpose is to develop a common data base and an ecosystem management approach to riparian-wetland management.
- By coordinating with the National Biological Service, the Butte District in Montana developed instream flow recommendations for protecting riparian values on the Bear Trap Canyon portion of the Madison River watershed and the Upper Missouri National Wild and Scenic River.
- To formulate riparian-wetland area management alternatives, the BLM in Oregon continues to coordinate with the Oregon Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, the U.S. Forest Service and the timber and livestock industries.
- In Utah, the Vernal District is coordinating with Utah's Division of Wildlife Resources and the Bureau of Reclamation to establish baseline monitoring for the Book Cliffs Conservation Initiative.

- In Washington, the BLM's Spokane District is participating with the U.S. Forest Service and the U.S. Fish and Wildlife Service in applying riparian management guidelines for eastern Washington forest ecosystems. Also, the District is continuing to work with the U.S. Forest Service on the PACFISH (Pacific fish habitat restoration) strategy and Columbia River Basin salmon issues.
- The Rock Springs District in Wyoming is taking an interdisciplinary approach on the Cumberland Coordinated Resource Management Plan to achieve riparian improvement objectives. Partners include grazing permittees, other livestock and environmental interests, the Wyoming Game and Fish Department and the University of Wyoming.
- The Casper (Wyoming) District is taking an interagency, interdisciplinary approach as it implements Allotment Management Plans and Coordinated Resource Management Plans with riparian-wetland management objectives. The District is working with private landowners, grazing permittees, recreationists, the Soil Conservation Service, the U.S. Forest Service, the Wyoming Game and Fish Department, the University of Wyoming, the Soil and Water Conservation Districts and the Wyoming Wildlife Federation.

