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February 1993 * SAGENOTES * A Publication of the Idaho Native Plant Society * Vol 16(1)

9th ANNUAL RARE PLANT CONFERENCE

The Idaho Native Plant Society will hold their Annual Rare Plant Conference on Tuesday and Wednesday, February 9-10, 1993. The meetings are a species-by-species discussion of rare and potentially threatened native Idaho plants - which plants should be considered, and at what level of concern. Discussions will also cover updates and status changes of previously listed species. We encourage all agency and professional botanists, as well as interested lay-people, to attend these meetings and contribute their knowledge and observations.

The meetings will be held at the Boise District Fire Office, 3948 Development Ave., Boise, Idaho, from 8:30 a.m. to 5:00 p.m. Your \$10 registration fee covers conference materials, including the updated Rare Plant Booklet and the 1993 conference mug. The Rare Plant Booklet now includes additional State Priority 2 species and the latest State and Federal Priority 1 Lists. Please bring your 1991 and 1992 booklets with you (previous years' booklets are also for sale).

There will be a dinner on Tuesday evening at Louie's Restaurant in Boise. Cocktail hour will begin at 6:30 p.m., followed by dinner at 7:00. Dale Weins, from the University of Utah, will give a talk on rare plants of Africa.

Please contact Nancy Cole at (208) 383-2351 for registration materials and further information.

This issue of SAGE NOTES is a combination of the December, 1992 and February, 1993 newsletters, with efforts by both editors.

MANY THANKS TO CARYL ELZINGA for her hard work and dedication as the newsletter editor for the past two years. She is moving onto other projects and has passed the torch to a new editor. She has done a great job to create an interesting and informative newsletter - I hope the newsletter lives up to the standard she has set!

Thanks again, Caryl!

IN THIS NEWSLETTER is the ballot for elections of 1993-1994 officers. Please take a few moments to fill this out and return it to the elections committee. All it takes is about five minutes and a stamp! Please participate in this easy and quick event to insure a smooth transition of officers!

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AGENCY RARE PLANT AND ANIMAL CONSERVATION PROGRAMS

Several state and federal agencies operating in Idaho have as part of their goals and mandates the identification and protection of rare species and their habitats:

Idaho Department of Parks and Recreation A law protecting native wildflowers in Idaho gives the Department the authority to establish and amend a list of plants in need of protection because they might possibly become extinct or they affect the scenic beauty of public roads or lands.

Idaho Department of Fish and Game The Department of Fish and Game is mandated to preserve, protect, perpetuate and manage all wildlife. The Department has regulations which classify wildlife into various categories, including threatened or endangered wildlife and protected nongame species. In addition, the Department maintains a list of Species of Special Concern.

U.S. Fish and Wildlife Service The Fish and Wildlife Service administers the Endangered Species Act of 1973. The Endangered Species Act provides federal protection plants and animals listed as endangered and threatened, and authorizes the Secretary of the Interior to develop and implement recovery plans for each listed species. It also authorizes the Secretary to enter into cooperative agreements with states in which federal endangered and threatened species occur to conserve these species.

U.S. Bureau of Land Management The BLM conserves threatened and endangered species and the ecosystems they depend upon primarily by prescribing management for conservation of the lands these species inhabit. It is BLM policy to manage candidate species and their habitats to ensure that their actions do not result in listing any candidate species. The State Director may designate sensitive species, which are managed under the same policy as candidate species.

U.S. Forest Service The Forest Service manages habitats of all existing plants and animals in order to maintain at least viable populations and to avoid actions which may cause species to become federally listed. Forest Service policy for threatened and endangered species is to manage their habitats to achieve recovery objectives so that measures under the Endangered Species Act are not necessary. For Sensitive Species, the Forest Service develops and implements management practices to ensure that these species do not become threatened or endangered.

CLASSIFICATIONS

1. Federal Status Classifications

Endangered Species Act Classifications

Listed Species (from 50 CFR 17.11 and 17.12):

Listed Endangered Taxa in danger of extinction throughout all or a significant portion of their range.

Listed Threatened Taxa likely to be classified as endangered within the foreseeable future throughout all or a significant portion of their range.

Candidate Species (from Federal Register 56:58804-58836; November 21, 1991):

Category 1 (C1) Taxa for which the U.S. Fish and Wildlife Service currently has substantial information to support the biological appropriateness of proposing to list as endangered or threatened.

Category 2 (C2) Taxa for which information indicates that it is possibly appropriate to list as endangered or threatened, but for which conclusive data on biological vulnerability and threat are not currently available to support proposed rules. Further biological research and field study may be needed to ascertain the status of taxa in this category.

Possibly Extinct Category 2 Possibly extinct taxon; needs verification.

Category 3 (C3) Taxa once considered for listing as endangered and threatened, but are no longer receiving such consideration. Subcategories are as follows:

3a - Taxon for which the Fish and Wildlife Service has persuasive evidence of extinction.

3b - Taxonomic status in question.

3c - Taxon is more widespread or abundant than previously believed, or is not subject to identifiable threats.

Both the U.S. Forest Service and the B.L.M. have internal designations of sensitive species, which they use to guide management activities in these agencies.

CLASSIFICATIONS, continued (from page 2)

2. The Idaho Native Plant Society Status has developed status categories as follows:

State Priority 1 Taxa in danger of becoming extinct or extirpated from Idaho in the foreseeable future if identifiable factors contributing to their decline continue to operate; these are taxa whose populations are present only at critically low levels or whose habitats have been degraded or depleted to a significant degree.

State Priority 2 Taxa likely to be classified as Priority 1 within the foreseeable future in Idaho, if factors contributing to their population decline or habitat degradation or loss continue.

Sensitive Taxa with small populations or localized distributions within Idaho that presently do not meet the criteria for classification as Priority 1 or 2, but whose populations and habitats may be jeopardized without active management or removal of threats.

Monitor Taxa that are common within a limited range as well as those taxa which are uncommon, but have no identifiable threats.

Review Taxa which may be of conservation concern, but for which we have insufficient data upon which to base a recommendation regarding their appropriate classification.

Historical/Extirpated Taxa which are known in Idaho only from historical (pre-1920) records or are considered extirpated from the state.

ANNOUNCING . . .

Idaho's Rare Vascular Flora: Bibliography, 1896-1991 (Robert Moseley, Michael Mancuso, Anne Hedrich and Nancy Shaw; Intermountain Research Station, Ogden, Utah; General Technical Report INT-292, December, 1992):

This bibliography of published and unpublished literature relating to Idaho's rare vascular flora covers the period from 1896 to 1991. The references came from the Source Abstract database of the Idaho Conservation Data Center's Biological and Conservation Data System. Keywords pertaining to the subject and species covered are included with each bibliographic entry. Entries are indexed by species.

Idaho Native Plant Society 1992 Budget

As of mid-November, the INPS budget was as follows:

Income:	\$+3266
Expenses:	\$-2015
Rare Plant Conf:	\$+ 200
Natural Areas Conf:	\$+ 489

Approximately \$682 in outstanding dues remains uncollected. Check your mailing label!

(Adapted from: Rare, Threatened and Endangered Plants and Animals of Idaho. Second Edition, March 1992. Compiled by Robert Moseley and Craig Groves, Conservation Data Center, Idaho Department of Fish and Game. Please contact the authors for a copy of this publication.)

From the President . . .

- Susan Bernatas, President, INPS

It is time to thank the federal land management agencies for placing botanists within their organizations!

There were 23 permanent and seasonal botanists working for state and federal agencies during 1992. Ten of these are new positions within the last two to three years. The INPS and its members can take some credit for this increase: urging agency involvement in the Annual Rare Plant Conference, writing letters and making phone calls outlining our concerns for rare plant conservation, and, in one case, acting as a co-appealant for a timber sale.

Unlike wildlife species, plants have no protection on private lands. Therefore, the responsibility for protection lies on federal land management agencies. Both the Bureau of Land Management and the Forest Service must provide for species viability. Rare plant protection and issues must be addressed for all actions that require Environmental Assessments (EA) and Environmental Impact Statements (EIS). A Biological Assessment must be written to support the EAs and EISs. The U.S. Fish and Wildlife Service reviews these documents to ensure that all rare species will be protected. However, when federal agencies do not have the staff to determine the existence of rare plant populations, biological assessments may be incomplete with regard to these issues.

The BLM and the Forest Service have analogous regional structures. The BLM has a state office, which contains districts, which contain resource areas. In this agency, there are botanists at the state level and in some districts, but none in resource areas. The Forest Service has Forest Regions, which manage groups of forests, which contain districts. They have employed botanists at the regional level, in some forests, and some seasonals at the district level.

The Idaho Department of Fish and Game's Conservation Data Center (CDC) has taken the lead in tracking the location of rare plants in Idaho. The methods of tracking rare plant and animal communities were introduced to Idaho and funded by the Western Regional Office of The Nature Conservancy. This program tracks all rare plants and animals, and plant communities in Idaho.

These botanists need our support, and if you would like to thank them, or obtain information about rare plants in your area, give them a call. Also, we need to encourage the forests and districts that have not yet hired staff botanists to fill these positions!

The following lists the agencies and botanists responsible for public lands in Idaho:

Northern Region (R-1): Steve Shelly, Missoula, MT
Clearwater National Forest - none;
Lochsa Ranger District - seasonal
Idaho Panhandle National Forest - Jill Blake, 765-7417
Nez Perce National Forest - none;
Red River Ranger District - seasonal
Bitterroot National Forest - none
Kootenai National Forest - none

Intermountain Region (R-4): Duane Atwood, (801) 625-5599
Boise National Forest - Wayne Owen, 364-4164
Idaho City Ranger District - Seasonal
Caribou National Forest - none
Challis National Forest - none
Payette National Forest - Alma Hanson, 634-0790;
McCall Ranger District - seasonal
Salmon National Forest - none
Sawtooth National Forest - none
Targhee National Forest - Bob Specht, 624-3151

Wallowa-Whitman - Hells Canyon National Recreation Area:
Paula Brooks (Baker City, OR), (503) 523-6391
Marty Stein (Enterprise, OR), (503) 426-4978

Bureau of Land Management, State Office: Roger Rosentreter, 384-3064
Boise District - Ann DeBolt, 384-3465
Burley District - none
Coeur d' Alene District - LeAnn Eno, 769-5027
Cottonwood Resource Area - seasonal
Idaho Falls District - none
Salmon District - Caryl Elzinga, 756-5441
Shoshone District, Steve Popovich, 886-2206

Idaho Conservation Data Center, 334-3402

Bob Moseley, Coordinator, Boise
Michael Mancuso, Boise
Juanita Lichtardt, Moscow
Rob Bursic, Coeur d'Alene

Greater Yellowstone Conservation Data Center

Jennifer Whipple

This list is missing some phone numbers, and in some cases, may be out of date. Please send corrections and updates directly to the editor. The address and telephone number are on the back of the newsletter.

TO SHOW OUR APPRECIATION FOR THE EFFORTS of the agency botanists, and to applaud the agencies for including them in their land management practices, **SAGE NOTES** will profile some of these employees in each newsletter.

LeAnn Eno - Biological Technician, Coeur d'Alene District, Bureau of Land Management

LeAnn works on any project that requires a sensitive plant clearance. Currently, these include land exchanges, timber sales and rights of way.

Currently, her highest priority project is the assessment for a land exchange. The BLM is trading land for a parcel on Lake Coeur d'Alene in order to improve public access to the lake front. LeAnn has been working on the biological assessments on the land currently owned by BLM, to ensure that there are no federally listed species. She has also briefly surveyed the land the BLM is to receive. If threatened or endangered species were found on the parcel to be traded, the exchange would not take place. However, were sensitive species to be found on the land, she could only make recommendations regarding the exchange; there is no guarantee that the exchange would not occur.

LeAnn holds a Bachelor's Degree in biology from Harding University, in Searcy, Arkansas. Prior to joining the Coeur d'Alene office, she worked for the Boise District BLM and the state office, doing range related work and learning about Idaho plants.

This position is currently a temporary position within the B.L.M. This position has been sporadically filled in the past. In addition to plant surveys, LeAnn also does general wildlife surveys (the wildlife biologist evaluates these projects for rare and threatened wildlife).

Alma Hanson - Forest Botanist, Payette National Forest

Alma is currently writing about thirty biological evaluations and plant surveys, most of which are related to timber sales. She has been able to identify a number of additional sites for sensitive plants, particularly *Epipactus gigantea*. She has also been able to re-visit sites identified in the past as having rare plant populations in order to document the general viability of these populations.

She is also drafting conservation strategies for districts on the Payette. Specifically, she is identifying permanent protection sites for listed and sensitive species. These permanent protection sites are suggested zones within a district

where listed or sensitive species are protected from any impacts.

Her position is new this season. In the past, it has been filled by temporary biologists, and at the district level there are temporary biologists. This year she was assisted by three such employees. In her view, the goal of her position is to maintain habitats and population viability so that no species move from sensitive to threatened or endangered, and as few species as possible become sensitive.

Alma has a Bachelor's Degree in Secondary Education with a major emphasis in biology, and a Master's of Science in Botany from the University of Idaho. For her thesis, she studied mosses as an indicator of forest habitat typing in Central Idaho. She also has a doctorate from the University of Idaho in Science Education.

Wayne Owen - Forest Botanist, Boise National Forest

Wayne has a diverse set of projects on his desk at this time. The main project is a Forest Plan Amendment to establish Botanical Areas within the forest. Botanical Areas are essentially a line on a map that restrict land use activities within the area. He is working to establish seven areas, which cover all known populations of *Douglasia idahoensis*, a federally listed C1 species. The size of these areas vary - the smallest is 65 acres and the largest is 2,000 acres, covering four populations.

Wayne is finishing a field guide to rare plants on the Boise National Forest, covering those ten species which the Regional Forest Office considers rare or sensitive.

He is updating and expanding the Forest Sensitive Plant List; a few of the plants on this list should probably be removed, while several more should be added.

When Wayne was hired, there were no forest policy guidelines for rare plant management for this forest. Since he has been here, he has written these guidelines, and they are now in place.

This position is new this year.

Wayne holds a Bachelor of Science in Biology from Boise State University, and a PhD in Plant Ecology from the University of California, Davis.

Chapter Events

Feb. 8, 1993: Big Wood Chapter annual meeting, 7:00 p.m., 403 N. River, Hailey. Elections and dessert, and possibly slides. Please call Kristin Fletcher, 788-9530, to verify time and receive more information.

Feb. 18, 1993: Pahove Chapter monthly meeting, 7:30 p.m., Boise State University, Room 207, Science Bldg. Dr. Virginia Gillerman will give an overview of Idaho geology and geobotany. Bring your unidentified rocks for show and tell!

Feb. 18, 1993: White Pine Chapter, 7:00 p.m., Room 200 Forestry Building, Univ. of Idaho. "Plant Geography, Adaptive Genetics and Phytosociology: Experiences in Applying Vegetation Classification Schemes", by Dr. GERAL McDONALD.

Feb. 19, 1993: Calypso Chapter monthly meeting, 7:00 p.m., Cooperative Extension Bldg., 106 Dalton Ave., Coeur d'Alene. Dr. Bill Rember will speak on plant fossils in the Clarkia area of Idaho.

Mar. 8, 1993: Big Wood Chapter monthly meeting. Please call Kristin Fletcher at 788-9530 to determine the location, the time and what will take place.

Mar. 9, 1993: White Pine Chapter, 7:00 p.m., Room 200 Forestry Building, Univ. of Idaho. Dr. Richard Naskali, Arboretum Director, speaks on the new University of Idaho Arboretum, and plans for Idaho native plants.

Mar. 11, 1993: Calypso Chapter monthly meeting. Please call Pam Gontz at 667-1734 for the location, the time and the speaker and topic.

Mar. 18, 1993: Pahove Chapter monthly meeting, 7:30 p.m., Room 207 Science Building, Boise State University. Lindarose Curtis' topic will be "A Light-hearted Look at Weeds".

Mar. 25, 1993: White Pine Chapter, 7:00 p.m., Room 200 Forestry Building, Univ. of Idaho. David Wattenbarger's talk is titled "Exploring Alaska's Native Plants".

The April issue of SAGE BRIEFS will feature a schedule of field trips from all chapters that have planned them! Please send your chapter's schedule of events directly to the editor (address on back). Thanks!

Pahove Slide Collection of Idaho's Flora

-Michael Mancuso, Pahove Chapter

The Pahove Chapter would like to compile a slide collection of Idaho's flora and is soliciting the input and help of all INPS members. The project will benefit all INPS members by maintaining a central repository of slides, and any INPS member may borrow from this collection. The proposal is to store donated slides at the Conservation Data Center in Boise and to assign a Pahove volunteer to be the "keeper of the slides". Any INPS member could request slides through the keeper by mail or phone.

Presently, Pahove does not have funds to pay for slides, thus any slides donated will be just that -- donated (at least for now). Since slides won't be returned, send duplicates, or slides you no longer need. Slides should be of high quality, good enough for presentation. Slides should be accompanied by information on date of photograph (at least month), name of photographer, Latin and common name, and general locations.

The keeper of the slides will maintain lists of slides needed to avoid duplication. Individuals willing to donate slides would first contact the keeper to make sure that the slide was needed.

A central repository seems like the most efficient way to house a slide collection. An alternative approach would be that each chapter develop slide collections of the local flora, and make these available for loan to other INPS members. Another alternative is to have a central repository in Boise, and to maintain duplicates of local flora at each Chapter for ease of access. I would propose, however, that the concept of the central repository in Boise be the preferred approach.

I would appreciate both input and assistance on this project. Send comments to the Pahove address.

The Sawtooth National Recreation Area would like to have a display on rare plants in their Visitor's Center, and they are soliciting ideas from the Idaho Native Plant Society. They are interested in exhibit ideas which would appeal to children. Please call Roger Rosentrater at 384-3064 if you have any suggestions.

INPS 1993 STATE BOARD OF DIRECTORS ELECTION BALLOT

Nominees:

President

Susan Bernatas--Susan is a long-time member of the INPS and has worked diligently as State President for the past 3 years. She actively participates in the Rare Plant Conference held annually and coordinated the very successful and well attended Natural Areas workshop. In her "spare" time she works as a Senior Biologist for Science Applications International in Boise.

Vice-president

Wayne Owen--Wayne's membership in INPS dates back to 1984. He holds a B.S. in Biology from Boise State University and a Ph.D. in Plant Ecology from University of California at Davis. He currently works as Forest Botanist for the Boise National Forest. Though his professional endeavors revolve mostly around rare plants, his other interest centers on learning about the reproductive ecology of plants.

Secretary

Jim Smith--Jim is a new member to INPS and Idaho. He came to the state from the Smithsonian in August to work for Boise State University as an Assistant Professor in Biology. He specializes in systematic botany and taxonomy and directs activities at the BSU herbarium. His future plans include pursuing a floristic treatment of groups of plants in the Snake River Basin.

Treasurer

Pam Conley--Pam has been working hard as State Treasurer for the past 2 years and Pahove Treasurer for the past year. She has been a member of INPS since 1989. Pam has a degree in Botany and works for the BLM State Office building a mapping database. She has personal and professional interest in plants.

Please vote for one nominee in each category:

President:

Susan Bernatas _____

Other (write in name) _____

Vice-president:

Wayne Owen _____

Other (write in name) _____

Secretary:

Jim Smith _____

Other (write in name) _____

Treasurer:

Pam Conley _____

Other (write in name) _____

Fold and return (address on other side)

**Idaho Native Plant Society
P.O. Box 9451
Boise, Idaho 83707**

**Idaho Native Plant Society
Elections Committee
P.O. Box 9451
Boise, Idaho 83707**

Boise Foothills Rare Plants Public Outreach Project

-Michael Mancuso, Pahove Chapter

Earlier this year, the Pahove Chapter was awarded Challenge Costshare money from the Boise District, Bureau of Land Management (BLM) for a public education project for rare plants and their habitats in the Boise Foothills. With the cooperation of the BLM and Boise City Parks, the intent of the project is to more fully establish a proactive public outreach program for the conservation of rare plants in the Boise Foothills. Educating and raising public awareness about rare plants and their habitats will help serve their long-term conservation, and ensure they will remain part of the area's rich biological heritage. We have designed a series of interpretive signs and a pilot habitat restoration project to try to accomplish this objective.

Aase's Onion (*Allium aaseae*), Mulford's milkvetch (*As-tragalus mulfordiae*) and slick-spot peppergrass (*Lepidium papilliferum*) are three plants whose limited distribution includes the Boise Foothills. Due to their rarity and documented decline, each is a candidate for federal listing under the Endangered Species Act. Two high visibility areas have been targeted for the project, Camel's Back Reserve and Hulls Gulch. A series of interpretive signs have been designed and these should be ready to be put in place by early spring, 1993. Additionally, a habitat restoration project has been initiated for a small area in Camel's Back Reserve that is in poor condition due to erosion. Both Aase's onion and Mulford's milkvetch are found near this site, and it will also be complemented by an interpretive sign.

This project was made possible by volunteer efforts of several Pahove members, especially Helen May who designed much of the interpretive material and Paul Seranko who led the restoration project. Ann DeBolt and Signe Sather-Blair were instrumental in getting the project started and continue to supply their energy. Pahove will soon be looking for more volunteers to help with framing the signs and placing them in Camel's Back Reserve and Hulls Gulch.

A Tribute to the Amateur in Botany

-by Dr. Herbert G. Baker, Professor of Botany at University of California-Berkeley. Reprinted from *Sego Lily*, a publication of the Utah Native Plant Society, Volume 15(3), May/June 1992. Continued from the November issue of SAGENOTES.

In the 19th century, among the well-to-do, there was a romantic movement in relation to nature. This contrasted

sharply with the grim aspects of Victorian life for those without wealth--the very long working hours in the factories of the Industrial Revolution, child labor, strict moralizing and harsh discipline from the family and from society. The surprising thing is that, even in the smoky industrial cities of northern England, some working class people managed to find the time to join in the appreciation of nature. In the latter part of the 19th century, there were field clubs centered around particular public houses or taverns in the industrial cities.

Some members of the working class made significant botanical contributions to the study of local floras and of plant biology. Outstanding among these was Thomas Belt, whose father had run a nursery. He was born in Newcastle-upon-Tyne and he joined the gold rush to Australia in 1851. After that, this largely self-instructed man became a prospector or manager of gold mines successively in Australia, Brazil, Nicaragua, Russia, Canada and the United States. Belt is most famous for his book **The Naturalist in Nicaragua**, published in 1874, in which he shows that he had read and appreciated Darwinian evolutionary principles and followed them in describing nature. In this book, he described the mutualistic interaction between pugnacious ants and acacias, whereby the acacias reward the ants that protect them from herbivores. The plants provide extra floral nectar and protein-rich fat bodies (Beltian bodies) on the tips of the leaflets. Belt also correctly described the true story of the leafcutting ants of the American tropics and their use of the excised bits of leaves as a medium on which to grow a nutritious fungus. He noted that introduced trees such as a citrus were more frequently attacked by the leaf cutting ants than trees native to Nicaragua, and he hypothesized that this was due to the native trees having been naturally selected for chemical protection from the ants.

Not bad for 1874!

Thomas Belt also published a number of papers on the geology of the countries in which he worked. And, to me, it is a sobering thought that when he died in Denver in 1878 at the age of 45 he had accomplished more as an amateur with very little time for botanizing than most of us have achieved in much longer professional careers.

Gulielma Lister was an amateur in the sense that she was of independent means, but certainly botany was her life work. Daughter of the naturalist Arthur Lister, she edited and revised his monograph **The Mycetozoans** (slime molds) twice during her career. She was sought after as a botanical illustrator and kept extensive field notebooks of drawings and watercolors which are now housed in the British Museum. In 1904, when the Linnaean Society was opened to women, she was elected as a "fellow". She was active in both the British Mycological Society and the Essex Field Club, and served as president in both these organizations.

More recently in Britain, some of the most productive

amateurs have also been busy in their non-botanical professions.

George Claridge Druce was a pharmacist who compiled county floras and did pioneering work on topographic botany, greatly enlarging the picture that had begun to be formed in the 19th century. It was Druce who transformed a faltering Botanical Exchange Club into the Botanical Society and Exchange Club -- and helped build up a cadre of topographic botanists who subsequently founded the Botanical Society of the British Isles. Druce was elected Mayor of Oxford where the University finally gave him an honorary degree. The University now possesses his herbarium as a reward.

The most knowledgeable recent student of the British flora, J.E. Lousley (who was very careful about seeing that his name was spelled correctly) was a bank manager. He was father to many of the current team projects of the Botanical Society of the British Isles.

All of these people contributed to making field botany an activity that could be indulged in by any interested person.

In 20th century Britain it became common for a middle class household to possess at least a book on flower identification. My parents, who were school teachers, knew the names of all the common wild flowers in our part of Sussex, and this was not considered at all unusual. The great standby at home was **Flowers of the Field**, first published in 1851 by a clergyman school-teacher, the Reverend C.A. Johns. This book ran through at least 29 editions, up until the 20th century!

Much of the development of botany in the domesticated British landscape was of a sort that could be duplicated in the New World, but I suggest that it has not yet developed as fully here because people have been busier combatting and controlling nature, and have not had as much time to study it in a relaxed and abstract way. But anyway, conditions are much more equivalent today. In North America, as in Britain, there is a sizable segment of the population that wants to get out and observe nature. For them, **The New Naturalist** series of books is published very successfully in Britain and in the United States. This series was begun during World War II, and it caters to a high standard for a public that is interested in the natural world. And in North America, amateurs continue to contribute significant information on pteridology (ferns) and on the study of other non-flowering plant groups.

It has to be admitted that at the turn of the century, professional botany moved rather quickly away from the taxonomic and floristic emphases that prevailed in Victorian times. Laboratory and experimental work involved plants of which the amateur had never heard. Microscopes, both optical, and more recently of the electron varieties, have made fashionable the studies of fine structure and molecular biology that are beyond the amateur's easy understanding. In the university libraries, to which the public is usually not admitted,

there has been an accumulation of massive amounts of biological literature written in a jargon that only the initiated can comprehend.

How on earth can the amateur contribute in these circumstances? First of all, I should say that the amateur can still contribute significantly along lines that are traditional but are capable of improvement and expansion. We could do very well with a mapping of the North American flora, at least on a series of local bases. This might be analogous to the production of the **Atlas of the British Flora**, which was compiled by the activity of many amateurs, each taking responsibility for a square ten kilometers on a side. The information was brought together by an experienced professional.

There are some extra opportunities that were not available previously. For example, the University of California has set up a University Research Expeditions Program and a similar scheme is operated by the Center For Field Research on behalf of the Earth Watch Institute. Members of the public volunteer for expeditions to various parts of the world. These expeditions are designed to provide information for the research program of particular professional researchers who will lead the expedition. The volunteers thus have an opportunity to satisfy the urge to participate in research and, as part of the preparation for the expedition, they receive some technical training.

Botanical garden programs can be, and are being, improved as far as public instruction is concerned. Dr. Robert Ornduff is doing this at Berkeley, and the University of North Carolina at Chapel Hill is providing an example in the excellent programs initiated by Dr. Ritchie Bell. Dr. Bell has been particularly successful in mobilizing amateurs to note cases of native plants being menaced by development, and as a last resort, to transplant them.

As to the needs of amateurs for a forum in which to discuss their findings, appropriate societies are necessary. In Britain, the BSBI provides the link between professionals and amateurs, and regional societies in North America such as the Torrey Botanical Club, have long accepted amateurs as members. The California Native Plant Society is primarily devoted to the practical preservation of the native flora of California. These amateur botanists are alert to the danger that weeds may pose to the native flora, and they will form task-forces to go out and root them up. Similarly, members of the Washington Native Plant Society have been instrumental in revegetating with native species certain disturbed areas in the national forests.

I appeal to biology departments and botanical societies such as our own to open up their facilities to a greater extent to qualified amateurs, and to sweep away the distinction between amateur and professional.

Pahove Exhibit at the Idaho Botanical Gardens

- Michael Mancuso, Pahove Chapter

Pahove is developing an exhibit at the Idaho Botanical Gardens! Volunteers are currently planning the exhibit, with planting expected to begin in the early spring. This is an exciting opportunity for the INPS to share their interest in native plants with the general public in an on-going display. The theme is still undecided, largely because we are dependent upon donations of plants for this exhibit. The available plants will determine the dominant theme!

Pahove is asking their members to contribute any extra plants (trees, shrubs, herbs) that they may have in their garden to this effort. Please contact any Pahove board member if you wish to help in this way.

We are also looking for volunteers to assist with the initial planting and the maintenance gardening. This would be a fun way to help the Idaho Botanical Garden! We hope for enough volunteers to keep the amount of time from each individual to a "happy minimum". If you are interested, please contact the Pahove board or Paul Shaffer at 853-2916.

Opportunity for Education

Dean Rose, coordinator for the 4H Youth Habitat Contest, contacted me about this program. I had an opportunity to review the manual and feel strongly that INPS members can make a significant contribution to furthering the understanding of vegetation processes and characteristics as a critical part of wildlife management. Often, vegetation seems to receive only incidental attention in wildlife management. -- Nancy Cole, Pahove Chapter.

Idaho 4-H now offers a Wildlife Habitat Judging contest for youth 14-19 years old. Junior teams are also being established. The contest is being sponsored by the Idaho Department of Fish and Game, McDonald's Restaurants of Pocatello, Pheasants Forever and the Idaho Chapter of the Wildlife Society. The participants are tested in six areas:

1. Identification of food items for specific wildlife species
2. Ranking of aerial photos for habitat quality for specific wildlife species
3. Oral presentations justifying the ranking
4. Determination of appropriate habitat management practices for specific wildlife species on a particular rural area (field event)
5. Development of a management plan for specific wildlife species on a particular rural area (team field event)
6. Development of a management plan for specific urban wildlife species on a particular urban site.

To date twenty-one counties have expressed interest in becoming involved. We are now in need of coaches for the teams. A national manual is provided that contains all of the information needed for the contest. The State contest will be held in Pocatello on June 5, 1993. The winning team will have all expenses paid to send them and their coach to the National event -- this year somewhere in the southeastern U.S. during the first week of August.

Please note that interested youth do not have to be current 4-Hers. Anyone interested in getting involved or wanting more information should contact Dean Rose at 232-4703.

***A CALL FOR PAHOVE
CHAPTER OFFICERS . . .***

The Pahove Chapter is soliciting nominations for **President, Vice President, Secretary and Treasurer**. You can nominate yourself or another willing member. Please send your nominations to Pahove Elections, INPS, P.O. Box 9451, Boise, Idaho 83707. Please have them in by **April 1, 1993** -- elections will take place at the April meeting.

JOIN THE FUN AND BECOME AN OFFICER!

SAGE NOTES is published bimonthly by the Idaho Native Plant Society, incorporated since 1977 under the laws of the State of Idaho. Newsletter ads: personal ads \$2.00, commercial ads \$5.00 for 1/8 page, \$8.00 for 1/4 page, \$15.00 for 1/2 page and \$25.00 for full page. Newsletter ads should be camera ready and sent with payment. Members and others are invited to submit material for publication. Articles in any form, even hand-written, are welcome. Please provide a phone number in case there are questions. Materials will not be returned unless specifically requested. Send submissions directly to the editor. Also, please contact the editor about specifics regarding computer compatibility.

OFFICERS

State Officers, P.O. Box 9541, Boise, ID, 83707: President-Susan Bernatas, Vice President-Kathy Geier-Hayes, Secretary-Pam Brunfeld, Treasurer-Pam Conley. **Big Wood Chapter**, P.O. Box 4154, Ketchum, ID, 83340: President-Kristin Fletcher, Vice President-Frances Naser, Secretary/Treasurer-Carol Blackburn. **Calypso Chapter**, 4301 N. Ramsey Rd., #A2-14, Coeur d'Alene, ID, 83814: President-Pam Goutz, Vice President-Tina Gospodnetich, Secretary-Bob Shackelford, Treasurer-Jill Blake. **Pahove Chapter**, P.O. Box 9451, Boise, ID, 83707: President-Michael Mancuso, Vice President-Ann DeBolt, Secretary-Laura Bond, Treasurer-Pam Conley. **Sah-Wah-Be Chapter**, 603 Willard Ave, Pocatello, ID, 83201: Treasurer-Harry Giesbrecht. **White Pine Chapter**, P.O. Box 8481, Moscow, ID, 83843: President-Loring Jones, Vice President-John Edson, Secretary/Treasurer-Juanita Lichthardt. **Newsletter Staff**: Newsletter Editor-Laura Bond, Technical Editor-Bob Steele, Circulation Manager-Pam Conley.

Editor: Laura Bond, 2300 Hillway Drive. Boise, Idaho 83702
(208) 344-7257

The purpose of the Idaho Native Plant Society (INPS) is to promote interest in native plants and to collect and disseminate information on all phases of the botany of native plants in Idaho, including educating the public to the value of the native flora and its habitats.

Membership is open to anyone interested in our native flora. Send dues and all correspondence to INPS, Box 9451, Boise, ID, 83707.

Please include me as an Idaho Native Plant Society member:

	Full Year	Half Year
	Jan 1-Dec 31	July 1-Dec 31
<input type="checkbox"/> Sustaining	\$30	\$15
<input type="checkbox"/> Individual	\$ 8	\$ 4
<input type="checkbox"/> Household *	\$10	\$ 5
<input type="checkbox"/> Student	\$ 6	\$ 3
<input type="checkbox"/> Senior Citizen	\$ 6	\$ 3

Name: _____

Address: _____

City/State: _____

Zip Code: _____ Telephone: _____ Renewing? _____

Chapter Affiliation?

- Pahove (Boise)
 - White Pine (Moscow)
 - Calypso (Coeur d'Alene) *Please include \$6 chapter dues*
 - Sah-Wah Be (SE Idaho)
 - Wood River (Ketchum-Sun Valley) *Please include \$7 chapter dues*
 - None. Those who do not live near a chapter are especially encouraged to join. We can put you in touch with other members in your area, and can coordinate with you on any state level activities you may wish to be involved in. New chapters may be forming in eastern and northern Idaho.
- * Household memberships are allocated two votes.

Idaho Native Plant Society
P.O. Box 9451
Boise, Idaho 83707

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SAGE NOTES

May, 1993 * SAGE NOTES* A Publication of the Idaho Native Plant Society * Vol 16 (2)

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MARK YOUR CALENDARS! THE ANNUAL FIELD TRIP / MEETING IS SET FOR JUNE 26-27. The theme will involve some aspect of landscaping with natives, and perhaps will also include some botanizing in the nearby mountains.

MAY 24 1993

Full details will be in the June SAGE BRIEFS.

9th Annual Rare Plant Conference

Nancy Cole, Chair

The 1993 Rare Plant Conference hosted by INPS in February was again a smashing success. Planning and completion for the largest conference held to date was as smooth as I've experienced in my four years serving on the committee. Many thanks go to the Conference Committee members for their sincere commitment to making the 1993 conference the best ever. When you have an opportunity, please thank committee members Susan Bernatas, Greg Lind, Michael Mancuso, Bob Moseley, Wayne Owen and Carol Prentice for their excellent service. The Boise National Forest, Idaho Bureau of Land Management, and Idaho Power Company provided many of the photocopied materials. Agnes Miller, Willie Gluch and Kris Meyer handled registration needs. Once again Mering Herd prepared delicious food that kept our hearts and minds healthy and happy. Pam Conley made the arrangements for the wonderful conference banquet. If you didn't attend, you missed a great presentation on the plants of Africa by Del Wiens, University of Utah. Lastly, the conference made record time reviewing the rather long list of rare plant species because of the capable leadership of the following people: Bob Steele, Julie Kaltnecker, Pat Packard, Paul Todd, Howard Hudak, Susan Erwin, Wayne Owen and Susan Small.

Next year's conference will be held in Boise, February 8-9. Write that date on your calendar or risk missing Idaho's 10th Annual Rare Plant Conference!

1993 INPS Annual Elections

Kathy Geier-Hayes, Nominations

Thanks to everyone who took the time to vote in our recent INPS elections. This year's voter send-in was the best ever! Thanks to all our candidates for volunteering their time for the organization by running for an office. And finally, thanks to Roger Rosentreter for his outstanding arm twisting efforts on behalf of the nomination committee.

The officers for the coming year are Susan Bernatas, President; Wayne Owen, Vice-president; Jim Smith, Secretary, and Pam Conley, Treasurer. They will take on their duties after at this year's Annual Meeting.

Deadline for submissions to the June SAGE BRIEFS is May 15!

The next SAGE NOTES will be for the month of **August**. Please send articles, field trip reviews or anything else you wish to submit to the newsletter editor by July 1. (It sounds like a long time, but those deadlines sneak up!) The address is on the back page.

From the President . . .

Susan Bernatas, President, INPS

We Won! The Idaho Native Plant Society received a grant from the Idaho Urban and Community Forestry Committee for two projects on Idaho's trees. The first project is to build a traveling poster board which will emphasize the ecosystems around Idaho, highlighting the physiographic and climatic influences on the state's plant communities. Both the native and urban forests across the state will be discussed. The second project is a multi-image slide show/video which will discuss the native and urban forest trees. Species identification, economic and cultural values, historic trees, and the Big Tree Program will be featured. If you know of an ideal tree species, historic tree or one of the "Big Trees" to photograph, or you have an especially good photograph, please write in care of Idaho's Trees to INPS, or call me (344-5001) or Kathy Geier-Hayes (364-4378). Volunteer photographers and writers are needed for this project. You will be recognized on the finished product(s) as a contributor. See your name in print!

This is the first year for this grant program of the Idaho Urban and Community Forestry Committee. The proposals are due in December. If you have ideas for future projects contact Mike Brady, Idaho Department of Lands, PO Box 670, Coeur d'Alene, ID 83816 or call 664-2171 for a proposal form.

Idaho's Rare Plants book needs your help! Idaho's Rare Plant book will be a soft cover, color glossy book featuring 100 rare plants from around the state and across habitats. Color photographs, illustrations, distribution maps, and fascinating information on each species will be featured. Contact your local chapter to see an example of the type of book to be published.

This project has been taking shape for a year or so. Mike Mancuso has been collecting data on the plants with the help of many other Idaho botanists. This book would sell for around an affordable \$10. This nominal price will not pay for the entire cost of the project, however. Your help is needed! All who contribute \$25 or more will be listed in the book, and those donating \$100 or more will receive a copy of the book, as well. Make your check out to INPS. **All contributions are tax deductible. Thank you!**

Planting Natives. The most frequently asked question in the INPS mailbag is what native plants be used for

gardening. INPS has many members who have successfully used natives in their landscape designs to varying degrees. Some members have converted their whole yard to natives, while others have planted natives in small, hard to water areas. They often expand those small areas when they find that natives are easy to grow and a beautiful addition to their yard. If you or someone you know has used natives in their yard and are interested in sharing thoughts on the subject, please write to the INPS in care of Planting Idaho's Natives.

National Wildflower Week is May 16-22. See the field trip list at the end of the newsletter for activities in your area.



AASE'S ONION

Allium aseae

Rocky Comfort Flat Needs Your Help

Michael Mancuso, Pahove Chapter

The Idaho Native Plant Society has been a longtime advocate for establishment of the proposed Rocky Comfort Flat Research Natural Area (RNA) on the Payette National Forest. Rocky Comfort Flat supports a mosaic of diverse plant associations. It is most renowned for its extensive stands of Stiff Sagebrush, *Artemisia rigida*, and associated scabland habitats. It represents the largest and relatively least disturbed Stiff Sagebrush site known in Idaho. It also has unique soil and watershed properties. Located about 21 miles northwest of Council, the area was first proposed as a candidate RNA in 1980. In 1988, it was recommended in the forest's Forest Land and Resource Management Plan for inclusion in the RNA system. Unfortunately, the process to establish the RNA has stalled.

The stalemate is mainly due to an adjacent landowner's contention over the location of the RNA's eastern boundary, which until now was the line between Forest Service and private land. The landowner is asking the RNA boundary be moved. This would reduce the RNA's proposed size (nearly 1100 acres), leaving more acreage available for cattle grazing. For many years, the area encompassing the RNA was only intermittently and very lightly grazed, use has increased in recent years. Last year, the permittee agreed not to graze cattle on the proposed RNA for the season, pending resolution of its establishment. A number of INPS members familiar with the area have noted places of increased erosion and other resource problems associated with the increased livestock use over the years.

Research Natural Areas preserve an area in as undisturbed a state as possible for research and education purposes, and for the conservation of plant, animal and other natural features. Livestock grazing is usually excluded from RNA's to meet these goals, which is what INPS has advocated for Rocky Comfort Flat RNA.

Rocky Comfort Flat will make an outstanding RNA. But it will take the persistent advocacy of concerned citizens such as the Idaho Native Plant Society to ensure its protection. Write a letter supporting establishment of the Rocky Comfort Flat RNA in its entirety. If minor boundary changes are deemed necessary, insist that these changes do not result in the loss of any of the plant communities within the originally proposed RNA boundary. Support construction of a fence along the

RNA's eastern boundary. Letters should be addressed to: Mr. David Alexander, Forest Supervisor, Payette National Forest, Box 1026, McCall, ID 83638. There is also a meeting for interested parties tentatively set for June 17th. Contact the Payette National Forest at 634-0700 for more information.

***Howellia aquatilis* (Water Howellia) - Published in the Federal Register in Preparation for Listing Under the Endangered Species Act**

Laura Bond, editor

Public Comment Period ENDS June 15, 1993

The Water Howellia is a small annual in the Bluebell family (Campanulaceae) that inhabits certain vernal pool areas in the Pacific Northwest. This small plant relies on the seasonal changes in the vernal pools for the success of its reproductive cycle, with different flower morphology depending on whether the flower is below the water surface or above it.

At one time, Water Howellia occurred in California, Oregon, Washington, Idaho and Montana. Today it is believed that the plant no longer occurs in California and Oregon, and it can be found only on private land in Washington and Idaho. In the late 1800's it was known to be in the Spirit Lake area of northern Idaho, where it no longer can be found. The small population in north-central Idaho is on private land that may eventually be in the hands of the Audubon Society. The remaining 56 to 76 populations can be found in the Flathead National Forest. Some of these populations may consist of a single plant.

The U.S. Fish and Wildlife Service published a proposed rule in the Federal Register on April 16 to list the Water Howellia as threatened under the Endangered Species Act. They are accepting comments on the proposed rule for 60 days, until June 15, 1993. Letters should be sent to the U.S. Fish and Wildlife Service office in Helena, Montana (1420 E. 6th Avenue, Helena, MT 59601). For the complete announcement, please contact the U.S. Fish and Wildlife Service in Boise (334-1931) or Helena ((406) 444-2535).

Idaho Forest Stewardship Program
Compiled by Susan Bernatas

It is inconceivable to me that an ethical relation to land can exist without love, respect, and admiration for land, and a high regard for its value... .. Aldo Leopold

The Idaho Forest Stewardship Program, jointly developed by the USDA Forest Service and the National Association of State Foresters, is designed to encourage the long-term stewardship of nonindustrial private forest lands. Its purpose is to assist landowners with actively managing their forests and related resources. A nationwide goal of placing 25 million acres under stewardship management will be the successful measure of the five-year program.

Congress recognizes the contribution of nonindustrial private forestlands to the nation's demand for products and services including timber, fish, and wildlife habitat, soil and water protection, aesthetics, and recreational opportunities. Therefore, the Forest Stewardship Program authorizes funding for the State Forester to provide information and assistance to help the owners of these lands understand and evaluate alternative actions to:

- protect, maintain, and enhance fish and wildlife, water, wetlands, recreation, and timber resources;
- invest at least a portion of the proceeds from the sale of timber or other forest products and services in stewardship practices that would protect, maintain, and enhance the resources identified above;
- ensure that forest regeneration or reforestation occurs where needed to sustain long-term resource productivity, and to help prevent major climatic changes as a result of the "greenhouse effect"; and,
- protect their forest lands from damage caused by fire, insects, or diseases.

Idaho's private woodlands provide more than just trees. Forests are valued more and more as a place to watch wildlife, ski, hunt, hike, fish, "get away from it all", experience nature, and pass on to future generations.

A variety of educational activities, demonstrations, and technical assistance are available to help landowners better understand and implement forest practices to enhance forest health and these other qualities. A landowner's first step to participating in the program is to develop a Landowner Forest Stewardship Plan with the help of a natural resource professional. The plan will

outline the landowner's goals for the property, identify the property's forest resources, and suggest practices needed to enhance forest benefits valued by the landowner.

After the Landowner Forest Stewardship Plan is approved, landowners are eligible to participate in the Stewardship Incentives Program (SIP), and receive SIP cost-shares to improve reforestation, tree growth and quality, windbreaks and hedgerows, soil and water, riparian areas and wetlands, fish and wildlife habitat, and recreation. The forest will be revisited within 5 years to ensure it is managed in accordance with their plans.

Each landowner with an approved Landowner Forest Stewardship Plan receives an "Idaho Certificate of Stewardship" and a property sign to inform everyone of their participation.

INPS has recently been added to the list of cooperators in the Idaho Forest Stewardship Program. Other members include: U.S. Forest Service, Soil Conservation Service, The Nature Conservancy, Agricultural Stabilization and Conservation Service, Idaho Association of Soil Conservation Districts, Idaho Conservation League, Idaho Forest Owners Association, Idaho's Resource Conservation Development Areas, Idaho Tree Farm Committee, Intermountain Industry Association, Nez Perce Tribal Forestry and the Rocky Mountain Elk Foundation.

For more information, contact your local office of the Idaho Department of Lands, the University of Idaho Cooperative Extension System, the Soil Conservation District, or the Idaho Department of Fish and Game, or call (800) 432-4648.

Did you know...

Idaho Total Area (in acres)	53,481,000
Land	52,891,000
Water	590,000
Total Federal Ownership	36,100,000
Timberland	21,000,000
Total State Ownership	2,600,000
Timberland	1,000,000
Total Private Forestland	3,300,000
Industrial	1,300,000
Nonindustrial	2,000,000

Botany Course at the Teton Science School
Kristin Fletcher, Big Wood River Chapter

We, in the northern Rockies, are fortunate that educational opportunities abound for learning about the many different aspects of our environment. Whether our interest is in owls or glaciers, wildflowers or stars, rivers or wolves, - somewhere, sometime, someplace we can find instruction on our favorite topic.

Last summer I had the good fortune to attend classes at the Teton Science School (TSS) near Jackson Hole, Wyoming. TSS offers year-round programs from one day to six weeks which are available for all age groups. Classes emphasize a hands-on approach to natural science learning and many are available for college credit.

I took "Field Botany: Flora of the Tetons", taught by Dr. Leila Shultz, a well-known botanist and excellent teacher, whose current research focuses on the taxonomy and anatomy of sagebrush (*Artemisia*). She is also on the editorial board for the Flora of North America project.

About 15 plant enthusiasts of varying abilities arrived from around the country (and one from South America!) to participate in a very enjoyable 4-day class. We combed sagebrush flats, lodgepole pine and aspen stands, old burn sites and the alpine zone, studying the flora, hand lenses everready. We even saw Shultz Milkvetch, *Astragalus shultziorum*, a plant Dr. Shultz discovered while teaching this same class a few year ago!

Everyone came away with a richer appreciation of the complexity of life contained in the plant kingdom. We learned to see more closely into plant structure and relationship. We gained a basic understanding of the identifying characteristics of common plant families and became familiar with technical keys to plant species.

All in all it was a wonderful class, with much learned and many new friendships formed. For further information about TSS classes, write: P.O. Box 68, Kelly, Wyoming 83011 or phone (307) 733-4765.

Other regional organizations which offer educational programs in the natural sciences:

Canyonlands Field Institute, P.O. Box 68, Moab, Utah
84532, (801) 259-7750

Glacier Institute, P.O. Box 1457, Kalispell, Montana
59903, (406) 752-5222

Keystone Science School, Box 606, Keystone, CO 80435
Malheur Field Station, P.O. Box 260-E, Princeton, OR
97721

Snake River Institute, Box 7724, Jackson, Wyoming
83001, (307) 733-2214

Yellowstone Institute, P.O. Box 117, Yellowstone Park,
Wyoming 82190, (307) 344-7381 ext 2384



VIVID GREEN ASTER

Machaeranthera laetevirens

The following two articles and a book review were assembled by Caryl Elzinga, the former editor of SAGE NOTES, for an issue that was to be published last December. Thank you again, Caryl, for your hard work!

On Making Collections: The Fine Art of Smashing Plants

Caryl Elzinga, PhD.

Anyone who is in love with plants has probably collected flowers and pressed them between the heavy pages of a Sears catalog. A person who is capable of preparing a well-pressed pretty flower in such a manner is capable of making scientific collections of plants that are of herbarium quality. There are three reasons why an amateur botanist may wish to make collections properly. The first is simply as a means of preserving collected plants that the botanist wishes to refer to later. Many amateur botanists have created a substantial personal herbarium that is of use to them in their continued efforts to identify and learn about the plants around them. Such collections can also serve to supplement the efforts of professional botanists, if deposited in a herbarium that is used by others. Finally, collections serve as "vouchers" - proof that you actually found the plant that you claim you have.

There are some ethics involved in making collections (see next article on the guidelines developed by the Colorado Native Plant Society). Any collection is destructive, although collections made in large populations are insignificantly so. This destructiveness must be weighed against the information gained that will be of benefit to native flora. Since no one is likely watching you, only your conscience can guide... but be thoughtful.

So, you've considered the consequences and decided that it is ethical to collect this plant. What next?

The first decision is what to collect. Plants with fruit or flowers are the most helpful. Look for an individual with both, or collect one of each. Choose plants of moderate size and color. If you collect "freaks", note it as such.

If the plant is small (can reasonably be fitted onto a 11½" x 16½" herbarium-sized sheet of paper), the rule is to collect the entire thing, root and all. You'll need a digging tool of some kind. Many plants are identified by their roots, or the basal leaves. If you collect only the flower, you may not be able to key the plant to learn its identity. In addition, an incomplete plant is of little use as a herbarium specimen. If the plant is larger, it is acceptable to still collect the entire thing and press it in portions, e.g. lower third, mid third and upper third. If the plant is of a size that is completely unmanageable as

in a woody plant, collect branches that contain leaves, fruiting or flowering structures, and first and second year bark.

Once collected, it is preferable to press immediately. Plants are much easier to arrange and press while unwilted. If you can't immediately press, place the plants in a vasculum (airtight metal container designed to hold collected plants; a large tin can or pickle bucket will work) or in plastic bags.

Now, how to press it. Standard plant presses are a sandwich made of two pieces of wood, usually formed into a lattice (to allow moisture to escape) on the outside, with blotters and pieces of cardboard layered on the inside. Plants are pressed in newspapers between the blotters and cardboard. The blotters help to absorb extra moisture and the cardboards help to flatten as well as to breathe. The whole thing is wrapped by two compression straps that can be pulled very tight. You can purchase plant presses for about \$30, or make them yourself. Standard size is 18" x 12".

Plants are pressed within newspapers. Large format newspapers (like the Challis Messenger or the High Country News) are perfect size. Normal newspapers are too large when opened full size, and two small when folded in half, but they will do.

The key to a good pressing job is patience, practice and a desire for neatness. Roots should be carefully but completely cleaned. Leaves have to be individually smoothed flat. Especially difficult are plants with compound leaves (like *Astragalus*) or many leaves. There should be leaves pressed so as to represent both upper and lower leaf surfaces. Flowers should be arranged so that individual flowers are in various positions (if there are several on the inflorescence) in order to show all the features of the flowers. Some flowers should be opened and pressed in a "mutilated" form. Once the plant is dried, it will be very difficult to open flowers and peer at stamens. If the plant has fruit, open some to display the seeds. Think about all the characteristics you will want to see for identification and descriptive purposes, and think about the fact that the collection you are pressing may be later glued on a sheet of herbarium paper. You can see why it is critical that at the pressing stage, all the features you want to show have to be arranged so that they can be seen.

Another difficulty is that you are attempting to flatten a three dimensional plant onto a two dimensional sheet of paper. Bushy plants are problematic. You will need to do some judicious pruning of your collection, but you

must be careful to not change the aspect of the plant by your pruning job. Leave clues that this plant once had more branches or flowers than it now does. Or prune severely one inflorescence to show features clearly and leave the other unpruned to show the "gestalt" of how it looks.

Collections without supporting information are useless, thus most botanists carry a field notebook. At minimum, each collection should have the following information: 1) date collected; 2) locations, both legal description (township, range, section, county, state) and a general driving or walking description; 3) habitat (slope, aspect, substrate, elevation, shade, moistness); 4) associated species and vegetation type; 5) abundance of the species and approximate size of population area; 6) notes on flower color, plant size, variation; 7) ownership of site. Other information that may be useful: 1) keying notes, if you keyed the plant in the field; 2) threats to the population; 3) observed herbivory or pollination.

This information may help in identification, but more importantly, it provides the information that is placed on the herbarium label (Figure 1) that will accompany your collection forever. Most of the habitat and distribution descriptions you read in floras are a compilation of the information on herbarium labels.

To keep track of collections, and which field notes correspond to which collection, you should keep collection numbers. These are sequential numbers assigned to each collection you make. Write the number in the field notebook and on the newspaper sheet in the press. All collections should have a label. An example of a typical 3"x5" label is shown in Figure 1. Note the types of information included. Most biological or supply companies sell pre-gummed labels, and labels that can be fed through a computer printer. You can also just type the information on a 3"x5" card.

Finally, you may want to mount your collection. Mounted specimens are much easier to handle and use (note, however, that many herbaria prefer to receive material unmounted). Standard paper size is 11½" x 16½". Stock and herbarium paste are available from biological or herbarium supply companies. Many people use household glue, but herbarium paste is longer lasting and does not attract insects like some household glues. Narrow strips of cloth tape can also be used. Loose material like seeds should be put in envelopes mounted to the sheet.

You can see that collecting plants is not that difficult. With practice, your pressed plants can be both artistic and scientifically valuable.

PLANTS OF IDAHO

Astragalus inflexus Dougl.
Hairy milkvetch

Fabaceae

Custer County, from Cove Creek Bridge downriver approximately 6 miles. Collection is from the north end of the bridge along Salmon River Road (Forest Road 30), T23N R17E.

On gentle (<10%) generally south facing slopes with *Agropyron spicatum*, *Plantago patagonica*, *Stipa occidentalis*, *Balsamorhiza sagittatum*, *Eriogonum ovalifolium*. Substrate is granitic weatherings, sandy in texture. Where it occurs, the species forms a significant portion of the composition of this community.

Collected by Caryl Elzinga, #6033, 23 May 1992.

FIGURE 1

Guidelines for Collection of Native Plants

From Aquilegia, Volume 16(3) May/June 1992.

Colorado Native Plant Society Guidelines for Collection of Native Plants for Use in Horticulture, Restoration, Medicinal Preparations and Scientific Research.

The Colorado Native Plant Society's Collection Guidelines are intended to apply to the collection of Colorado and regional native plants, plant parts, or plant propagules for use in horticulture, ecological restoration, medicinal preparations and scientific research.

1. Know which plant species in Colorado and the Rocky Mountain region are Threatened, Endangered, Sensitive or Species of Special Concern. Such plants should not be collected. If special circumstances exist, such as imminent destruction of habitat (salvage operations), scientific research contributing to long term conservation of the species, or reestablishment of extirpated populations, use care and judgement in collecting only what is necessary. Contact the U.S. Fish and Wildlife Service for current status information. The Center for Plant Conservation should be consulted before attempting reintroductions.

2. Obtain necessary permits and permission for collecting on public lands. Collecting is prohibited by regulation on some public lands (Open Space lands managed by the City and County of Boulder and National Parks, for example). Other public land management agencies require a Special Use Permit (the U.S. Forest Service, for example). Know and abide by all regulations. Report any illegal collecting that you encounter to appropriate authorities.

3. If you intend to collect on private land, obtain permission from the landowner beforehand.

4. Do not collect indiscriminately, even in large populations. Collect only the minimum amount of plant material necessary. Take into account the cumulative effects of multiple collections on survival and reproductive success of the plant population. Never collect the only plant at a given location. A general guideline is one collection for every 20 to 50 plants.

5. Do not collect whole plants when plant parts (e.g. seeds or cuttings) are sufficient.

6. Know when collection of a voucher specimen is appropriate. Record all data required by the institution where you intend to deposit the voucher at the time the collection is made (i.e., in the field). Herbaria at the University of Colorado (COLO) or Colorado State University (CS) are recommended as primary repositories for plant materials collected in Colorado. If another

institution is chosen, it should be a publicly accessible institutional herbarium recognized by the International Associations of Plant Taxonomists (listings are published in Index Herbariorum). (In Idaho, send voucher specimens to University of Idaho Herbarium, (208) 885-6798. -ed.)

7. Collect only if you are (or are accompanied by) a trained individual. Care properly for the specimens you collect, whether they are intended for preparation as herbarium specimens or as propagation materials. Keep a permanent record of your collection activities. Complete records of location, habitat, collectors and date should be transferred with plant materials whenever they change hands. Collect discreetly so as not to encourage others to collect indiscriminately. Be prepared to explain what you are doing and why.

8. Respect and protect habitat. Avoid trampling vegetation or other sensitive features. Stay on designated trails whenever possible. Do not collect from areas that are vulnerable to erosion (trailside areas, for example). The standard rule is to leave no trace of your visit; avoid damage to the site and its natural and aesthetic values.

9. If you discover a new plant record, notify an appropriate conservation official or land manager. Be cautious in providing site locations of rare plants to others.

10. If you learn that rare or protected plant species or their habitats may be destroyed, notify a Colorado Native Plant Society board member or The Nature Conservancy. (In Idaho, contact the Conservation Data Center at (208) 334-3402 or an INPS board member. -ed.)

11. Conduct salvage (rescue) projects only in sites that are scheduled for imminent destruction and only in conjunction with appropriate state agencies or conservation organizations. Obtain prior permission of the landowner. Do not collect from portions of the site that will remain in a natural state. Use salvaged plants only for such purposes as relocations, public education, botanical research or documentation, or propagation as stock, not for sale to the public. Document your collections with voucher specimens deposited in a recognized herbarium.

12. Do not purchase wild-collected plants (or plant parts) of rare or protected taxa for any reason. Beware of wild-collected plants advertised in commercial seed and bulb catalogues, or sold in the form of medicinal herbal preparations or other products. Be informed and watchful. The word "wild-crafted", which is found on many medicinal herbal preparations, means the herbs were collected from the wild. If you are not sure that

the plants or products came from cultivated material, do not purchase them.

13. When discussing or publishing research results or preparing horticultural promotional or educational materials, describe conservation considerations underlying your collecting techniques.

14. If you are involved in education, teach your students about proper and careful collecting. When taking students into the field, visit only non-sensitive areas, taking care not to trample the site. Avoid frequent visits to the same natural site. For classroom use, collect only those plants both common in the region and locally abundant at the site. Where possible, collect only the portions of a plant necessary for identification, such as leaf, flower or fruit.

Good Stuff

In the September issue, the book **Mosses, Lichens and Ferns of North America** by Vitt *et al* was highlighted. Ruth Moorhead of the Sah-Wah-Be Chapter sent a letter noting that neither of the sources listed in SageNotes has the book. It has been out of print for at least several months. A possible source may be Patricia Ledlie, Bookseller Inc. (207-336-2778).

Utah Endangered, Threatened and Sensitive Plant Field Guide is available for \$5.00 from The Nature Conservancy, P.O. Box 11486; Salt Lake City, Utah 84147.

Autecology of Common Plants in British Columbia: A Literature Review by S. Haeussler, D. Coates and J. Mather, 1990. It is available free from the British Columbia Ministry of Forests, (604) 387-6719.

Book Reviews

Seeds of Woody Plants of North America. Revised and enlarged edition. 1992. James A. Young and Cheryl G. Young. Dioscorides Press, Portland, OR. 407 pages. \$49.95, cloth.

Reviewed by Jim Borland. Reprinted from Aquilegia, the newsletter of the Colorado Native Plant Society, Vol 16(4), July/August 1992.

First came **Woody Plant Seed Manual**, followed in 1974 by the 883 page tome **Seeds of Woody Plants in the United States**, Agriculture Handbook No. 450, which many consider the "Bible" of seed information and propagation. This new version, with a slight change in title and based strongly on the former edition, adds almost 200 species, mostly exotic to the continent, and over 1000 new literature citations that reflect scientific advances and increasing interest in the subject during the past 18 years.

Readers and users of the 1974 version know it is probably the most complete manual on seed propagation ever published in the English language. It includes a separate section of 166 pages on fruit and seed development, ripeness and dispersal, dormancy, germination, genetic improvement, seed orchards, pollen handling, harvesting processing storage and all-important presowing treatments. Important too is the germination information for each species, often described in detail with individual trials, successes and failures.

All this information was deleted from the current edition. Deleted too are all literature references used to construct the 1974 edition except those few that the author thought worthy of mention, even though the information from the earlier edition was included, most often in consolidated form. This means that many researchers do not get credit for their work, including the editor of the 1974 edition, C.S. Schopmeyer. The deletions further exclude any credit for the illustrations, all of which have been copied from the 1974 edition. Also deleted are many of the extensive tables that in this edition are "streamlined" and "standardized", eliminating, in my opinion, a good deal of the information on variability to be expected when working with seed.

This edition, like the earlier editions, is arranged alphabetically by genus. Readers will note that under a general genus name, only one species is discussed; under a species name, several species may be discussed. Nativity, included for most species, is omitted for some. Exasperating to all but the authors, I am sure, is the

intermixing of botanical and common names throughout the text.

Surprising perhaps, considering that the senior author is a range scientist employed by the USDA, is that several publications by the Forest Service apparently were not reviewed for this work. Including information from available works would have greatly expanded the sections on *Artemisia*, *Ceanothus* and *Chrysothamnus*, or added sections on *Linnaea* and *Sarcobatus*, to mention only a few. Still more information could have been added had the authors included in their review such popular or classic works as Jill Nokes' **How to Grow Native Plants of Texas**, E. Belcher's **Handbook on Seeds of Browse-Shrubs and Forbs**, the **Native Shrub Production Project** by the Surface Environment and Mining Program, or any number of California plant publications authored by Dara Emery.

There is an intimation in this edition that the 1974 edition, **Seeds of Woody Plants in the United States**, Agriculture Handbook No 450, is no longer available. In fact, although it was unavailable for several years, the US Government Printing Office reprinted it in 1989, and offers it for \$41.00. For my money, I would rather have a version with only new information, leaving the old information alone. In many ways, I find the 1974 version much more valuable than the new edition.

Sagebrush Country - A Wildflower Sanctuary, by Ronald J. Taylor, 1992. Mountain Press Publishing Company, 2016 Strand Avenue, P.O. Box 2399, Missoula, Montana 59801. ISBN 0-87842-280-3. 211 pp. \$12.00.

Reviewed by Dr. Douglass Henderson, Director, University of Idaho Herbarium

Do we need yet another book on western North American wildflowers? After examining this newly-released volume, the answer is a resounding "YES". Mountain Press refers to this as a "revised" edition of the same title. The earlier edition by Taylor and with excellent photos by Rolf Valum was among my prized wildflower books. The revised edition is even better! **Sagebrush Country** combines well-organized, highly informative text with superb photographs. The reader is treated not only to the "standard" inclusions of most wildflower books, but is also introduced to sections explaining ecologic features of the shrub steppe, including vegetation zones and some soil-plant patterns that contribute to the remarkable diversity found in

sagebrush country. The author even includes brief but informative sections on "Pollination Strategies of Steppe Wildflowers" and "Animals of the Sagebrush Steppe" with a few photographs by a well-known Pacific Northwestern photographer, Ira Spring.

The photographs and descriptive text for the plants included is arranged alphabetically by plant family. This presupposes some knowledge of family relationships; those with a modest background in wildflowers will find the organization useful. For those lacking this knowledge, there is dichotomous key to the plant families. The key is worded in such a manner that even the wildflower neophyte will find it easy to use. A nice touch with the family key is the inclusion of variability within each family ONLY as it is present in the Western North American shrub steppe region, thus eliminating much of the data that can make keys cumbersome to use.

In assembling any wildflower book the author is always faced with the problem of which common plants to exclude. **Sagebrush Country** is a successful mix of the more common flowering plants with some that often are excluded from such treatments; here the reader will also find the important shrubs and grasses that are responsible for much of the character of the shrub steppe.

Each species included has a short but informative description integrated with other useful and interesting facts, often including derivation of names and notes on abundance and distribution. Where appropriate, comments about pollination are also included.

Special mention of the photographs is in order. Dr. Taylor combines his professional expertise in field botany with obvious expertise with lens and film to produce stunning photographs that are not only aesthetically pleasing but also technically accurate.

The text is remarkably error-free and in a very few cases the author could have used more recently accepted scientific names for some of the included species. These are only minor criticisms and do not detract from the overall quality.

Taylor and Mountain Press should be proud of this excellent edition. Plant lovers will find this a valuable and enjoyable tool for botanizing in sagebrush country.

REMINDER !!!

PLEASE RENEW YOUR MEMBERSHIP

TO RENEW YOUR MEMBERSHIP, simply fill out this form and mail it in with your payment.

Please include me as an Idaho Native Plant Society member.

	Full Year Jan-Dec 31	Half Year July-Dec 31
<input type="checkbox"/> Patron	\$30	\$15
<input type="checkbox"/> Individual	\$ 8	\$ 4
<input type="checkbox"/> Household*	\$10	\$ 5
<input type="checkbox"/> Student	\$ 6	\$ 3
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Name: _____
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Chapter affiliation?

- Pahove (Boise)
- White Pine (Moscow)
- Sah-wah-be (SE Idaho)
- Wood River (Ketchum-Sun Valley)
(include \$7 chapter dues)
- Calypso (Coeur d'Alene)

None. Those who do not live near a chapter center are especially encouraged to join. We can put you in touch with other members in your area, and can coordinate with you on any state level activities you may wish to be involved in. Other chapters may be forming in eastern and northern Idaho.

You may affiliate with more than one chapter for an additional 25%. Patron members may associate with additional chapters at no charge.

*Household memberships are allocated two votes.

Please make checks payable to Idaho Native Plant Society

Agencies and Botanists - Revision from February, 1993, SAGE NOTES

Northern Region (R-1): Steve Shelly, (406) 329-3041
Clearwater National Forest - none;
Forest Range Conservationist - Leonard Lake, 983-1950
Lochsa Ranger District - Karen Gray, 926-4275
Idaho Panhandle National Forest - Jill Blake, 765-7417
Nez Perce National Forest - none;
Red River Ranger District - Alexia Cochrane, 842-2255
Bitterroot National Forest - Linda Pietarinen (406) 363-7172
Forest Ecologist - Janet Johnson (406) 363-7107
Kootenai National Forest - Dan Leavell, (406) 293-2127

Intermountain Region (R-4): Duane Atwood, (801) 625-5599
Boise National Forest - Wayne Owen, 364-4164
Idaho City Ranger District - Greg Lind, 364-4330
Caribou National Forest - none
Challis National Forest - none
Payette National Forest - Alma Hanson, 634-0790;
Salmon National Forest - none
Sawtooth National Forest - none
Targhee National Forest - Bob Specht, 624-3151

Wallowa-Whitman - Hells Canyon National Recreation Area:
Paula Brooks (Baker City, OR), (503) 523-6391 Marty
Stein (Enterprise, OR), (503) 426-4978

Bureau of Land Management, State Office: Roger Rosentreter,
384-3064
Boise District - Ann DeBolt, 384-3465
Burley District - none
Coeur d' Alene District - LeAnn Eno, 769-5027
Idaho Falls District - none
Salmon District - Caryl Elzinga, 756-5441
Shoshone District - Steve Popovich, 886-2206

U.S. Fish and Wildlife Service, Boise Field Office, 334-1931
Bob Parenti, Tri-State Plant Manager

Idaho Conservation Data Center, 334-3402
Bob Moseley, Coordinator, Boise
Michael Mancuso, Boise
Juanita Lichtardt, Moscow
Rob Bursik, Coeur d'Alene

Greater Yellowstone Conservation Data Center, (307) 344-2157
Jennifer Whipple, Yellowstone National Park

This list of federal agencies and their botanists is an update from the February, 1993, *SAGE NOTES*. The Bitterroot and Kootenai National Forests do in fact have forest botanists, as does the U.S. Fish and Wildlife Service. The three districts with "seasonal" positions employ non-permanent, not-to-exceed-one-year (NTE) employees who essentially serve with all of the responsibilities of a district botanist. Hopefully, this list is now complete and up to date. The omissions were the result of misinformation on my part (the editor), and not meant to imply that "seasonal" employees have some "lesser" responsibility than permanently employed botanists.

TO SHOW OUR APPRECIATION FOR THE EFFORTS of the agency botanists, and to applaud the agencies for including them in their land management practices, *SAGE NOTES* will profile some of these employees in each newsletter. (Interviews by Laura Bond)

Steve Shelly - Regional Botanist, Region 1 (Covers the following Idaho National Forests: Clearwater, Idaho Panhandle, Nez Perce, Bitterroot and Kootenai)

At the regional level, Steve works with forest botanists to develop forest programs, provides technical guidance to the forest botanists to complete biological evaluations, and develops conservation strategies for sensitive plant species, particularly those that occur across multiple forests and regions.

One such species that Steve is currently working with is the Bank Monkeyflower, *Mimulus clivicola*, which occurs in three regions and five national forests. He is currently working with the forests to implement a rangewide conservation strategy for this plant.

Steve is working on interim management guidelines for one of the Region's two federally listed plants, the Western Prairie Fringed Orchid, *Platanthera praeclara*, on the Custer National Forest (which spans North Dakota and Montana). This species occurs where grazing and controlled burning are common management practices. Steve is studying how these and other practices affect populations of these plants. It appears that this plant requires some level of disturbance or "opening" in the community for establishment, and the results of these studies will have a great deal of impact on how these grasslands are managed.

He has been very active to have the Water Howellia, *Howellia aquatilis*, become the third federally listed species for the region. (The other listed species is McFarlane's Four-o'clock, *Mirabilis mcfarlanii*.) This species was listed on the Federal Register in mid-April, and is now in a 60-day public comment period. Most known populations occur on the Flathead National Forest. He has been heavily involved in this effort for many years, doing field inventories and monitoring studies to develop conservation strategies for the Flathead National Forest. Recommendations include establishing a minimum impact buffer around wetlands that this plant occupies. Previously, logging activity has impacted these wetland ponds. There is one known population of this plant in northern Idaho, occurring on private land. (See article on page 3.)

Conservation strategies are site-specific recommendations for sensitive species, although more and more these efforts are addressing whole habitats. This is particularly an important approach for fens and other peatlands in Montana, where many sensitive species will occur in a single area.

A big upcoming project is a joint study with the Conservation Data Center in Boise, Idaho. The Clearwater Refugium Project will provide a detailed inventory and mapping of endemic and coastal disjunct species in the North Fork of the Clearwater River, adjacent to the Aquarius Research Natural Area. This comprehensive assessment will provide insight into the potential impacts of timber harvests slated for this area. What makes this particular study so unique is that in the past, these assessments have been a sale-by-sale, species-by-species evaluation of potential impacts.

Duane Atwood - Regional Botanist, Region 4 (Covers the following Idaho National Forests: Boise, Caribou, Challis, Payette, Salmon, Sawtooth and Targhee)

Duane sets program direction for conservation efforts for all of the forests, educates Forest Service employees in how to comply with Threatened, Endangered and Sensitive (TES) species guidelines, and educates the public about TES species and conservation programs.

He has produced several planning documents about what must be done to meet federal guidelines for Forest Service conservation programs. In the area of public

education, he has written field guides for each state within the Region identifying the threatened and endangered species. They are a few years old, and he is soliciting funding to update them. He also co-wrote the publication *Threatened, Endangered and Sensitive Species of the Intermountain Region* with wildlife and fisheries biologists, for use by agency personnel as well as the general public. Now out of print, he is looking to update this guide this year.

Because of the limited number of forest botanists in this region, much of his activities focus on educating forest service people about plant conservation strategies. Because of a recent lawsuit against the U.S. Fish and Wildlife Service, all Category 1 (C1) species may be federally listed under the Endangered Species Act by 1996. He has conducted conservation strategy workshops to determine the impact of this in Region 4. Working with all Forest Service employees involved in conservation programs, he is identifying exactly where in the Region any C1 species may occur, which ones require more baseline information to validate their status, which ones are likely to be listed, and for which species conservation strategies can be developed so that there will be no need to have them listed.

He has also conducted plant identification workshops for non-botanist biologists, so they can identify threatened and endangered species as well as indicator species for community types. These workshops have been aimed at Forest Service employees or people otherwise involved in federal conservation programs. This year, he will be working with people from each forest to further help them identify specific plants in their forests. This is particularly important because of the 16 forests in the region, only three of them have botanists (all in Idaho). These workshops have been very successful in educating non-botanist biologists about the importance of plants in their own conservation efforts. He is also working with forest botanists to develop longer term action plans for the forests.

Duane is also working closely with other federal agencies with sensitive plant programs to coordinate activities between agencies by prioritizing the species under study and sharing new information about them. This effort is just beginning here in Idaho, and is going strong in Nevada, Utah and Wyoming. Without this intra-agency coordination, a plant species may be under study for multiple years by more than one agency, when a combination of efforts could resolve the status of the

plant and identify the best management strategies in a shorter amount of time.

Currently, all forests in the Region are updating their Forest Plans. The original versions basically did not address any botanical issues at all. Now there are federal standards and guidelines for conservation efforts that must be addressed in all Forest Plans, and for the first time, there is a strong emphasis on non-game species, bringing a new importance to plant conservation to these Forest Plans. Duane is working these standards into the development of all of the Forest Plans in his region.

Duane holds a M.S. and Ph.D. from Brigham Young University, where he emphasized plant taxonomy in his research. After working with the B.L.M.'s threatened and endangered program, he moved to the U.S. Fish and Wildlife Service as a Regional Botanist in Portland. He has been with the Region 4 Forest Service since 1979. He was the first president of the Utah Native Plant Society, an organization which has since grown to around 400 members. The Utah Native Plant Society is bringing more visibility to plant programs in national forests in Utah.

He faces particular difficulties with the lack of forest level botanists. He has worked with national conservation groups to increase funding for regional programs, and Region 4 in particular. Region 4 tracks as many TES plants (208) as other regions in the country, but with fewer people. The forests in this region have not heard from the public that conservation programs are highly valued, and until they do, it is unlikely that this situation will change. All forest plans, environmental impact reports, environmental and biological assessments and other documents are subject to public review. It is important for the public to review them with an eye toward these conservation efforts, and let the forests know that these efforts are valued. Contact the forests and put your name on a mailing list for these documents, and send them your written comments. This is the best way to let the forests know that you care about the success of their conservation programs.

Alexia Cochran - Red River District Botanist, Nez Perce National Forest

Alexia is currently working on several projects, with the emphasis on Environmental Impact Statements for two

areas in the Red River District. There are perhaps 20 timber sales between them, and each individual sale must have its own Biological Evaluation and project clearance. These areas are "hot" right now, as they are in the last major roadless area in the Nez Perce National Forest. Both areas under study have large populations of Candystick, *Allotropa virgata*, a Forest Service Sensitive species. Some of her recommendations include redrawing the sale unit boundaries to avoid these populations, and establishing buffer areas where the timber sale boundaries cannot be moved. Her biggest concern is to prevent habitat fragmentation, and she finds support for this within the timber department of the forest. In the future, a region-wide conservation strategy will be developed for this plant. There are permanent study plots for Candystick in other timber sale areas, which she will be monitoring this year.

Other projects underway include a monitoring study of Payson's Milkvetch, *Astragalus paysonii*, to evaluate in a road construction area. There are also baseline monitoring plots in a wilderness area that she is studying with Leonard Lake, the Range Conservationist on the Clearwater National Forest, and who is also the acting member in plant conservation programs on that forest.

There is a lot of ground to cover on the Nez Perce to locate populations of threatened and endangered species. Each June, she puts on a forest-wide training session geared toward people working in timber, wilderness, trail maintenance and other field-oriented disciplines, so that they can identify these species in the locations where they work. This results in more sightings throughout the district than she could identify on her own.

While funding is limited to accomplish all of the things that she would like, Alexia finds a great deal of support for her work within the district. The Forest Engineers re-designed road layouts in order to miss populations of Payson's Milkvetch to facilitate her study, and the close work with the timber group has helped her a great deal. Because she is the only acting botanist on the forest, she is frequently called in to assist with project clearances for other districts. Such projects in the past have included prescribed burns, timber sales, trail construction and mining projects.

Alexia has a Bachelor's of Science in Botany from Southern Illinois University. This is her third year as a botanist with the Forest Service.

*Field Trip - Clearwater-Selway Canyons, led by
Dr. Douglass Henderson - Review by
Loring Jones*

About 25 people, members and friends, attended the field trip Saturday, April 17, to the Clearwater-Selway Rivers.

Of particular interest and showiness at the Lenore Rest Area, 1st stop, were:

Clematis hirsutissima (Vase Flower)
Lithospermum ruderae (Western Gromwell)
Phlox speciosus (Showy Phlox)
Synthyris missurica (Mountain Kittentails)

2nd stop, just beyond Kooskia:

Viola nuttallii (Nuttall's Violet)
Rhus radicans (Poison Ivy)

3rd stop (lunch), Three Devil's Picnic Area (USFS):

Anemone piperi (Piper's Anemone)
Equisetum telmateia (Horsetails)
Polypodium hesperium (Polypody)

4th stop, Rackliff Campground (USFS):

Cardamine constancei (Constance's Bittercress)
(not yet in bloom)
Cypripedium fasciculatum (Clustered Lady's-slipper)
(just flowering)
Synthyris missurica (Mountain Kittentails) (all over)
Cornus nuttallii (Western Flowering Dogwood)
(still hanging on and not looking good)

There were many other species seen. Dr. Henderson prepared a lengthy list and did an outstanding job helping us learn more about the plants in these areas. Some in his party camped overnight in the Glover Campground for specimen collecting the next day, Sunday, but it rained hard all night and was quite cold and windy.

PHOTOGRAPHS NEEDED!

The Wyoming Rare Plant Committee is soliciting photographs for an interagency publication (Forest Service, National Park Service, BLM, U.S. Fish and Wildlife Service, and The Nature Conservancy). The Wyoming Rare Plant Guide will feature about 85 rare species with photographs and illustrations. Photographers will be credited in the book. If you have photographs that might be of service, or would like to know which plants to photograph, please contact Jennifer Whipple at (307) 344-2157.

Board Meeting - January 26, 1993

A board meeting was held on January 26, 1993. Topics discussed included elections, the annual meeting, INPS and advocacy for rare plant protection, the Rare Plant Book, the newsletter, new t-shirts and insurance and field trip liability.

If you would like to receive a copy of the minutes, please send a card requesting them to the INPS post office box. The address is on the last page.

*Joint Field Trip - Pahove Chapter of INPS and
the Oregon Native Plant Society*

Anne DeBolt, Pahove Chapter

A field trip to the sand hills northwest of Ontario, Oregon, is planned for Saturday, May 8. Native Plant Society members from LaGrande and Boise will be joining local individuals in the day's tour. We will meet at 10:30 a.m. at the Cairo School parking lot, which is a quarter mile west of the Highway 20/26 junction to Vale, Nyssa, and Ontario. From there we will depart (by vehicle) for Henry's Gulch, which is 5 miles north of Highway 20/26 at the end of Halliday Road. Much of the tour will be by vehicle, with some easy hiking at the various stops. Be sure to bring a lunch. Four-wheel drive vehicles will be needed for part of the tour, and we hope there will be enough of these vehicles to share rides!

The area is locally known as the South Alkali sand hills. Two candidate plant species, Mulford's Milkvetch (*Astragalus mulfordiae*) and Malheur Forget-Me-Not (*Hackelia cronquistii*), being considered for listing under the Endangered Species Act are found in these hills. The Milkvetch is in the process of being listed by the U.S. Fish and Wildlife Service, and the Vale District BLM has an active Habitat Management Plan for the Forget-Me-Not. In a good rainfall year, one of the finest displays of wildflowers in the country can be found in these sand hills.

The Vale district BLM has begun discussions preceding development of a management plan for the area. There are many things to recommend it for such a plan: it is prime winter range for deer, a fire burned through the area in 1986, and various fire rehabilitation practices were applied to portions of the hills, a small riparian area is located in Henry's Gulch, the sand makes a prime off-highway play area, and livestock are authorized yearly to graze the area. We welcome the involvement of everyone interested in public land management and in what we hope will be a fine wildflower display.

MARK YOUR CALENDARS . . .

Anne DeBolt, Pahove Chapter

Middle Snake River Float Trip Nancy Cole, Idaho Power plant ecologist, will lead a float trip down the Middle Snake River from Hagerman to Bliss (about 8 river miles). We will discuss riparian vegetation and management of this free-flowing portion of the river. Space is limited, so please make reservations by August 7 with either Nancy (345-6154) or Ann (384-1244). Additional details will be provided at that time. We have a couple of rafts lined up, but a nominal fee will be charged if we need to rent additional boats. You will need to provide your own personal gear for the day (i.e. LIFE JACKET, lunch, water, sunscreen, etc.).



CANDYSTICK

Allotropa virgata

Field trips for May and early June are listed below. The June *SAGE BRIEFS* will list trips for the remainder of the summer (get updates to the editor!). Some field trips for later in the summer can also be found in the April *SAGE BRIEFS*. A legend follows this chronological list, identifying what part of the state the trip or talk may be found. See you on an outing!

- P May 1 Saturday Boise foothills salvage plant sale to benefit the Hulls Gulch Trust. For a nominal fee, you can collect grasses, shrubs and whatever else you can dig up before the area is levelled for a subdivision. Call Ann DeBolt for more information at 384-1244.
- SW May 1-2 Sat-Sun Monthly workday at the Orma J. Smith Museum of Natural History, Albertson College of Idaho, Caldwell. Boone Science Building; enter via west end basement door, 7:00 a.m. until evening. Volunteers are needed for a variety of Museum tasks, such as rebuilding and refinishing old exhibits. Phone Bill Clark (375-8605) or Eric Yensen (459-5331) for additional information. This month's event also includes a sale.
- P May 8 Saturday Join Jean Findley (Vale Dist. BLM Botanist) and the William Cusick Chapter of the Oregon Native Plant Society for "one of the finest wildflower displays in E. Oregon!" Please see the details earlier in this newsletter.
- BW May 10 Monday Big Wood River Chapter monthly meeting. Dr. Bruce Lam from American Water Resources and Paul Toad (The Nature Conservancy/Silver Creek Preserve) will talk about river assessment and restoration projects. Environmental Resource Center, 6th and Leadville, Ketchum, 6:00 p.m.
- C May 13 Thursday Calypso Chapter monthly meeting. "Identifying Common Spring Wildflowers" will be the topic. Also, elections will be held. This is the last meeting until September. Meet at North Idaho College, Room 109 Seiter Hall, Coeur d'Alene.
- BW May 15 Saturday Silver Creek Riparian Restoration Project. Paul Toad, Preserve Manager, will guide us in planting indigenous river birch and willows. Bring gloves and shoes for mud. Suitable for all ages and abilities. Bring lunch and binoculars!
- P May 15 Saturday Bike, Botanize and Bird along the Boise River Greenbelt. Meet at Municipal Park at 8:30 a.m. for an enjoyable trip. Return noon-ish. For more information, call Susan Bernatas at 344-5001.
- P May 20 Thursday Pahove Chapter monthly meeting. "Some ecological requirements of the rare plant, *Primula alcalina*" by Holly Miyasaki, from Albertson's College of Idaho. The meeting is at Boise State University Biology Dept., Rm. #217 at 7:30 PM. WE WILL HAVE ELECTIONS AT THIS MEETING.
- C May 22 Saturday Public Wildflower Walk for National Wildflower Week at Quemlin Trails in Post Falls. Call Pam Gontz for details at 765-1115.
- WP May 22 Saturday Craig Mountain/Wapshilla Ridge. Celebrate National Wildflower Week with a trip to the canyon grasslands. This spectacular ridge north of the confluence of the Salmon and Snake Rivers provides an excellent example of the bunchgrass ecosystem and is home to several species of rare plants. Trip leaders are Juanita Lichthardt of the Conservation Data Center and Janice Hill, Stewardship Ecologist for The Nature Conservancy. We will look into TNC's Garden Creek Preserve from above.

Meet at 8:30 a.m. in Lewiston at Locomotive Park (on right immediately after crossing the river headed south), then caravan to the turn-off 6-7 miles past Lake Waha. The road we'll take is rugged in spots but can be done in a 2WD barring snow. Bring lunch and water. We plan to turn around by 4:00.

- BW May 22-23 Sat-Sun Field trip to Malm Gulch, led by Dr. Caryl Elzinga, botanist from the Salmon District BLM. This site features rare plants found no where else in the world, and a petrified forest. Optional camping Saturday night; visit the Herd Creek Exclosure on Sunday. Call 788-9530 for more information.
- P May 22 Saturday Field trip to Shoestring Road, above the Snake River Canyon, between Bliss and Glenss Ferry. Nancy Cole, Idaho Power Co. plant ecologist will lead this trip to see outstanding spring wildflower displays, including several uncommon plant species. Wood River chapter members will join us for this trip. Boiseans will meet at Burns Brothers truck stop at I-84 and Broadway Ave. junction at 8 AM. We will probably return to Boise by 5-6 PM. Any questions, call Nancy at 345-6154.
- SW June 1-3 Tue-Thu. Forest Health in the Inland West, Red Lion Riverside, Boise, Idaho. Sponsored by UI College of Forestry, Wildlife and Range Sciences, Boise National Forest and American Forests. This event is targeted toward a broad audience of people responsible for or concerned about forest health and ecosystem sustainability of Inland Northwest Forests. This symposium explores the definition of forest health, causes of the current forest health situation, and ecosystem management and application of our knowledge of forest health. Early registration is due by April 30, \$70; late registration is \$80, and a field trip fee is \$15. Contact Conference Services, University of Idaho, Moscow, Idaho 83844, or call at 885-6876, for more details and registration information.
- SW June 5 Saturday Monthly workday at the Orma J. Smith Museum of Natural History. Please see entry for May 1-2 for details.
- P June 5 Saturday Boise native plant garden tour. Meet at the south end of the Fish and Game Office on Walnut Street, near the Morrison-Knudson Observatory, at 9:00 a.m. We will split into two groups and carpool to visit 5-6 gardens in various stages of transition from Kentucky bluegrass to native species. Limited space is available. Please call Ann at 384-1244 by May 31 to reserve a spot. Bring a lunch and plan to spend 4-5 hours learning how to lower your water bills while diversifying your yard.
- SWB June 5-6 Sat-Sun Camp at Craters of the Moon, preparing for strong winds and intense sunshine. We hope to catch some of the glorious flower display we expect there this year. Meet at 9:00 a.m. to carpool from the Idaho Museum of Natural History parking lot (far west side), Idaho State University, Pocatello. Bring cash to pay for gasoline. Call Ruth Moorhead at 233-5011 after 7:00 p.m. for more information.

LEGEND for field trip list, which begins on page 14

WP	White Pine Chapter	BW	Big Wood Chapter
C	Calypso Chapter	SW	Southwest Idaho
P	Pahove Chapter	NC	North Central Idaho
SWB	Saw-Wa-Be Chapter	CI	Central Idaho

SAGE NOTES is published in February, May, August and November and SAGE BRIEFS is published in January, April, June and September by the Idaho Native Plant Society, incorporated since 1977 under the laws of the State of Idaho. Newsletter ads: personal ads \$2.00, commercial ads \$5.00 for 1/8 page, \$8.00 for 1/4 page, \$15.00 for 1/2 page and \$25.00 for full page. Ads should be sent with payment. Members and others are invited to submit material for publication. Articles in any form, even hand-written, are welcome. Please provide a phone number in case there are questions. Materials will not be returned unless specifically requested. Send submissions directly to the editor. Please contact the editor about specifics regarding computer compatibility.

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The purpose of the Idaho Native Plant Society (INPS) is to promote interest in native plants and to collect and disseminate information on all phases of the botany of native plants in Idaho, including educating the public to the value of the native flora and its habitats.

Membership is open to anyone interested in our native flora. Send dues and all correspondence to INPS, Box 9451, Boise, ID, 83707.

Please include me as an Idaho Native Plant Society member:

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<input type="checkbox"/> Sustaining	\$30	\$15
<input type="checkbox"/> Individual	\$ 8	\$ 4
<input type="checkbox"/> Household *	\$10	\$ 5
<input type="checkbox"/> Student	\$ 6	\$ 3
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City/State: _____

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 None. Those who do not live near a chapter are especially

encouraged to join. We can put you in touch with other members in your area, and can coordinate with you on any state level activities you may wish to be involved in. New chapters may be forming in eastern and northern Idaho.

* Household memberships are allocated two votes.

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P.O. Box 9451
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SAGE NOTES

September, 1993 * SAGE NOTES * A Publication of the Idaho Native Plant Society * Vol 16 (3)

INPS ANNUAL FIELD TRIP

The 1993 Annual Field Trip went off without a hitch! Sponsored by the Wood River Chapter, attendees spent two wonderful days looking at native gardens and hunting down native plants in the sunshine and beautiful scenery of the Wood River Valley.

We met for an appropriately brief lunch meeting in Ketchum, where we talked mainly about the Rare Plant Book, and the current state of this project. Susan Bernatas brought examples of a similar book published by the Colorado Native Plant Society, which is something of a model for the INPS edition.

Following the meeting, we toured several gardens, all using various amounts of native plants in the landscape design. This tour was exceptionally informative, in terms of "how-to's" and hearing from other gardeners about their experiences. Each garden featured a unique approach toward design and species use, showing participants a broad range of landscaping alternatives.

That evening, we were treated to a conversation with The Oldest Man in Idaho, the creation of Clark Heglar. This gentlemen told us tall and short tales of Idaho's history and geography in a spectacular one-man performance.

The next morning, a band of campers headed up a canyon in the foothills of the
Continued on page 8

WE WISH PAM GONTZ THE BEST OF LUCK in her new venture as the Assistant Director of the Yellowstone Institute in Mammoth, Wyoming. Until the last week in September, she was the president of the Calypso Chapter of INPS. She also edited the chapter newsletter and in general kept her track of botanical activities in Northern Idaho. She will be greatly missed by chapter members statewide, and especially by Calypso members, who have benefited from her energy.

Congratulations on your new position, Pam, and thanks again for your many years of help!

We invite and encourage readers to send articles, field trip reviews, book reviews, illustrations, or anything else they might like to see in print for publication in the newsletter.

The next SAGE NOTES will be for the month of **November**, and will be the last newsletter of the year. Please send materials for this issue to the editor by October 1, 1993. The address is on the back page.

AN EXPERIENCE IN NATIVE GARDENING - - FIRST INSTALLMENT

- Laura Bond, Mary McGown and Nancy Cole

How do you turn the field of Kentucky bluegrass, or an expanse of junipers, into a meadow of bunchgrasses or a slope of bitterbrush? Converting an existing landscape to natives can seem overwhelming, even to the most motivated gardeners.

I am facing this with my "new" home, a 30-year old house in Boise, which needs extensive remodeling, inside and out. The original landscape plan has not been maintained for some time. We now must make some structural changes, and I would like to replace much of the vegetation with a low-maintenance, low-water design based (largely) on using Idaho native plants.

The prospect of this job has left me with two areas of uncertainty: I don't know all of the possible plants that I could put in, or which ones would create the effects that I am looking for. I also don't really know where to start, or the "best" way to go about the job. These questions could be asked by anyone re-landscaping their yard. But because I am looking for specific details that make planting a native garden unique, I cannot necessarily pick up my *Western Garden Book* and talk to my local nursery to get all of the answers.

Believing that I'm not the only person who is facing this, I contacted Nancy Cole, who went through this process a couple of years ago and now teaches classes for Community Education on this very subject, and Mary McGown, a professional landscape architect, specializing in alternative landscapes. I volunteered to have my front yard "go public", and they are sharing their expertise, both formal and practical, so that we all may realize how to go about this job!

They outlined for me the following steps, which begin at the point where my yard is now: a mature landscape, with many established bushes, most of which I would like to remove, several mature trees, and a banner crop of crabgrass. Some structural changes are also necessary because of drainage problems. These are good tips for any type of landscape re-design. However, there are some specific details for native gardeners in particular.

1. MAKE A PLAN. Identify what *structural* elements you want, such as walkways, retaining walls, and borders. Also, identify the important *concepts* you want in your yard, such as strong color, shielding, or

attracting specific animals. This is not a landscape design; that will come later.

For example, in my yard, we will have a retaining wall (height to be determined) and a branched walkway to the road. My most important concept is that the finished product should be low maintenance, because at heart I'm truly a lazy gardener. It is also important to shield the view of our house from our somewhat busy street.

You should also identify the nature of your soil, because what you have will to some extent determine what will survive. You should be familiar at least with the basic texture and level of organic matter, and whether your soil is acidic or basic. Your local County Extension Service or Soil Conservation Service can help you with this, as can commercial soil chemistry labs. Whoever will be doing your soil analysis can tell you the best way to collect the soil so that you will cover your whole yard, and not just a single collection point.

2. MAKE AN INVENTORY of what you DO have. This should include all of your plants in the area you are landscaping. Identify the positive and the negative elements of this area.

The inventory in my front yard will appear in a later article. Basically, we have several large, mature conifers that are beautiful and provide a nice shady feel. We also have a single sagebrush, probably a remnant of an earlier rock garden. Currently, the combination of pines and some (undesirable) bushes does somewhat shield our house from the road. I would personally prefer to replace the junipers and Russian Olive with different plants, and we have some aggressive myrtle spurge and crabgrass that may be hard to eliminate.

3. CONSIDER IRRIGATION NEEDS, as even a drought tolerant landscape needs some water, first to become established, and then periodically to maintain some lushness and to keep plants looking their best. If you want to install a permanent irrigation system, now is the time to plan it, so you won't need to dig trenches after plants are already planted. Low pressure and drip irrigation systems save a great deal of water which would be lost to evaporation. Intensely used areas, such as lawns and vegetable gardens, will require more water.

Consider "zoning" your landscape so that areas farthest from the house and outdoor use areas require the least amount of water. Plant water intensive plants closer to the house. People whose homes are in the foothills, or an area of potential fire hazard, may want to consider installing an irrigation system as some

protection in the event of a wild fire (and might also consider designing in a fire break of some sort).

If you already have an irrigation system in place, you might want to coordinate your zones with the location of sprinklers. Can you alter your existing system to drip or low flow sprayers? At my house, we have a working system in place, but it will need this type of conversion. My past experience with this type of conversion is that it is rather simple, but a little time-consuming.

4. DO THE PRELIMINARY DESIGN. Measure your yard, and draw it out on graph paper (no blueprinting necessary). Diagram the functions and characteristics you wish to emphasize BEFORE you identify the plants you want. (It may not be a bad idea to draw out your yard for your inventory.)

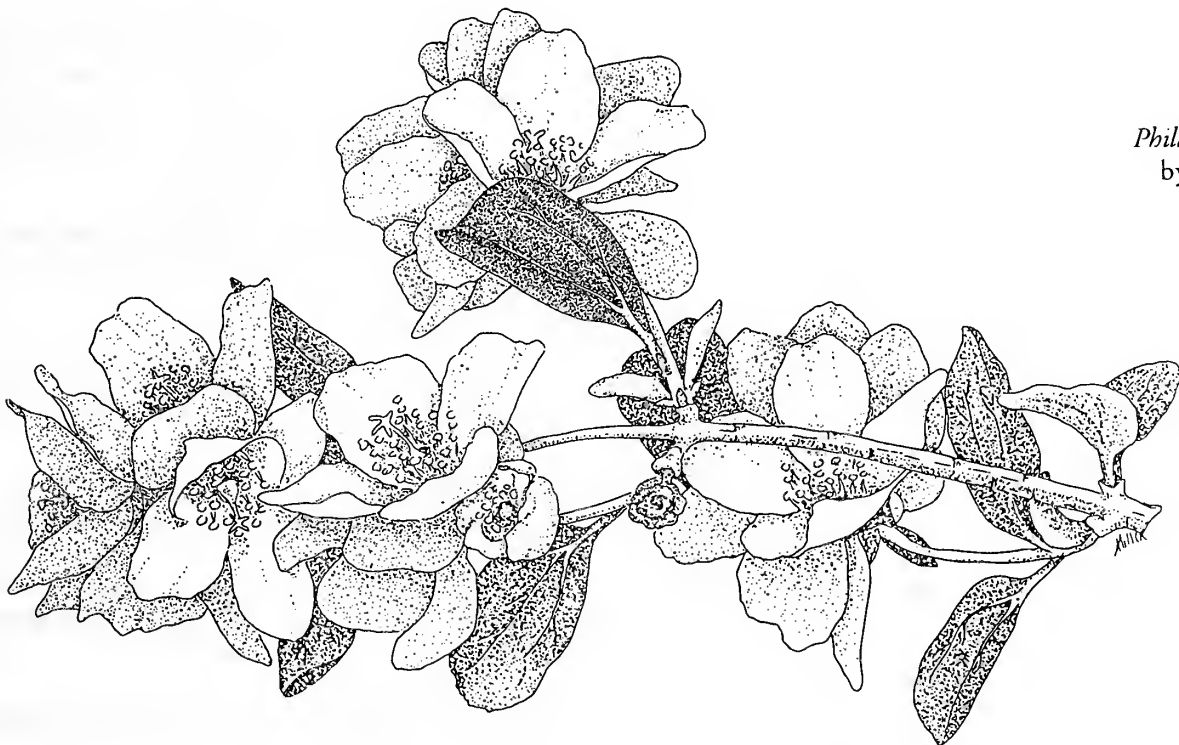
This is a good time to incorporate some basic design concepts. For example, in my yard, the pathways from the road to the house do not stand out very well. Mary and Nancy suggested changing ground covers near the path so it will catch people's eyes more easily. Also, if I don't want people to look at my house from the road, I could distract them with colorful blooms that border the yard at the street.

Once you have considered these things, begin thinking about your plants. Nancy and Mary made this sound like "no big deal", but they are both professional botanists, and for them, it may not be. I asked them how the non-professional should approach this. Following this article is a list of references. They also recommend walking around the natural areas near your home, and identifying what plants you like, and might like in your yard.

Contact your local INPS chapter to see what resources might be available for your area. They will also help you identify what noxious weeds you *shouldn't* plant. I've seen purple loosestrife planted in a lot of Boise gardens!

5. MAKE THE "NEARLY" FINAL DESIGN. The plants you decide on, and their specific location, may change before you're done. But if you did a good job identifying your structures and concepts, these changes will be minor in the "grand" scheme.

It is important to visualize, to the best of your ability, how your yard will look when it is mature. The trees may be small when you put them in, but if they will shade your neighbor's garden spot in five years, you should consider that NOW. Keep trees away from powerlines, and if fire is a hazard in your area, avoid



Syringa
Philadelphicus lewisii
by Agnes Miller

trees that are tall enough and close enough to your house to pass flames from the crown to your roof.

A good example of this in my front yard is our Russian Olive. I'm sure when it was planted it invited people to walk down the path. However, now that it's grown, those long spines draping over the walkway have the rather opposite effect!

6. START TO WORK! It is important to start *now*, in the fall. People want to associate yardwork with spring, but the fall is an important time for native gardeners. If you are planting seeds, you want them to be exposed to the proper amount of moisture in the soil. A lot of native plants germinate in early spring, so by late April or May the ground will be too dry. (This is past blooming season for many of the flowers, too.) They might germinate if you plant them in March, but often the ground is still frozen, making it difficult to dig (and motivate yourself, besides!). If you are planting anything other than seeds, you will probably have more success if the plants are dormant, and again, late fall is better than early spring, because the ground may still be frozen in March. Any later, and the plants will break dormancy before transplanting.

The approaches we discussed came in two flavors:

a. Phase it in: Focus on the parts of your yard that you like the least first, or look at your list of important concepts, and work on the most important one first. Or, you may choose to do first the part that will take the longest to establish. A suggestion for my yard was to remove the overgrown, uninvited elms, opening out some overly shaded areas and mulching the area.

b. Just do it: Pull out all the plants you know you don't want, put on some mulch or black plastic, and plant at your own speed. This is a better solution for me, because of the crabgrass and myrtle spurge, and because vegetation must come out anyway for our retaining wall. This will also assist with soil development and weed control.

There are alternatives which depend on how devoted you are to your garden conversion. However, phasing in the task may make it seem less daunting, allowing you to see results before you have reached the "finished" product.

I am now convinced that I don't have to to identify every native plant in Southern Idaho in order to have a native garden. More important than knowing the plants themselves is knowing what I want out of my

garden area, and finding the right plants to fit those functions and effects. I also now understand better why the plan is so important. It is tempting to pull out the tools and start yanking out what I don't like, but if I've set a direction and identified (more or less) what I hope to have as a finished product, I will be more successful from the very beginning.

As the job progresses, I will keep you posted on how it is coming along, and provide more specifics on what I have and plan to do. I have a pretty busy lifestyle, so you as well as the neighbors may grow impatient with the progress. But, I identified slow progress as an "important concept" in my landscape design, so bear with me, and use this as an inspiration to begin in your own yard!

References:

Diekelmann, John, and Robert Schuster, 1992. *Natural Landscaping: Designing with Native Plant Communities*, McGraw-Hill Book Company, New York.

Kruckenber, Arthur K., 1982. *Gardening with Native Plants of the Pacific Northwest: An Illustrated Guide*, Douglas and McIntyre, Vancouver, B.C..

Lanner, R.M., 1984. *Trees of the Great Basin: A Natural History*, University of Nevada Press, Reno, Nevada.

Mozingo, H., 1987. *Shrubs of the Great Basin*, University of Nevada Press, Reno, Nevada.

Ortho Books, 1984. *Landscaping with Wildflowers and Native Plants*, Chevron Chemical Company, San Francisco, California.

Shank, Dale (ed), 1991. *Hortus Northwest: A Pacific Northwest Native Plant Directory and Journal*. Issue Three. Canby, Oregon.

Sunset Books and Sunset Magazine, 1989. *Waterwise Gardening*, Lane Publishing Co., Menlo Park, California.

Stubbendieck, J., S.L. Hatch and K.F. Hirsch, 1986. *North American Range Plants*, 3rd Ed. University of Nebraska Press, Lincoln, Nebraska.

Taylor's Guide to Water Saving Gardening, Houghton Mifflin, Boston, 1990.

Taylor, Ronald, 1990. *Northwest Weeds: The Ugly and Beautiful Villains of Fields, Gardens and Roadsides*, Mountain Press Publishing, Missoula, Montana.

Taylor, Ronald, 1992. *Sagebrush Country - A Wildflower Sanctuary*, Mountain Press Publishing, Missoula, Montana.

Trimble, Stephen, 1989. *The Sagebrush Ocean: A Natural History of the Great Basin*, University of Nevada Press, Nevada.

Underhill, J.E., 1986. *Sagebrush Wildflowers*, Hancock House, (state unknown).

USDA, 1937. *Range Plant Handbook*, Dover Publications.

Sources

1. Contact your local greenhouses for seeds and starts. The number of commercial nurseries that sell native

plants is quickly expanding, and your encouragement will only make the number grow faster.

2. In Boise, there are xeriscaping classes offered through the Continuing Education Program with the Boise City Schools. In other areas, you might find out about such courses through county extension agents, local universities, city schools, your local city recreation department, or your local INPS chapter.

3. Your local Idaho Native Plant Society chapter (addresses and contacts are on the back page) will be able to help you find out where to purchase plants or seeds locally, and put you in touch with other native gardeners in your area. (The Pahove Chapter has compiled a list of sources to purchase plants or seeds for xeriscaping, which you can receive by sending the chapter \$1 (to cover copying) and a self-addressed stamped envelope.)

4. County Agriculture Extension Agents may be found in the county government listings (under Extension Office) of your telephone book. The Soil Conservation Service will be found in the federal government listing of your telephone book (under Department of Agriculture).

To our Boise Readers:

You may be reading this newsletter in the late summer sun, listening to your Rainbird sprinkler tch-tch-tch-ing as it waters your soccer-field sized lawn. If *we* can't convince you to plant natives, maybe this will! The following appeared in the Idaho Statesman on Friday, August 13 (reprinted with permission):

Summer water rates to spring up

Most people can expect to pay 25 percent more in the 4 warmest months.

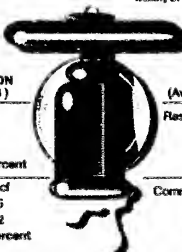
By Charles Ettinger
The Idaho Statesman

Proposed rate increases for Boise Water Corp. customers

SUMMER RATE COMPARISON
(Average for June - July 1993)

Residential consumption 49.7 ccf
Residential bill \$42.04
NEW RATE BILL \$49.84
INCREASE 18.8 percent

Commercial consumption 162.1 ccf
Commercial bill \$113.75
NEW RATE BILL \$144.02
INCREASE 26.6 percent



At the direction of the Idaho Public Utilities Commission, Boise Water Corp. is proposing these new rates for customers who use more than 10 ccf every two months. (One ccf is 100 cubic feet of water, or 7.48 gallons.)

The summer rates apply for June-September or July-October, depending on when meters are read. Winter rates apply to the other eight months.

WINTER RATE COMPARISON
(Average for January - February 1993)

Residential consumption 15.4 ccf
Residential bill \$20.16
NEW RATE BILL \$20.33
INCREASE 0.8 percent

Commercial consumption 80.9 ccf
Commercial bill \$61.94
NEW RATE BILL \$64.21
INCREASE 3.7 percent

Water usage and rates	Consumption	Existing rate	New winter rate	New summer rate
	10 ccf or less	\$18.71	\$18.71	\$18.71
	15 ccf	19.90	20.06	20.90
Cost for two months for most residential and some commercial customers — those with 3/4-inch water meters.	29 ccf	23.08	23.41	25.08
	25 ccf	26.26	26.78	29.27
	30 ccf	29.47	30.11	33.45
	50 ccf	42.23	43.51	50.19
	100 ccf	74.13	77.01	92.04
	200 ccf	137.93	144.01	175.74

Source: Boise Water Corp.

Just another reason to think about XERISCAPING and NATIVE LANDSCAPING!

The following article was assembled by Caryl Elzinga, former editor of SAGE NOTES. Many thanks, Caryl!

Creating a Butterfly Garden

--by Clay Antieau. Reprinted from *Douglasia*, the newsletter of the Washington Native Plant Society; Volume XIV(3); Summer, 1990.

There is no such thing as a "typical" butterfly garden. They vary from a simple well positioned windowbox full of flowers to a colorful garden plot, to an entire park dedicated to the preservation of butterflies. The following list summarizes tips to create a successful butterfly haven:

1) Leave large open sunny areas. Butterflies tend to be most active in sunny spots. Open areas can include low grasses and shorter ground covers, bordered by taller nectar-producing and food type plants.

2) Plant nectar-producing flowers that butterflies prefer. Many butterfly species tend to be finicky, each having their own favorites. To attract the greatest diversity of butterflies provide a well-stocked "soda machine" including flowers of all shapes, colors, sizes and fragrances. Mix both natives and cultivated groundcovers, and shrubs and trees. Nectar sources are listed in Table 1.

3) Provide food plants for caterpillars. Include plants that encourage female butterflies to live out their life cycle and lay eggs in your garden. Often, female butterflies select specific species of plants that will provide the needs to nurture their caterpillars, once they hatch. They tend to be more finicky about choosing a host plant than a nectar plant. Therefore you will need to know the butterfly species and the host plants they prefer. Consult local butterfly enthusiasts, entomologists and field books to find which plants offer the preferred

food and nectar source, as well as a food host. Examples are given in Table 1.

4) Use group plantings for large splashes of color rather than isolated plants. Certain species of butterflies have even been found to have a color preference.

5) Plant varieties that will provide continuous color throughout the season.

6) Include shallow puddles. You could even sink a container in the ground. Fill it one inch from the top with sand. Add a few pebbles on the top surface to act as perches for the butterflies to drink from the sand. Fill with rain water. Another opinion is to grade the yard to create a "mud hole".

7) Protection from wind can be in the form of a windbreak such as a wall or dense shrub grouping.

8) Use biological controls or insecticidal soaps for pest management. Many caterpillars are consumed by animals, birds and other predatory insects or attacked by diseases. They usually do not become pests in the garden. However, if these natural enemies do not keep the population in check, handpicking or some biological control should be considered.

The combination of herbicides, pesticides and destruction of habitat during land development, has led to dramatic reductions in butterfly

populations. Butterflies have no built-in defenses against their biggest enemy, man. Their survival is becoming more dependent on people who are involved in their preservation.

*If you want to know more about this subject, see **Butterflies: How to Identify and Attract Them to Your Garden**, 1990, by M. Schneck. Published by Rodale Press, Emmaus, PA. 160 page. \$25. -ed*

Table 1. Butterfly attractants.

Yarrow	<i>Achillea</i>
Milkweed	<i>Asclepias</i> *
Butterflyweed	<i>Buddleja</i>
Buttonbush	<i>Cephalanthus</i>
Coreopsis	<i>Coreopsis</i>
Black-eyed Susan	<i>Rudbeckia</i>
Purple Coneflower	<i>Echinacea</i>
Cardinal Flower	<i>Lobelia</i>
Passionflower	<i>Passiflora</i> *
Beebalm	<i>Monarda</i>
Boneset	<i>Eupatorium</i>
Goldenrod	<i>Solidago</i>
Hawthorn	<i>Crataegus</i>
Honeysuckle	<i>Lonicera</i>
Phlox	<i>Phlox</i>
Wildcherry	<i>Prunus</i>
Violet	<i>Viola</i> *
Verbena	<i>Verbena</i> *
Sunflower	<i>Helianthus</i> *
Sage	<i>Salvia</i>

*also serve as host plants

FIELD TRIP REPORTS

Craters of the Moon National Monument, June 5-6 - Ruth Moorhead, Saw-Wa-Be Chapter

Three persons braved continuous, sprinkling rain to participate in Sah-Wah-Be Chapter's trip to Craters of the Moon National Monument on Saturday, June 5. The primary reward turned out NOT to be magenta waves of *Mimulus* on a backdrop of sloping black cinderfields (front-desk spokespersons were telling folks "another two to three weeks"), though an *Eriogonum* and a *Cryptantha* were thus quite satisfactorily displayed, while a *Phacelia* claimed sporadic road-edge positions, a *Potentilla* figured prominently among the pahoehoe folds, and *Balsamorhiza* carpeted the hillsides north of the park with bright yellow.

No, the star of this trip wasn't even found at the Monument--it was the *Langloisia setosissima* growing behind the roadside rest stop east of Arco. A true belly-flower, at least as seen that day, this treasure held its five-lobed, purple-traced, white limb skyward from a mere centimeter above the sandy soil, its pinnate leaf-lobes bravely armed, every one, with a minute, transparent bristle. At 15x, a fierce warrior indeed. The book (Hitchcock and Cronquist, *Flora of the Pacific Northwest*, University of Washington Press, 1973) says that these plants branch and form low mats, but ours were single-stemmed individuals, each with a single bloom and waiting buds.

Boise Native Garden Tour, June 5 - Anne DeBolt, Pahove Chapter

On June 5 nearly 60 hardy Boiseans turned out on a drizzly Saturday to tour the four yards included on this year's native garden tour. This is the second native garden tour the Pahove Chapter has conducted, with attendance nearly double that of the 1990 tour. The public's interest is clearly growing in incorporating native and drought tolerant species into their landscapes.

Boise State University's Biology Department, under the leadership of Dr. Jim Smith, recently (October 1992) established a demonstration garden on the BSU campus. The garden features nearly 50 species from Idaho and the Great Basin, some of which seeded themselves from the topsoil's seed bank. Highlights include Indian ricegrass (*Oryzopsis hymenoides*),

bitterbrush (*Purshia tridentata*), large-flowered collomia (*Collomia grandiflora*), woolly aster (*Machaeranthera canescens*), shadescale (*Atriplex canescens*), and Pursh's milkvetch (*Astragalus purshii*).

Another yard featured a buffalo grass (*Buchloe dactyloides*) lawn in a sunny, southfacing area and a natural screen of red-osier Dogwood (*Cornus stolonifera*) in an easterly exposure. Buffalo grass needs watering once every few weeks and mowing but once per season, offering immense savings of both time and water.

Other gardens mixed natives with domestic species. Spiny hopsage (*Grayia spinosa*) was one notable shrub known from just one yard in town. The genus *Penstemon* supplies many beautiful and drought tolerant species, seven of which were featured in one small garden on the tour. Some of these included hot rock penstemon (*P. deustus*), Palmer's penstemon (*P. palmeri*) and Wilcox's penstemon (*P. wilcoxii*).

Native plant companies that carry seed or plant starts are growing in number, and so is the variety of natives carried by traditional nurseries. As the demand grows, so will the supply. We look forward to the addition of new gardens to the city and on future tours.

Caribou National Forest Outing, July 9-11 - Ruth Moorhead, Saw-Wa-Be Chapter

Worts highlighted the weekend for Sah-Wah-Be Chapter's outing in the Caribou National Forest on July 10 and 11. Starworts (*Stellaria* spp.), a sandwort (an *Arenaria*), a mitrewort (*Mitella stauropetala*), a lousewort (*Pedicularis bracteosa* v. *paysoniana*) and mugworts (*Artemisia* spp.) were but a few of the multitudes ("You said there'd be a few new ones here--I got three more pages!") on sagebrushed hills from Gray's Lake to Pallasades Reservoir.

Two persons camped Friday night at Gravel Creek, outside of Wayan, joined by two more for an aspen-woods ramble and a day of fruitless searches for whooping cranes or western bluebirds, both spotted the day before, on the flats below. Having dispersed to bed that night at 46° at Caribou Basin, the four arose to 30° (thank goodness--and Karl Holte--for the habit of carrying TWO sleeping bags in the VW!), grateful for the temporary lull in mosquito activity. Meandering eastward, the group met a Utah bird-and-botany twosome heading west, and exchanged plant notes while catching a splendid show of bird activity over an insect hatch on McCoy Creek.

The reservoir, full after several years' short rations, cooled the travelers en route to lunch at Tincup campground, but not as admirably as a dabble in the pristine waters of Formation Springs, north of Soda Springs. It was an exhausted four who parted ways at Hooper Spring in early evening. Next morning, though, came the call: "You know that book you were using yesterday? I gotta have one . . ." And so it goes--another person hooked on botany!

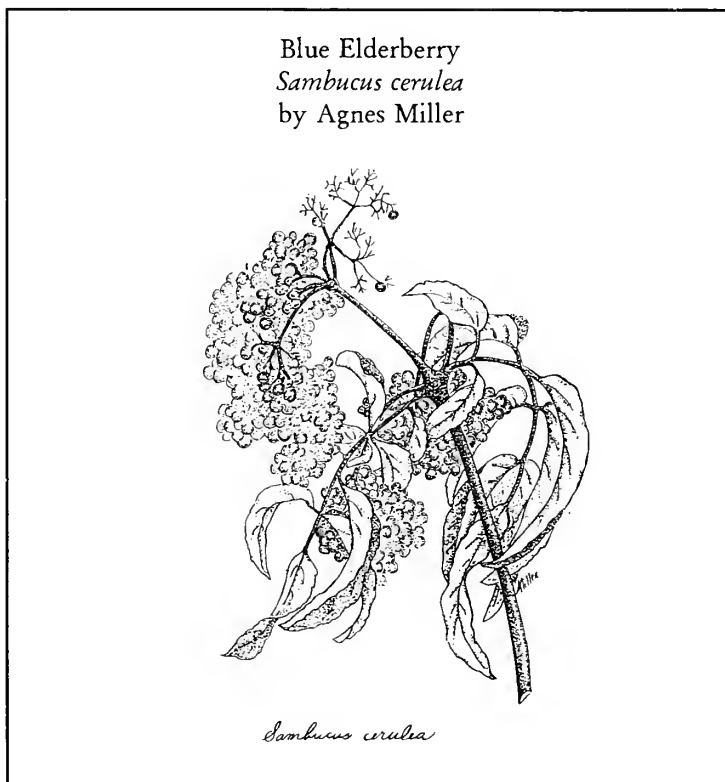
Sedge and Rush Identification Workshop, July 24
- Anne DeBolt, Pahove Chapter

Mering Hurd's Sedge Identification Workshop was attended by approximately 10 INPS and Water Garden Society members. Both common and uncommon species of the difficult genus, *Carex*, were examined. Distinguishing characteristics were reviewed in the lab using mounted plant specimens and microscopes. This was followed by a field trip to the Idaho City area, where many of the species were observed in their native habits. Some of the species seen included *C. microptera*, *C. lanuginosa*, *C. rostrata*, *C. nebraskensis*, and *C. aquatilis*. Mering, who works at the USDA Forest Service Intermountain Research Station in Boise, has been studying the germination requirements of numerous *Carex* and *Juncus* (rushes) species for several years. We would like to thank her for sharing her time and expertise.

Annual Field Trip Review, Continued

Boulder Mountains, hunting for what might be in bloom. A fantastic sight was the group of whitebark pine at the base of the Boulder Mountains, where there is a layer of decomposing granite. The pines were growing straight out of this layer, in various ages, shapes and sizes. People managed to enjoy the day, birdwatching and hiking, despite the lack of flowering plants.

A heartfelt thanks goes to Kristin Fletcher, who organized this wonderful weekend, and without whose efforts none of this would have been possible. We also must thank Kelly Weston, owner of Native Landscapes, in Ketchum, for leading the garden portion of the tour and providing much of his insight and experience in the area of native gardening. More thanks go to Clark Heglar, for sharing his performance with us, and to Lisa Clark, for the wonderful desserts she provided for the meeting. We would also like to thank the Environmental Resource Center for allowing us to use their facilities for our meeting, and to the people who allowed us to tour their gardens: Florence Mackie, Andrew Mayo and Suzanne Newton, Peter and Ginny Foreman, Penny and Ted Thomas, and Peggy and Reid Dennis.



CHAPTER NEWS

Calypso Chapter

Due to Pam Gontz' departure, Bob Mathiason is the acting president, and Cathy Snider will be doing the newsletter (or so the rumors go). The September meeting may be cancelled, but the October meeting will likely go on. Meetings are held the second Thursday of each month (except during the summer); please call Bob Mathiason at 765-5788 for information and a chapter update!

Wood River Chapter

The Wood River Chapter is gearing up for planting season! The chapter has adopted a section along the bike path in Ketchum, which they are re-vegetating with natives. The section is next to a bench and water fountain, ideal for showcasing these plants. Throughout the summer, chapter members have been intensively weeding in preparation for fall planting. Upcoming workshops (see calendar) will involve planting shrubs on the irrigated side of the path. This area will initially be watered, then water will be cut back as the plants become established. The other side of the path has no water available at all. Chapter members will plant native grasses this fall, and seed in flowers in the spring. The adopted area has been divided into eight sections, and each section is overseen by a member. The chapter hopes to add a little more native landscape to the Ketchum bike path each year.

Monthly meetings continue throughout the year (except for December) on the second Monday of each month, at the Environmental Resource Center, 6th and Leadville, in Ketchum, Idaho. There is a business meeting at 6:00 p.m., followed by a walk or presentation (depending on the time of the year) at 7:00. Please call Kristen Fletcher for more information at 788-9530.

Saw-Wa-Be Chapter

Chapter members have had an active summer, and it is now time to plan fall/winter activities. There will be a meeting on Thursday, September 2, to decide whether the chapter should remain active or "go dormant" until next spring. The meeting will be held in the Idaho Museum of Natural History, on the Idaho State University Campus in Pocatello.

Pahove Chapter

- Anne DeBolt

The Pahove Chapter sponsored a native plant and seed sale in conjunction with the Fourth Annual Idaho Conservation League Earth Day Celebration at the Old Idaho State Penitentiary. The sale was a big success, earning close to \$250.00 for the chapter. As we would like to make this an annual sale, be thinking about what species YOU might possibly donate for next year. Plants this year were purchased from Plants of the Wild in Tekoa, Washington, and donated by Joe Duft.

On May 1 and 2, INPS and the Golden Eagle Audobon Society members staffed a salvage plant sale in the Boise foothills. The site, soon to be developed, provided an excellent source of native plant materials for dryland garden enthusiasts. With a nominal fee charged for plants, the sale raised nearly \$2,000 for the Hulls Gulch Nature Preserve Trust. This trust will be used toward the purchase of approximately 75 acres of prime wildlife habitat and open space for the City of Boise. The event received excellent media coverage and will hopefully encourage others to hold similar sales. We would like to thank Ore-Ida Development Company for granting permission to hold the sale.

The Wiley Reach float trip, originally scheduled for August 24, was cancelled due to the Bliss slide. This area has traditionally unstable soils, and the slide has been eating away the south bank of the Snake River for about two months. It is still possible to make this trip, but due to the ongoing nature of the slide, and the uncertainty about a bridge clearance, the leaders felt that caution should prevail. Hopefully this trip can be rescheduled next season.

Meetings will be starting up again in September. The chapter meets on the third Thursday of every month, with a potluck dinner for the first meeting of the year. Typically, the group meets in the Biology Building on the Boise State University campus, Room 217. Our first meeting, however, will be at Jim Smith's, 6612 Glacier Drive (past the Barber Park turn-off on the north side of Highway 21). Bring your summer slides, as this will be a pot-luck slide show as well as a dinner!

Fall field trips and meetings are listed below. The legend at the end identifies the sponsoring chapter or where the activity can be found. Send updates to the editor (address on the back page).

- SWB Sept. 2 Thursday We will meet to plan our Color Outing (September 11) and to decide what we want to do this winter - continue to get together, or go dormant for the season. Meet at the Idaho Museum of Natural History on the Idaho State University campus in Pocatello at 7:30.
- WP Sept. 11 Saturday We will learn about forest canopy lichens with Roger Rosentreter. Meet at 9:45 a.m. at the Rosauer parking lot on North Main (Hwy 95) in Moscow. We will leave at 10:00 sharp for the Laird Park Campground for a second meeting place. (Directions for those planning to meet here: This Forest Service campground is located east of Hwy. 6. Turn on Palouse River Road, 3 miles north of Harvard, Idaho. Follow the signs and drive to Swimming Pond Parking Area, in Laird Park.) We will start our hike along the JED Hiking Trail at 11:00 a.m., and return for lunch in the picnic area. We leave after lunch for the University of Idaho Experimental Forest, Flat Creek Unit, located off the Harvard-Deary Cutoff Road, Hwy. 9, about 4 miles south of Harvard. A self guided driving tour starts at the end of Flat Creek Unit. We will meet at the No. 5 Stop, Western Hemlock Grove RNA. The trail is a 3/4 mile loop through old hemlock and Western cedar trees, where more lichen growth can be seen. For more information, call Roger at 384-1244, John Edson, at 882-1549, or Loring Jones at 882-8040. Bring a lunch.
- SWB Sept. 11 Saturday Autumn color and dinner, somewhere! We don't know where yet, but we will find them both, no doubt about it. Details should be in the August Sage Notes. Expect to return quite late!
- September 11 Saturday Monthly workday at the Orma J. Smith Museum of Natural History, Albertson College of Idaho, Caldwell. Please call Bill Clark (375-8605) or Eric Yensen (459-5331) for additional information.
- WR Sept. 13 Monday Monthly meeting, Wood River Chapter. We will have a business meeting at 6:00, followed by a seed collecting trip for our section of the bike path. Environmental Resource Center, 6th and Leadville, Ketchum, Idaho.
- P Sept. 16 Thursday Monthly meeting, Pahove Chapter. Our first meeting after a summer hiatus will be a potluck dinner and slide show hosted by Jim Smith, at his home at 6612 Glacier Drive (past Barber Park, on the north side of Hwy. 21). The potluck will begin at 6:00 p.m., after which we will have the traditional viewing of pot-luck slides (bring some along!). We also have a short business meeting.
- C Sept. 18 Saturday Clarkia Fossil Field Trip to be led by Dr. Bill Rember, University of Idaho. The group will meet in St. Maries, at the Serve-A-Burger on the south side of town, at 10:00 a.m. Bring a pocket knife, a newspaper and a sack or box for carrying fossils - this is a collecting trip (if you like). Wear comfortable walking shoes as there will be a short walk to the digging spot. Dress for any weather, and bring a lunch. For more information, call Tom Leege at 664-3725 or Bill Rember at 882-1087.
- WR October 2 Saturday Field trip to collect seeds for our bike path project. We will collect seeds at higher elevations for spring and fall planting. Call Kristin Fletcher for details, 788-9530.

- October 2-3
Saturday Monthly workday at the Orma J. Smith Museum of Natural History, Albertson College of Idaho, Caldwell. Please call Bill Clark (375-8605) or Eric Yensen (459-5331) for additional information.
- SWB October 9
Saturday An evening potluck dinner and plant photo show at Nancy Nation's house (unless she sells it this summer!), 2484 South Fairway Drive, Pocatello (237-1216). Bring food and slides or photos to share! 6:00 p.m.
- WR October 11
Monday Monthly meeting, Wood River Chapter. Business meeting, 6:00 p.m., followed by an activity, to be announced, at 7:00. Environmental Resource Center, 6th and Leadville, Ketchum, Idaho. Call Kristin Fletcher, 788-9530, for more information.
- WP October 17
Sunday This will be the last outing for the 1993 field season: a workday in the Spalding Arboretum identifying trees, an annual meeting for voting in new officers, and a potluck picnic are planned for the day. The records for the numbered trees in this historical park have been lost, and the White Pine Chapter has been asked for help with their identification. Tree identifiers will meet at 9:00 in the arboretum in Spalding Park, and picnickers should join the group around 1:00 or so. Spalding, Idaho, is located about 4-5 miles east of Lewiston off of Hwy. 95. Access to the park is through the main entrance of the Nez Perce national Historical Park Visitors Center. Once there, signs will direct you to the arboretum. For more information, call Juanita Lichtardt at 882-4803.
- P October 21
Thursday Monthly meeting, Pahove Chapter. Speaker to be announced. We will meet at 7:30 p.m. in Room 217, Biology Building, Boise State University Campus.
- WR October 30
Saturday Bike path planting workday. Come join the fun! Call Kristin Fletcher for details, at 788-9530.
- WP Nov. 18
Thursday We will have a joint meeting with the Idaho Conservation League, sponsoring an Endangered Species Coalition Program on the Endangered Species Act. An illustrated talk will be presented by John Rosapepe in Lecture Room #10, College of Forestry Building, University of Idaho, Moscow, Idaho at 7:00 p.m.

LEGEND

- WP White Pine Chapter
C Calypso Chapter
P Pahove Chapter
SWB Sah-Wa-Be Chapter
WR Wood River Chapter

SAGE NOTES is published in February, May, September and November and SAGE BRIEFS is published in January, April, June and August by the Idaho Native Plant Society, incorporated since 1977 under the laws of the State of Idaho. Newsletter ads: personal ads \$2.00, commercial ads \$5.00 for 1/8 page, \$8.00 for 1/4 page, \$15.00 for 1/2 page and \$25.00 for full page. Ads should be sent with payment. Members and others are invited to submit material for publication. Articles in any form, even hand-written, are welcome. Please provide a phone number in case there are questions. Materials will not be returned unless specifically requested. Send submissions directly to the editor. Please contact the editor about specifics regarding computer compatibility.

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The Idaho Native Plant Society (INPS) is dedicated to promoting interest in native plants and collecting and sharing information on all phases of the botany of native plants in Idaho, including educating the public to the value of the native flora and its habitats.

Membership is open to anyone interested in our native flora. Send dues and all correspondence to INPS, Box 9451, Boise, ID, 83707.

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Chapter Affiliation?

- Pahove (Boise)
- White Pine (Moscow)
- Calypso (Coeur d'Alene) *Please include \$6 chapter dues*
- Sah-Wah Be (SE Idaho)
- Wood River (Ketchum-Sun Valley) *Please include \$7 chapter dues*
- None. Those who do not live near a chapter are especially encouraged to join. We can put you in touch with other members in your area, and can coordinate with you on any state level activities you may wish to be involved in. New chapters may be forming in eastern and northern Idaho.

* Household memberships are allocated two votes.

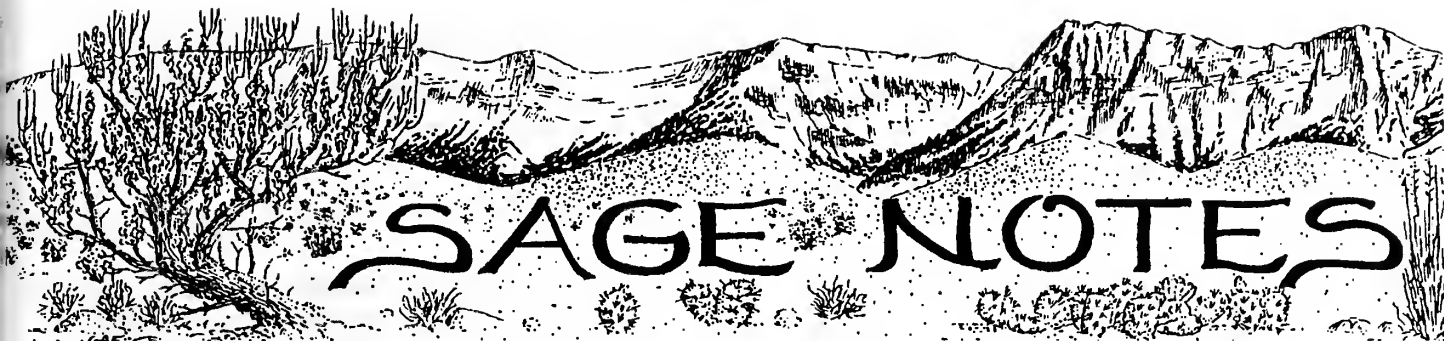
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November, 1993 * SAGE NOTES * A Publication of the Idaho Native Plant Society * Vol 16 (4)

CHAPTER NEWS

White Pine

Our Forest Canopy Lichens field trip was the last of seven trips. We were very fortunate to have nearly perfect weather for each, and benefitted from many expert leaders who are as talented with people as they are with plants.

In October we combined our annual meeting / potluck with a service-oriented visit to the Nez Perce National Historical Park. Several chapter members with expertise in tree identification inventoried their arboretum, for which the original records have been lost. Nearly all of the trees in the arboretum were identified.

We would like to welcome our new chapter officers: President - Ray Boyd, Vice President - Roger Blanchard, Secretary / Treasurer - Juanita Lichtardt, and Publicity Committee Chair - Sonja Lewis. We extend a heartfelt thanks to our past officers!

A sad note . . . We were saddened this year by the passing of our good friend Hyrtha Miller. Hyrtha and her husband Clyde joined us on many field trips. She will be missed.

Upcoming Events

Thursday, November 18: We will have a joint meeting with the Idaho Conservation League, sponsoring an Endangered Species Coalition Program on the Endangered Species Act. An illustrated

talk will be presented by John Rosapepe in Lecture Room #10, College of Forestry Building, University of Idaho, Moscow. 7:30 p.m.

Please note that we will have no monthly meeting in December or January. Our next regular monthly meeting will be in February. Happy holidays!

Calypso Chapter

With the latest changes in our chapter, we encourage members to come to our meetings and to get involved with chapter activities!

Upcoming Events

Thursday, November 11: Monthly meeting at the Cooperative Extension Office, 7:00 p.m. We will clarify what is happening with the chapter, and work on electing a new president!

Thursday, December 9: Monthly meeting at the Cooperative Extension Office, 7:00 p.m. Call Cathy Snider at 664-5411 to confirm. Program TBA.

Wood River Chapter

On the last Saturday in October, over 12 members braved the 14° temperatures to work on our adopted section of the bike path. Our work went quickly, and was featured in the local newspaper, complete with a picture!

We planted chokecherries, roses, snowberries, rabbit brush, sagebrush and *Penstemon deustus* and *P. strictus*, and seeded fescue around the plants. We will plant seeds collected in our earlier workshop in the spring. The local parks and recreation department is planning to install a drip irrigation system next spring as well.

We would like to encourage all members to join us in this effort. The bike path section is a very public and visible display of native flora, and as a result, is a great way to educate the public about native plants. As more people become involved, the work will be spread more thinly among the participants, making it a simple and easy effort for all involved!

Upcoming Events

Monday, November 8: Our monthly meetings are held at the Environmental Resource Center at 6:00, at 6th and Leadville Streets, Ketchum, Idaho. The business meeting will be followed by a presentation by florist Katie Milliken, on wreath making using objects found around the house. She will also show us how to make a sagebrush wreath.

Please note that there will be no meeting in December. Happy holidays!

Saw-Wa-Be Chapter

As is typical, this group will lay dormant until the warmth of spring again starts the life cycle of this group. Our first meeting will be the first Thursday in April.

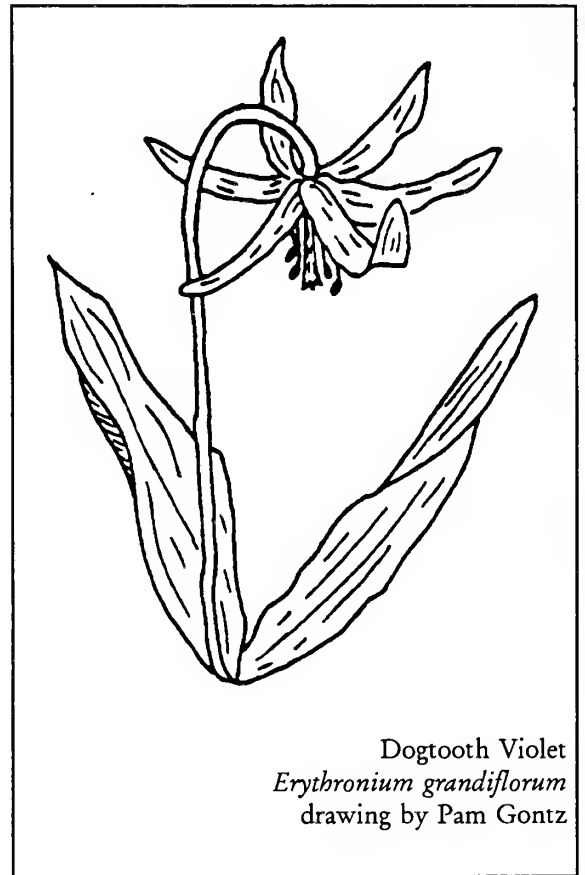
Pahove Chapter

Due to the success of our spring plant sale, we are encouraging members with native plants growing in their gardens to donate them to next spring's effort. This year, the sale was held on Earth Day, and the chapter sold quite a few plants. We hope to use as many donated plants this year as possible, in order to reduce the number of plants we must buy. Please contact Ann DeBolt for details, at 384-1244.

Upcoming Events

Thursday, November 18: Monthly meeting, Rm. 217 Biology Building, 7:30 p.m. Dick Lingenfelter will discuss his great love of pine trees, with a focus on western pine species, in a talk on the genus *Pinus*. Dick, now retired, worked for the U.S. Forest Service for many years.

Thursday, December 16: Christmas Desert Potluck at Kathy and Mark Geier-Hayes' house (in keeping with tradition!), at 5498 North Collister, Boise. Bring a something to share. Call Kathy at 344-2701 if you have any questions. Program TBA, party starts at 7:00 p.m.



Dogtooth Violet
Erythronium grandiflorum
drawing by Pam Gontz

FIELD TRIP REVIEWS

Forest Canopy Lichens, September 11, 1993

- Juanita Lichtardt, White Pine Chapter

On September 11, as the finale of this year's field trips, Roger Rosentrater, botanist with the BLM State Office, travelled to Moscow to lead a trip on forest canopy lichens. Twenty nine people showed up to be illuminated about these commonly overlooked members of the forest ecosystem. Roger described the role lichens play in nutrient cycling and wildlife habitat, making the discussion pertinent to the wide diversity of interests represented in our group. A short walk from a Forest Service campground yielded more genera and growth forms of lichens than most of us could process, even with the lengthy checklist we each clutched.

Growth forms ranged from the filamentous masses hanging from tree branches and so common in decorative wreaths (5 different genera, 3 of which I would have called *Usnea*) to large, leathery mats such as *Lobaria*, to "microlichens" which appear as nothing more than soot on tree bark.

In the afternoon the group visited an old-growth Western hemlock stand, in a Research Natural Area, to find lichen old-growth indicators.

Many thanks to Roger for a great trip!

Wallowa Mountains Field Trip, July 17, 1993

- Loring Jones, White Pine Chapter

Beautiful weather permitted our small contingent to see spectacular sights of mountain peaks south of Enterprise, Oregon. Eleven members hiked along the Hurricane Creek-Eagle Cap Wilderness trail under the leadership of Martin Stein, botanist with the Wallowa-Whitman National Forest, Enterprise Ranger District.

"Marty" is also a member of INPS. His special interest is the alpine flora which descends down to the 5,000 foot level along Hurricane Creek from Eagle Cap. He identified over 100 species for us the first day, Saturday. Among these were several Wallowa endemics as well as a few Rocky Mountain remnants.

On Sunday, our group joined botanist Paula Brooks and her Oregon Native Plant Society people for an aerial tramway ride to the summit of Mt. Howard, located in the Wallowas south of Joseph, Oregon, and rising above 8,000 feet in elevation.

Of Oregon Native Plant Society's "Partial List of Mt. Howard Plants", we noted at least 50 species. One

in particular, *Lomatium greenmanii*, is being monitored and protected by the Wallowa-Whitman National Forest.

Seven Devils Field Trip, August 7, 1993

- Loring Jones, White Pine Chapter

We had a good turnout for this requested, repeat field trip. Sixteen INPS members put up with the overcrowded campground, including members from the Pahove Chapter. A special treat was a surprise visit from Yaghoub and Christine Lorain Ebrahimi and their infant son, Rossin. The Ebrahimis, although now living in Medford, Oregon, continue their membership with the White Pine Chapter and hopefully will join us on future outings!

Once again we lucked-out with the weather, at least during the daytime, and were treated to a grand display of wildflowers in peak bloom. Even a mountain goat and her kid put on a show for us.

We were ably guided by the two members who wrote the book on the flora of the Seven Devils Mountains, namely, Dick Bingham and Clyde Miller. Outstanding were displays of *Penstemon globosus*, *Lupinus laxiflorus* var. *laxiflorus*, *Eriogonum ovalifolium* and *Phacelia seicea*.

On Sunday morning we hiked the short trail to Heaven's Gate Lookout Tower for a panoramic view across Hell's Canyon, the Wallowas in Oregon and eastward into central Idaho. Later, we walked along the crest trail in the wilderness area which began north of the lookout parking lot.

Clarkia Fossil Beds, September 18, 1993

- Cathy Snider, Calypso Chapter. Reprinted from the *Calypso Companion*, October, 1993

Dr. Bill Rember of the University of Idaho led a group of about 20 members from the Calypso and White Pine Chapters on a wonderful field trip of the Clarkia Fossil Beds. We stopped first about five miles south of St. Maries to look at a good example of a flow of pillow basalt. He then took us to the digging site near Clarkia, where we all collected some wonderful plant fossil specimens that were 15 million years old! The group went to a site where we were able to see the actual plant material. We're lucky to have these great sites so near, and are grateful to Dr. Rember for taking us on this wonderful expedition.

SAGEBRUSH MANAGEMENT CHANGES IN RECENT DECADES

- Mary McClanahan, Pahove Chapter

Members of the sagebrush genus *Artemisia* are the most widespread and common shrub in North America, occupying land in 11 western States and encompassing about 270 million acres. Prior to the 1970's, range managers worked to eradicate *A. tridentata* in areas designated for grazing, believing this would increase the availability of grasses and herbs for forage.

Initial Management Focus

Early workers in range improvement of sagebrush-grass rangelands considered sagebrush to be a worthless plant of low value for forage. It was seen as an invader on intermountain rangelands, and not as a natural component of the environment. Although these lands had been subject to continuous and often excessive grazing since European settlement in the late 1800's, there was little suggestion that overgrazing had contributed to any decrease in forage.

The accepted idea was that grazing levels could and should be kept as high as possible through artificial control of sagebrush, because sagebrush, and not overgrazing, was thought to be the primary threat to the amount of forage available to livestock.

Management practices on sagebrush lands were mostly directed toward eliminating the species. Sagebrush eradication efforts included using herbicides, fire, and mechanical means. "Range managers got especially excited" with the development of herbicides after World War II, because they were found to be particularly effective in destroying sagebrush. Burning was widely used, often with mixed results. The primary objective was to reduce sagebrush competition and allow an increase in palatable native forage plants. It was recognized that a fairly healthy grass understory had to exist for grass cover to increase following sagebrush control. If the range had been so overgrazed that native grasses were too sparse, seeding with introduced grasses was common. Also, sagebrush would often reinvade treated areas, making the increase in forage production a short lived phenomenon.

By the 1960's, sagebrush eradication methods were well standardized, and an estimated 5 - 6 million acres of sagebrush had been treated by some method. Researchers were congratulating themselves for returning

large areas previously dominated by big sagebrush to a "climax" condition of grasses.

While many range managers were extolling the virtue of sagebrush eradication, wildlife biologists were discovering the importance of sagebrush as both forage and habitat for wildlife. While one group was trying to eradicate sagebrush, another group was beginning to discover how important it was!

There was some recognition of the value of sagebrush as forage early on. It was known to be a nutritious and important forage for sheep, often being the sole source of forage on overgrazed winter ranges, and an important feed for deer. The importance of sagebrush as a food source and habitat for sage grouse was also recognized rather early.

The idea that sagebrush was important both as wildlife forage and wildlife habitat continued to gain acceptance throughout the 1970's and 1980's, and suggestions were made about managing it for its resource value.

The State of Sagebrush Management Today

Today, sagebrush has been accepted as the dominant species of a vital climax ecosystem. Sagebrush eradication efforts by public land management agencies are generally no longer practiced.

The fear today is that we are in danger of losing what sagebrush is left. Many millions of acres of former sagebrush-perennial grass communities have been converted to annual grasslands dominated by introduced weedy species, primarily cheatgrass (*Bromus tectorum*), and spread by recurring wildfire.

As a result, efforts today focus on rehabilitating damaged sagebrush rangelands, using sagebrush seedings and plantings for habitat restoration and soil stabilization.

However, significant advances are necessary before these concepts can be practically used to save and enhance natural recovery of a valuable ecosystem that for years was deemed worthless.

For Further Reading . . .

Anderson, J. E. and K. E. Holte. 1981. Vegetation development over 25 years without grazing on

sagebrush-dominated rangeland in southeastern Idaho. *J. Range Manage.* 34: 25-29.

Bartolome, J. W., and H. F. Heady. 1978. Ages of big sagebrush following brush control. *J. Range Manage.* 31: 403-406.

Frischknecht, N. C. 1978. Effects of grazing, climate, fire, and other disturbances on long-term productivity of sagebrush-grass ranges. Proceedings of the First International Rangeland Congress, Denver, CO, Aug 14-18, 1978.

Harniss, R. O., and R. B. Murray. 1973. 30 years of vegetal change following burning of sagebrush-grass range. *J. Range Manage.* 26: 322-325.

Hull, A. C., N. A. Kissinger, and W. T. Vaughn. 1952. Chemical control of big sagebrush in Wyoming. *J. Range Manage.* 5: 398-402.

McArthur, E. D. and A. P. Plummer. 1978. Biogeography and management of native western shrubs: a case study, section *Tridentatae* of *Artemisia*. *Great Basin Naturalist Memoirs* 2: 229-243.

Mueggler, W. F., and J. P. Blaisdell. 1958. Effects on associated species of burning, rotobearing, spraying, and railing sagebrush. *J. Range Manage.* 11: 61-66.

Owens, M. K. and B. E. Norton. 1990. Survival of juvenile basin big sagebrush under different grazing regimes. *J. Range Manage.* 43: 132-135.

Robertson, J. H. 1947. Responses of range grasses to different intensities of competition with sagebrush (*Artemisia tridentata* Nutt.) *Ecology* 28: 1-16.

Thilenius, J. F., and G. R. Brown. 1974. Long-term effects of chemical control of big sagebrush. *J. Range Manage.* 27: 223-224.

Vale, T. R. 1975. Presettlement vegetation in the sagebrush-grass area of the Intermountain West. *J. Range Manage.* 28: 32-36.

Yensen, D. A. 1980. A grazing history of southwestern Idaho with emphasis on the Birds of Prey Study

Area. Prog. Rep. Contract 52500-CT5-1002. Boise, ID: U.S. Department of the Interior. Bureau of Land Management.

A full reference list is available for this article. Please contact the editor (address on the last page).



The following article raises points that may be directly at odds with the goals of some members of the Idaho Native Plant Society. I would welcome any response, positive or negative, and particularly from individuals with specific insight into or experience with revegetating public rangelands with native plants. Please direct your response to the editor (the address is on the last page).

THE NEW RANGE WAR - NATIVE VS. INTRODUCED SPECIES

- Day Asay, Jerry Chatterton, Howard Horton, Kevin Jensen, Tom Jones and Melvin Rumbaugh, from Utah Science, Fall 1992. This excerpt originally appeared in Sego Lily, May/June 1993.

This range war probably won't be a big draw at the box office. No bellicose barroom brawls, bullets or confrontations under open skies. The combatants in this conflict dodge paper fusillades, nurse ulcers and batter each other with competing paradigms. A lot of the battles are fought in carpeted rooms where the tones are polite, the arguments become soporific and the air is conditioned and filtered.

But don't kid yourself. There's a lot at stake here, much more than when sheepherders and cattlemen noisily squared off last century. Public rangelands, which were always an ecological experiment on a grand scale, are now becoming an ecological experiment on a deliberate scale.

The debate is percolating through academic institutions and government agencies, accompanied by a blizzard of papers, memos, articles and faxes. Livestock producers have a definite stake in the outcome, although they have much less say in the matter than they did a century or so earlier. This is definitely a twentieth century range war, a feisty hybrid of economics, politics and science.

The main issue is biological diversity on public rangelands; nearly everyone agrees that more is desirable. Beyond that, however, matters become muddled and consensus thins dramatically.

In the 1930s, millions of acres of public rangelands in the West were planted to introduced species, most of them grasses that thrived on abandoned farmlands and lands scarred by drought, erosion and overgrazing. At the time, the fact that these plants weren't indigenous to the area, or that they were planted in tracts large enough to be visible from outer space, wasn't nearly as important as the fact that they healed

the battered landscape. Forage for livestock was an added bonus.

Things have changed. As more of the country is slathered in concrete and asphalt, public lands are viewed as ecological treasures. The introduced grasses, once viewed as replenishing the landscape, are now criticized as interlopers. Critics claim that lush growth masks an impoverished ecosystem and that while native vegetation may not support as many cows, sheep and big game, it nourishes a richer and more diverse ecosystem, which they want back.

They might not be able to have it, but not because people aren't trying.

Perhaps the most famous (or notorious, depending on your perspective) of the nonnatives is crested wheatgrass, which had been seeded on more than 1 million acres in the West by 1981 and which probably occupies an even greater acreage today. It offers excellent grazing but many criticize these large monocultures as an assault on biological diversity, an opinion that was easy to form considering some of the gargantuan reseeding efforts in the 1950s in which crested wheatgrass carpeted the horizon in every direction, a particularly disconcerting sight in late summer when the growth of crested wheatgrass falters and turns brown. Most range managers now disavow such large-scale, single-species seedings.

"I chose to work with crested wheatgrass because of its excellent grazing qualities", says Kay Asay, a geneticist with the USDA Forage and Range Research Laboratory, who has studied the grass for 18 years. But that's not all. Crested wheatgrass is easy to establish, has good-quality seed and has the ability to shrug off drought, diseases and insects, as well as tolerating grazing. It also stabilizes sites by reducing erosion. "Although it was once seeded in monocultures, there's no reason that it can't be grown with other species, including natives", Asay says.

That's not enough to assuage some critics. Crested wheatgrass is foreign. (It originated in Asia.) And one of the basic ecological principles is that native plants should fare well on sites where they originated – with the caveat that these sites haven't been altered.

Most have, and that's the crux of the problem. Soils have eroded. The microclimate has changed. As a result, natives often do poorly on sites where they originally flourished and the choice is often not between introduced grasses and native plants, but between introduced species and bare erodible soil. Or between improved introduced species and cheatgrass, a particularly nefarious annual weed that has elbowed out other vegetation on millions of acres in the Intermountain

West and which makes it even more difficult to establish perennial seedings.

One suggested tactic—let introduced species upgrade ranges and improve the microclimate so natives can gain a foothold.

The issue of native versus introduced species has been around for awhile. Some of the first attempts at revegetation of western rangelands used native grasses. Only after these attempts failed did scientists turn to introduced species that were adapted to the altered rangelands.

Jerry Chatterton, research leader of the USDA's Forage and Range Research Laboratory who oversees a team of plant breeders, plant physiologists, range scientists and plant geneticists, views the bias against "foreign" plants as debilitating and as short-sighted as similar discrimination against humans, the product of a misplaced belief that any native plant is, *ipso facto*, automatically and intrinsically better than a nonnative plant.

Many people assume that a native plant has an ecological edge over a nonnative plant, the result of their adaption to sites over eons. That's only true if plants and sites evolved together, and if the sites haven't been altered.

A concomitant belief is that a nonnative plant has aggressive and invasive tendencies that threaten to overwhelm the entire ecosystem.

Chatterton admits there is evidence for both beliefs. Weeds and pests carelessly or accidentally introduced in the past have cut a wide and devastating swath through large sections of the country. However, the USDA has stringent guidelines and procedures now to guard against the introduction of any organism of this type.

In effect, plant breeders say they are able to tailor plants to survive specific sites, mimicking natural adaptation that would otherwise take thousands of years, or circumventing site restoration that would be

prohibitively expensive. It may not be ideologically pure, but it works. And it works well.

There is concern that introduced plants will become naturalized and perpetuate themselves at the expense of other native species, but crested wheatgrass is an example of an introduced plant that has proven to be remarkably well mannered. It is less aggressive than critics think, in spite of its visibility. In the western Great Basin, it has seldom wandered from the rows where it was planted 40-60 years ago. It hasn't died out in spite of severe grazing and an inhospitable climate, nor has it regenerated itself and threatened to crowd out

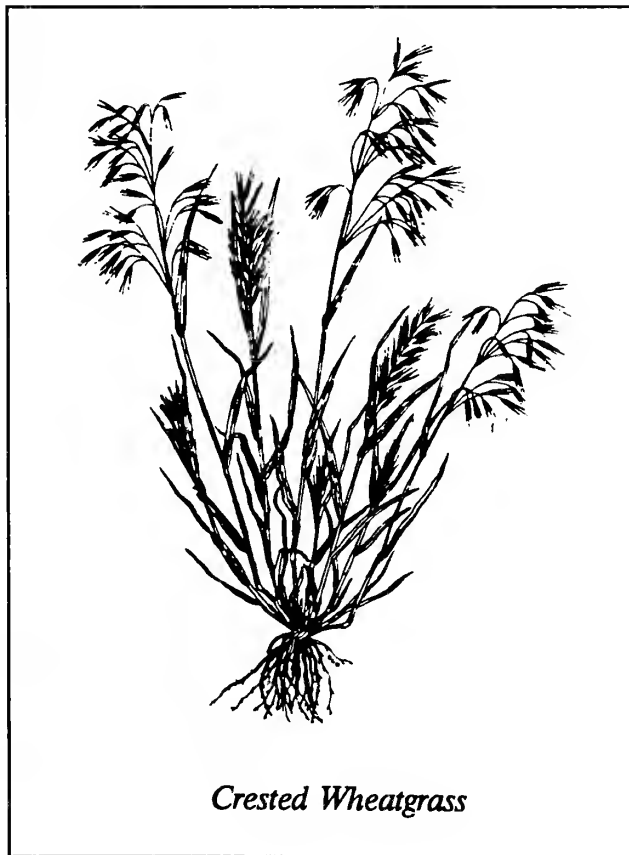
other plants. If not already present, similar traits can be bred in other introduced plants.

Native plants that can assert themselves would definitely make for a more varied landscape. Tom Jones is studying several promising native species, including bluebunch wheatgrass, Snake River wheatgrass, Indian ricegrass and Basin wildrye. There's commercial interest in all of these species, although efforts to improve them via hybridization and artificial selection lag far behind progress with introduced species.

Jones says the evaluation of promising accessions collected by the Soil Conservation Service and other agencies is a "logical first step, but if possible we would like to move beyond evaluation and into plant breeding". This requires a resolution to the

thorny question of how much human intervention is compatible with "native plants".

Natives may have more exacting planting requirements and may entail more risk than introduced species, but that doesn't mean natives should summarily be rejected, says Mel Rumbaugh, plant geneticist with the USDA. Many of the problems with natives can be solved by learning their germination requirements and by employing better seeding techniques. He also notes that any limits on introduced plants that curtail forage



Crested Wheatgrass

production on public lands could provide additional incentives to increase forage production on private lands, which are usually more fertile.

"The next 10 years are going to be very interesting", Rumbaugh says. "It's a very emotional issue. I anticipate that there will be restrictions on where introduced species are allowed because of the strong public support for reintroducing native plants, even among many scientists who view species as intact, distinct entities".

Many Americans like the idea of restoring rangelands to their "original" condition. Nurturing native vegetation could salve our conscience about a host of unnatural acts, ranging from the widening ozone hole to trammeling of native culture. Most probably envision lush, productive, low-maintenance rangelands when they think of native vegetation, or at least a chance to snatch our pristine, wild past from the clutches of cows or the peregrinations of scientists who simply won't stop tinkering with the natural order of things.

If only that were so.

The argument that an introduced plant may be better suited to a site than a native plant often falls on deaf ears. As we become more insulated from natural rhythms, natural (read native) sells in a society with a penchant for anything "natural", whether it's crackers, shampoo or socks.

"Millions of dollars are wasted every year in attempts to re-establish native plants on sites they are no longer adapted to", Chatterton says. "This is irresponsible."

"For years I have asked to see a successful planting of native plant on more than an acre or two of rangeland. There aren't any."

I would like to purchase seeds of *Peony bronnii* and *Peony californica*. Please reply to E. Halas, P.O. Box 2682, Detroit, Michigan, 48231

NOTE: *The next SAGE BRIEFS will be for December, and the next SAGE NOTES will be for February. Please send all articles, illustrations, and anything else for publication to the editor (address on the last page) by the end of December. THANKS!*

Leslie Gulch Management Plan Information

- Ann DeBolt, Pahove Chapter

If you are interested in the management of the Leslie Gulch Area of Critical Environmental Concern (ACEC), contact the Vale District Office of the Bureau of Land Management. Management alternatives for this ACEC, which supports five federal candidate plant species, are currently being evaluated. The deadline for comments on the three alternatives for the management plan was October 14. The next phase will be to develop a preferred management alternative and an environmental assessment. These documents should be available for public review in December, 1993. A draft ACEC management plan should be available for public review in March, 1994. If you would like copies of these documents, contact Ralph Heft, Malheur Resource Area Manager, Vale District Office, BLM, 100 Oregon Street, Vale, Oregon 97918.

Idaho Teens Place 4th in Enviro-bee

- Submitted by Nancy Cole from the *Environmental News Briefing*, 31 August 1993

An Idaho high school placed fourth among a field of 21 other schools in the 1993 National Envirothon Competition held July 31-August 5 in Niagara Falls, New York. The team members from West Jefferson High School, located in Terreton, a small eastern Idaho farming community, received a plaque for their efforts. Teams placing first through third, Maryland, New Hampshire and Connecticut, won cash prizes up to \$500. High school students begin studying environmental issues early in the school year to provide for the problem-solving competition. *In 1995, the event will be held in Idaho.* For more information, call James Hotaling at (315) 252-4171.

Native Garden Update - Second Installment (!)

- Laura Bond

The garden looks much as it did last September, when I put together the first installment article. Since then, a new job and commitments to the former one have kept me away from the project. Hopefully I will have done more by the next newsletter . . .

NEW BOOK TITLES

California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California, Fifth Edition, by Mark Skinner and Bruce Pavlik. CNPS, \$22.95, 264 pp.

Over 300 new taxa have been added to the 5th edition, presenting information on distribution, rarity, endangerment, legal status, habitat, plant growth form, blooming time and literature sources for over 1,700 species, subspecies and varieties of California's increasingly endangered flora.

(The following two reviews appeared in the October, 1993, newsletter of the Wyoming Native Plant Society)

Vascular Plants of Wyoming, Second Edition, by Robert Dorn, illustrated by Jane Dorn. Mountain West Publishers, \$13.00, 340 pp.

The single most authoritative reference on the flora of Wyoming has been revised. The second edition of *Vascular Plants of Wyoming* follows the format and philosophy of the original, but has been updated to include new taxa, nomenclatural changes, and new distribution records. Bob Dorn has also added a second, technical key to the willows, reflecting the latest developments in his on-going effort to bring clarity to the genus *Salix*!

If this book is not available at your local bookstore, it may be purchased by mail from the publishers at P.O. Box 1471, Cheyenne, Wyoming 82003 (Wyoming residents please add appropriate sales tax for your county.)

Handbook of Rocky Mountain Plants, Fourth Edition, by Ruth Ashton Nelson and revised by Roger L. Williams. Roberts Rinehart Publishers, \$19.95, 444 pp.

Nearly 25 years after it first appeared, Ruth Nelson's *Handbook of Rocky Mountain Plants* is back in a new, revised format. In crafting this new volume, Roger Williams has maintained the simplicity and clarity of Mrs. Nelson's original work, while expanding its focus to include a wider array of species. True to the original, the keys are written in non-technical language, and the text is a readable mix of descriptive and natural history information. The excellent line drawings of Dorothy Leake nicely complement the keys and text.

Williams has introduced a few changes in the book. Families are now arranged by the Cronquist method. Likewise, taxonomic nomenclature has been updated and Latin names are given equal billing with the common names in the keys. These changes help make the book useful to the lay audience as well as advanced amateur and professional botanist.

Good Stuff

The 1994 **Idaho Horticultural Convention and Trade Show** is scheduled for **January 20-22** in Boise, Idaho at the Boise Centre on the Grove. Over 135 exhibitors and 40 hours of seminars are scheduled for this year's event. For more information and registration, please contact the Idaho Nursery Association at 1-800-INA-GROW.

The California Native Plant Society is pleased to announce the *Electronic Inventory*, a computer program that provides instant, simplified access to the detailed information contained in CNPS's *Inventory of Rare and Endangered Vascular Plants of California*. Available after January, 1994; please call (916) 447-CNPS for information.

Botanical Boners

- John Baxter, reprinted from the October 1993 newsletter of the Wyoming Native Plant Society

Botanical Boners collected from student quiz and exam papers, reproduced exactly as originally written (and intended?):

PLANT ANATOMY: The cell wall is composed of plastic and cellulose. When water goes out through the periant differential membrane of the cell, the cell is plasmolyzed. This is called plasmolyses. The cambium divides radially and forms xylem and phloem. The phloem is composed of sieve tubes and vessel fibers. In the leaf, most of the photosynthesis is carried on in the palisade layer. A saprophyte is a plant that stores sap. The Ohio buckeye is perennially veined and gametely palmated.

SAGE NOTES is published in February, May, September and November and SAGE BRIEFS is published in January, April, June and August by the Idaho Native Plant Society, incorporated since 1977 under the laws of the State of Idaho. Newsletter ads: personal ads \$2.00, commercial ads \$5.00 for 1/8 page, \$8.00 for 1/4 page, \$15.00 for 1/2 page and \$25.00 for full page. Ads should be sent with payment. Members and others are invited to submit material for publication. Articles in any form, even hand-written, are welcome. Please provide a phone number in case there are questions. Materials will not be returned unless specifically requested. Send submissions directly to the editor. Please contact the editor about specifics regarding computer compatibility.

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The Idaho Native Plant Society (INPS) is dedicated to promoting interest in native plants and collecting and sharing information on all phases of the botany of native plants in Idaho, including educating the public to the value of the native flora and its habitats.

Membership is open to anyone interested in our native flora. Send dues and all correspondence to INPS, Box 9451, Boise, ID, 83707.

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 None. Those who do not live near a chapter are especially

encouraged to join. We can put you in touch with other members in your area, and can coordinate with you on any state level activities you may wish to be involved in. New chapters may be forming in eastern and northern Idaho.

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