

Dates to remember

2011 INPS ERIG
Proposals deadline
March 31 (p.15)

Celebrate Native Plant
Appreciation Week,
April 24-30

American Penstemon
Society proposals due
May 31 (p.14)

INPS 2011 Annual
Meeting June 24-26
Castle Rocks State
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National Reserve (p.16)

2012 INPS Calendar
Photo Contest entry
deadline July 31 (p.3)



IDAHO NATIVE PLANT SOCIETY

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Articles contributed to
Sage Notes reflect the
views of the authors and
are not an official posi-
tion of the Idaho Native
Plant Society.



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Wet forests on the west slope of the Bitterroots of global significance

by Paul Alaback, Professor Emeritus of Forest Ecology, University of Montana

Driving along the sinuous route of Highway 12 towards Montana it is easy to take for granted the seemingly endless dense, dark forest of red cedar and grand fir along the Lochsa River corridor. Proposals for expanding the highway or for allowing larger trucks to haul hazardous loads along this narrow road have been in the news lately. In discussions related to these proposals, what is often overlooked is that this forest has many historical and botanical attributes which make it one of the more unique and scientifically valuable forests in the entire Rocky Mountain region.

A series of scientific studies going all the way back to Rexford Daubenmire's classic work, starting in the 1940s, have shown that many vascular plant species here appear to have close connections to coastal temperate rainforests of Oregon and Washington. More recent studies have shown that moss and lichen species have even closer ties to coastal rainforests than the vascular plants, especially to forests in British Columbia where oceanic lichens are well represented.

I have spent much of my career studying the ecology of temperate rainforests, mostly in coastal Alaska, British Columbia, the Pacific Northwest, and in southern Chile and Argentina. After moving to Montana in the early 1990s, I was struck by how similar the forests in the Lochsa were to the forests I studied in the Pacific Northwest, especially in contrast to the ponderosa and lodgepole pine forests that dominate so much of the Northern Rockies. After studying the disturbance ecology of forests on the north fork of the Clearwater River, and taking many students to the Lochsa drainage, it became clear to me that these forests were quite fascinating and deserving of further study.

This ecosystem is what ecologists and biogeographers call an "interior rainforest," a global oddity. Idaho has the largest and most unique interior rainforest in the world. While moist forests similar to the temperate rainforests of the Pacific Northwest coast were once common in our region, the forests of the upper Lochsa River and the north fork of the

Continued on p.4

Photo above: Waterfall on a creek on the North Fork of the Clearwater River, Aquarius RNA. Notice the large and diverse carpet of mosses and lichens. These microsites often harbor a rich assortment of relict coastal plant species. Photo: Paul Alaback

Idaho Native Plant Society

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Sage Notes, the newsletter of the Idaho Native Plant Society, is published in February, May, September, and December. Current and recent past issues of *Sage Notes* are available in full color on the *Sage Notes* page of the INPS web site: www.idahonativeplants.org/news/Newsletters.aspx, along with a searchable index of issues from 2006-2010. Older issues are being scanned and added as time allows.

Submissions: Members and non-members are invited to submit material for publication. Relevant articles, essays, poetry, news and announcements, photographs and artwork are welcome. Authors, artists, and photographers retain copyright to their work and are credited in *Sage Notes*. Send all submissions electronically to the editor at the email address below. Submission guidelines are posted on the INPS web site: www.idahonativeplants.org/news/Newsletters.aspx. Please provide a phone number and/or email address with your submission. Submission deadlines are January 8, April 1, August 1, and November 1.

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Sage Notes Editor: Jane Rohling
[sage_editor at idahonativeplants dot org](mailto:sage_editor@idahonativeplants.org)
Phone: (208) 938-3529

Greetings from your new Sage Notes editor,

I agreed to meet a friend at the Pahove Chapter's pizza picnic in September thinking it would be nice to check out a new organization. By the end of the evening, I had joined INPS and offered to be the new editor of *Sage Notes*. I'm excited to have the opportunity to work with INPS and to meet members across the state.

By profession, I am a natural and cultural history interpreter. The seeds of my "career" were planted when I was in high school—after my first wilderness canoe trip in Quetico Provincial Park in Ontario (1969) and my experience as an organizer of the first Earth Day event at my school in a suburb of Chicago. At that time my artistic interests focused in on nature photography, which remains a passion and a tool for my work.

I graduated from Southern Illinois University in Carbondale with a BS in Environmental Interpretation (1978), earned through a special major program combining natural sciences (ecology, botany, zoology, and geology) with photography, art, interpretation, outdoor and environmental education.

After college, I first worked as a naturalist with the Tennessee Valley Authority at Land Between the Lakes in western Kentucky and Tennessee. From there I moved to Raleigh then Chapel Hill, North Carolina where I spent eight years as a regional conservation information/education representative with the N.C. Wildlife Resources Commission. My next move was to the U.S. Fish and Wildlife Service position as the Southeast Region's interpretive specialist based in Atlanta, Georgia. I provided interpretive assistance and coordinated production of brochures for national wildlife refuges and fish hatcheries in the 10-state region.

I moved to Clarkston, Washington in 1992 for a position with the Wallowa-Whitman National Forest as the interpretive planner/designer for Hells Canyon National Recreation Area. In 1995, I moved to the Hells Canyon office in Enterprise, Oregon and added managing the Wallowa Mountains Visitor Center to my duties. I reluctantly left Hells Canyon in 2000 and relocated to Boise (Eagle) to manage the U.S. Forest Service Fire and Aviation web site at the National Interagency Fire Center. In 2002, I joined the Forest Service Enterprise Team Interpretive Arts Unlimited! and worked on Forest Service interpretive projects in North Dakota, Arizona, Oregon, California, Nevada, and New Mexico. In October, 2007, after 28 years of government work, I launched my free-lance interpretive consulting, planning and design business, Jane Rohling Communication Arts.

Examples of projects I've worked on can be seen at Pittsburg Landing, Granny View and Hat Point, Cache Creek, or Hells Canyon Creek in Hells Canyon NRA, and on alpine trails on Mt. Howard near Wallowa Lake in Oregon. In the Boise area, I was instrumental in developing the Idaho Black History Museum exhibits, produced an interpretive sign for Blacks' Creek Reservoir for Golden Eagle Audubon Society, and designed exhibits on watershed, snow science, wildlife, and recreation at Bogus Basin for the Boise National Forest. I am currently working on signs for the Star River Walk (on the Boise River in Star, ID) and the Oregon Trail-Bear Lake Scenic Byway in southeast Idaho.

I look forward to participating in field trips and meeting INPS members. Don't hesitate to contact me with ideas for *Sage Notes* or questions about submission guidelines. Your comments and feedback will be appreciated!

Jane Rohling, Sage Notes Editor

INPS NEWS

Announcing the 2012 INPS Calendar Photo Contest

The Idaho Native Plant Society is pleased to announce our 2011 Photo Contest. Society members are encouraged to submit photographs of plants native of Idaho for use in the 2012 INPS calendar as well as other Society publications. We are looking for photos that will help the Society promote native plants and habitats and bring greater public awareness of the special flora of Idaho. Photographers will be credited in any calendar or other document in which their photographs are used.

Who may submit photos? INPS members or their immediate family members are eligible to submit a maximum of 5 photos per individual.

Deadline for entries: Photos will only be accepted until July 31, 2011 in order to give the contest committee time to judge the photos and the calendar committee time to produce a 2012 calendar.

What format of photo is acceptable? Up to five (5) high-resolution digital images may be submitted by each individual. Prints and slides must be digitized by the entrant so the photo may be submitted in digitized format. A digital image to be eligible for a main page of the calendar must be of sufficient resolution to create a high quality print approximately 6" high x 9" wide (landscape) or approximately 7.5" high x 5" wide (portrait). Landscape format photos are more easily incorporated in the calendar.

Each image file may have the photographer's name and contact information embedded in the file properties (IPTC metadata) but this is not required. You can locate these by

right-clicking on the image and then going to the properties option. The actual file name of the photo should not include any identifying photographer information to preserve anonymity during judging.

How do I submit a photo entry? Submit digital images by email preferably, or by U.S. mail on a CD. In either case, each image must be accompanied an entry form. The entry form, which is available on the state INPS website (www.idahonativeplants.org), can be cut and pasted into a Word document and attached to the email.

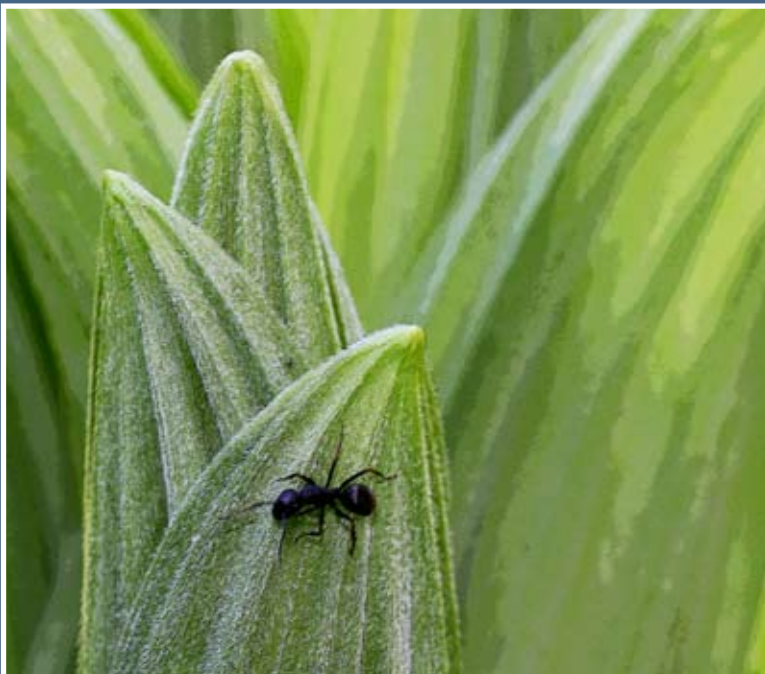
Email submissions: send the images and entry forms to inps-photo@idahonativeplants.org. Please use INPS Photo Contest in the subject line.

U.S. mail submissions: send a CD of up to five images accompanied by an entry form for each photo to:

Idaho Native Plant Society
INPS Photo Contest
2955 S. Marsh Creek Road
McCammon, ID 83250

Copyright and granting of rights: The photographer will retain the copyright of images he or she submits. INPS will have the right to use the images submitted in documents promoting Idaho native plants for two years from the deadline for submittals.

INPS News continued on p.15



False hellebore (Veratrum viride) Photo by Jane Rohling



Celebrate Native Plant Appreciation Week April 24-30, 2011

Chapters will be planning events
associated with Native Plant
Appreciation Week.

If you are aware of opportunities for
INPS to promote this week
at the state or chapter level,
please notify an
INPS state or chapter officer.





Cedar bough
Photo:
Jane Rohling



*Left: Lush grand fir and western red cedar forest in the Aquarius RNA with a dense carpet of *Dryopteris* and *Athyrium* ferns on the forest floor.*

Right: Interior rainforests usually have a rich assortment of epiphytic plants that cling to branches and bark of old trees. Devoto Cedar Grove, Lochsa drainage.

Photos: Paul Alaback

Interior wet forests *(continued from p.1)*

Clearwater River are among the few examples of these forests that remain. I contributed a chapter on these forests to a new book on the ecology and conservation of the world's temperate rainforests (*Temperate and Boreal Rainforests of the World: Ecology and Conservation*, edited by Dominic DellaSala, 2010).

Idaho's interior wetbelt forests are some of the most ancient forests on the North American continent and botanists believe this is explained by the geological history of our region. While we generally consider all of our mountains to be old in geological terms, the formation of the Cascade Mountain Range as a high and well-defined barrier to Pacific winds is actually a quite recent geological phenomenon.

Prior to the rising of the Cascades, the Bitterroot Mountains formed the western margin of the continent and moisture from the Pacific extended all the way into the forests of Idaho and western Montana. After the Cascades blocked the wet coastal winds from reaching the interior forests, this region became cooler and drier. Most of the temperate rainforests and many of their associated plant species disappeared. The principle exceptions to this pattern were in the mountains west of the continental divide in British Columbia and in scattered moist sites in Montana and Idaho. In places like the upper portions of the Lochsa

drainage, there was enough local moisture to allow many of the wet-forest species to persist. This helps explain the many endemic and genetically unique populations that have been documented in the area.

Tropical rainforests are well known as cradles of biodiversity and have been a key focus of global conservation efforts over the past several decades. Less well known are temperate rainforests which occur in ten principal regions across the globe, generally within 100 miles of the coast in regions where mountains tend to trap moisture from offshore winds.

The largest temperate rainforest region in the world—more than 40% of the global total—occurs from the redwood

“The interior wetbelt rainforest of the Rocky Mountain region is the largest known interior rainforest in the world.”

region in northern California north to south-central Alaska. Other regions with large temperate rainforests include southern Chile and Argentina (Patagonia), New Zealand, the Pacific coast of Siberia and Japan. While not necessarily global centers of biodiversity, temperate rainforests are unique for the large sizes and ages of

their trees, the amount of carbon stored in these ecosystems, and the conservation value of the watersheds and wildlife habitats they encompass.

The interior wetbelt rainforest of the Rocky Mountain region is the largest known interior rainforest in the world. This forest covers over 34 million acres



This forest covers over 34 million acres of land from central British Columbia south to the Idaho panhandle.

The oldest trees and the richest diversity of lichen and moss species in the northern Rockies occur in these forests. The greatest carbon stores per acre and greatest ecological productivity in the Rocky Mountains have also been measured in these interior rainforests.

So the next time you have the opportunity to travel to the red cedar, western hemlock

or grand fir forests of the Lochsa, take some time to look at the plants that can be found in these wet microsites. See if you can find some of the unique species that occur here. Learn what makes these forests so distinctive.

Relatively few studies have been conducted in these fairly remote interior rainforests. Many new and fascinating scientific insights into our most ancient and unique forests await your discovery there!

“...next time you have the opportunity to travel to the red cedar, western hemlock or grand fir forests of the Lochsa, take some time to look at the plants that can be found in these wet microsites. See if you can find some of the unique species that occur here. Learn what makes these forests so distinctive...”

Paul Alaback

Right: The North Fork of the Clearwater River in the Aquarius Research Natural Area is one of the largest examples of interior rainforests in Idaho with many rare and unique plant species.

Photo: Paul Alaback

Suggested reading

Bjork, C.R. 2010. Distribution patterns of disjunct and endemic vascular plants in the interior wet belt of northwest North America. *Botany* 88: 409–428 (2010)

DellaSala, D. (ed.). 2010. *Temperate and Boreal Rainforests of the World: Ecology and Conservation*. Island Press. ISBN. 978-1-59726-676-5 (paper)

Goward, T., and T. Spribille. 2005. Lichenological evidence for the recognition of inland rainforests in western North America. *Journal of Biogeography* 32:1209–1219

Editor's note: This article has been edited slightly. An unedited version is posted on the INPS web site:

www.idahonativeplants.org



Fortynine Meadows

Proposed Research Natural Area

Authors: Fred Rabe, Brett Haverstick, Elisabeth Brackney

Workshop sponsored by Friends of the Clearwater

Funded by the Mountaineers Foundation and the Idaho Native Plant Society's ERIG Program

Photography by Fred Rabe

Project objective

The objective of this project was to educate people about peatland ecosystems by conducting a two-day workshop at Fortynine Meadows, a tributary to the Little North Fork Clearwater River. Enrollees in the Fortynine Meadows workshop helped us gather plant and invertebrate data and became familiar with techniques employed in the collections. This information will be included in a proposal to the U.S. Forest Service requesting Research Natural Area designation for Fortynine Meadows.

General description

Peatlands are poorly drained areas whose substrate is periodically saturated or covered with water having a peat layer about 12 in. (30 cm.) or more in thickness. Reduction of oxygen and nutrients in this deep peat layer, combined with cool temperatures, limits microbial decomposition and reduces plant growth. As a result, peatlands rely on an external supply of nutrients from either the inflow of mineral-enriched water or precipitation.

Fortynine Meadows is about 100 acres in size. It contains a spring stream (Meadow Creek) where ground water aquifers discharge to the surface. Water is relatively cold and shows little temperature variation during the summer. It

is a first order stream with a low gradient (1-3%). Pools, runs and glides are the major flow patterns of Meadow Creek with a few riffles and cascades. A large number of stream channels coalesce to form larger channels. The bottom substrate is silt and organic material. Grass mats and aquatic moss provide the main habitat for aquatic invertebrates.

The dominant vascular plants in the meadow are fire thread sedge (*Carex prionophylla*) and cottongrass (*Eriophorum angustifolium*) occurring with the sphagnum (*Sphagnum* spp.) moss that covers the entire site.

Subalpine peatlands form along high-elevation, low gradient streams compared to valley peatlands like Hager Lake that occur at relatively low elevations in major river valleys (Bursik 1990). Subalpine peatlands are characterized by plant species common to the western cordillera, while valley peatlands have numerous boreal species whose populations are disjunct by hundreds of miles from the main portion of their range in Canada. Their formation is likely due to alpine glaciation during the Wisconsin glacial advance.



Cottongrass (*Eriophorum angustifolium*), prefers acidic waters typical in poor fens. It is the dominant species of sedge blooming in July. Seeds in the cottony inflorescences are wind-dispersed.



Note: This is an edited version of the article. The complete article, including a list of vascular plants collected, citations and references, is available online: www.idahonativeplants.org/erig/Erig.aspx



Location

Fortynine Meadows is located at the confluence of Meadow Creek and the Little North Fork Clearwater River in the St. Joe National Forest, about 15 miles south from Avery, Idaho.

poor habitat or water quality whereas *Baetis* can exist under a wider set of environmental conditions.

Plants

A hierarchical classification of semiaquatic wetland plants used by Cowardin et al. (1979) enabled us to define plant groupings in the meadow.

At the head of the meadow, small stands of forested wetlands were dominated by lodgepole pine (*Pinus contorta*) and subalpine fir (*Abies lasiocarpa*). Six additional conifer species occurred at the meadow's edge—a highly diverse situation for such a small area. Scrub-shrub communities were located mostly in the middle and southern end of the meadow with the dominant species being bog birch (*Betula pumila*) and western bog laurel (*Kalmia microphylla*). Cowardin considered herbaceous mats as a third class of wetlands. We did not identify mosses here, but it is believed that *Sphagnum* was dominant since the genus is characteristic of poor fens with low alkalinity.

Aquatic invertebrates

We identified 27 species of macroinvertebrates from moss, grass and open water habitats in Meadow Creek. Surprisingly, 12 species occurred in a pothole only six feet in diameter. All 27 species occurred in the aquatic moss (*Fontinalis neomexicana*), compared with seven species each in the grass and the open water.

The soft bottom substrate, consisting of fine silt and organic material, is typical of spring streams. However, it is much less productive than the rocky substrate at the confluence with the Little North Fork Clearwater River or the aquatic vegetation and open water in Meadow Creek we sampled.

Two species of mayfly (*Ephemerella* sp., *Baetis tricaudatus*) were dominant in the moss. As a source of food, they both collect and gather detritus and small algae. *Ephemerella* is unable to tolerate very

Above left: Present site of an abandoned beaver pond.

Above center: Fred Rabe sampling invertebrates from Meadow Creek.

Above right: A glide section of Meadow Creek. Water is shallow and slow moving, the bottom is silt, and the sedges and grasses in the riparian area cast little shade.

Left: Firethread sedge (*Carex prionophylla*) flowers primarily in June and is dominant at nearby Pinchot Marsh.

Right: Aquatic moss (*Fontinalis neomexicana*), found in Meadow Creek but not in the pothole ponds, provides suitable habitat for invertebrates.



Reference sites

Research Natural Areas (RNA) serve as reference points to observe changes on land and water over long periods of time—history books to help us understand events that shaped current conditions. Also, RNAs provide baseline data to measure our impact on the habitat by investigating natural systems and comparing them with those affected by human activities.

Water samples, plants and invertebrates were collected from 42 wetland sites in National Forests of the Pacific Northwest from 1987–89 (Rabe et al. 1989) including proposed and established RNAs, among them Fortynine Meadows. Alkalinity readings in the meadows have remained essentially the same (9–11 mg/l) since July 1988. Water temperature readings varied little from 47 degrees F (8 degrees C) during the summer of 2010. Temperatures were not recorded in 1988.

In northern Idaho, beaver have occupied and abandoned peatland sites similar to Fortynine Meadows. Over a period of about 20 years, beaver rebuild dams, raise water level, exhaust food supplies and abandon sites. Once they leave, a well-advanced succession occurs with less water enabling encroachment of pioneer species on the sphagnum mat. Two aquatic plants (*Sparganium* sp. and *Callitriche* sp.) occurred in beaver ponds in 1988, but were absent in 2010, probably because beaver had subsequently left the area. Additional aquatic and semiaquatic plants were not recorded in 1988 so it was not possible to make further comparisons.

Over the 22-year period (1988–2010) similarities and differences were noted in the aquatic invertebrate taxa at Fortynine Meadows. Seventeen species of macroinvertebrates occurred in 1988 compared to 27 species in 2010. However, more zooplankton species were observed in 1988 than in 2010. Species of fly larvae (*Diptera*), caddisflies (*Trichoptera*) and beetle larvae and adults (*Coleoptera*) were somewhat similar on both dates. However, mayflies (*Ephemeroptera*) and snails (*Gastropoda*) were dissimilar. Sample size for both dates was too small to distinguish other groups.

Reference areas can be used both to monitor and inventory the biota. Where management activities such as timber harvest and grazing occur within or adjacent to peatland sites, monitoring is recommended. Changes in water chemistry, vegetation and invertebrate communities have been monitored for many years at several Idaho and Montana peatlands. An inventory of the biota can provide important baseline information. The persistence or absence of plant and animal populations may be an indication of change or stability of an ecosystem. Moseley and Bursik (1992) used checklists prepared 20 and 40 years earlier and determined that several rare peatland plant species had disappeared from ponds in northern Idaho. On a smaller scale, this also happened at Fortynine Meadows.

Education

A handout describing the physical layout of Fortynine Meadows together with plant and invertebrate information was initially provided to the group. Workshop members rotated between sampling macroinvertebrates from stream and standing water, identifying conifers, and collecting vascular plants. A work table was set up at camp where plants were pressed and macroinvertebrates were identified to order. Class members participated in field data collection, benefiting from the hands-on learning experience. Discussing the results and research methods gave them a better understanding of the scientific method.

Acknowledgements

Financial support was provided by the Mountaineers Foundation and the Idaho Native Plant Society's ERIG program. Thanks go to Emily Poor, herbarium worker at the University of Idaho and Idaho Native Plant Society member, who identified some of the plants in the meadows. Also, thanks to Wade Hoiland, a past graduate student who keyed out some bothersome macroinvertebrates for his erstwhile major professor. We extend our special appreciation to the Great Old Broads for Wilderness who attended this workshop and helped us with the fieldwork. We couldn't have done it without you!

Fortynine Meadows is deserving of RNA status for the following reasons:

- It is an outstanding landscape comprised of a narrow strip of land 0.1 mile wide and 1 1/2 miles in length. Eight species of conifers border the site with a narrow spring stream meandering through the entire length of the meadows. Little sign of human impacts are evident.
- Vascular plant species here differ significantly from those in Pinchot Marsh, a small regional peatland managed by BLM. Additional plant identification to include bryophytes is proposed for Fortynine Meadows.
- The slow moving stream (Meadow Creek) consists mostly of runs and glides bordered by sedge and grass species. Twenty-seven species of macroinvertebrates occur in the aquatic moss (*Fontinalis neomexicana*). The moss provides additional structure and stability to the habitat ensuring greater species richness and invertebrate biomass.



Workshop participants learned about peatland ecosystems at Fortynine Meadows, a tributary to the Little North Fork Clearwater River.

Recommendations

- Future studies might compare the physical environment, riparian vegetation and macroinvertebrate communities of Meadow Creek (spring stream) with the Little North Fork Clearwater River (riffle-pool) downstream. Seasonal comparisons of invertebrate composition in ponds and potholes could be initiated since water levels fluctuate seasonally.
- Observations of future beaver occupancy would be interesting. Their ponds were common in 1988 but not at present. We have no idea when beaver abandoned the meadows. Continued investigations of this cyclic behavior would provide better records of resulting vegetation and invertebrate changes.
- Conduct a study to determine whether the northern bog lemming (*Synaptomys borealis*) lives in the meadows. This mammal, a species of special concern in Idaho and Montana, typically inhabits sphagnum bogs and fens but also other habitats.
- Accessibility to such an outdoor lab makes it easier to conduct research and educational workshops. Combining studies of physical features, hydrology, water chemistry, floristics and invertebrate communities enables us to better understand and appreciate this peatland ecosystem. Friends of the Clearwater and Idaho Native Plant Society are interested in further studies of the site.



Discussing the day's activities at camp, only a few miles north of the meadows.



Yellowstone raven
Photo: Jane Rohling

Botanist's bookshelf

Evert, Erwin F. 2010. Vascular Plants of the Greater Yellowstone Area: Annotated Catalog and Atlas (no ISBN, paperback). Published by the author. (Orders: yolandaevert at yahoo dot com, by phone 01-847-823-1501, \$45.00 by check payable to "Yolanda Evert," 1476 Tyrell Ave., Park Ridge, IL 60068, 751 pp., 8 1/2" x 10 7/8".)

Review by Ronald Hartman and Walter Fertig
Reprinted with permission from the December 2010 issue of Castilleja 29(4): 4, the Wyoming Native Plant Society's newsletter.

Vascular Plants of the Greater Yellowstone Area is a tome that represents the most complete and scholarly coverage of the flora to this diverse region, an area that attracts hundreds of researchers and millions of tourists annually.

Evert's lasting legacy will be his massive (751 page) Catalog. The book begins with an outstanding overview of the greater Yellowstone area, including a summary of its vegetation, climate, and geology. Other sections review the flora of each mountain range within the study area and the history of botanical exploration in the region. The bulk of the book contains a brief discussion of each of the 2082 vascular plant taxa known from the greater Yellowstone area that includes a description of its range, habitat, conservation status, and comments on taxonomic problems, as well as a dot map. The book captures Evert's four decades of field experience and knowledge of the Yellowstone area and is a critical update to the classic (but long out of print) floristic studies of Frank Tweedy, Per Axel Rydberg, and Aven Nelson.

A total of 2,082 species are treated across an area of more than 24,000 square miles, including Yellowstone and Grand Teton National Parks, with four counties represented in Wyoming, six in Montana, and two in Idaho. In addition to the more than 40,000 specimens amassed by Erwin, the holdings of the RM, MONTU, and YELLO were also consulted.

This book was published in May 2010 and the author died a month later. Two tribute articles written by some of Evert's colleagues are posted on the Wyoming Native Plant Society's web site: www.uwyo.edu/wynddsupport/WNPS/docs/Castilleja/2010_12.pdf

Memories of Erwin Evert, from Phil White's interview of Bob Lichvar

A Tribute to Erwin Evert, by Walter Fertig, Utah Native Plant Society



Wondering what these are?

Check out the back cover of Sage Notes for the explanation.



Small beetles massacre whitebark pines in the Rockies

by Elizabeth Shogren, Heard on All Things Considered, NPR
December 26, 2010

The high-elevation whitebark pine forests of North America's Northern Rockies have stood for centuries. But these evergreen forests are being transformed into eerie stands of red and gray snags at an alarming rate. An audio link and transcript of the interview with entomologist Dr. Logan is on NPR's web site at:

www.npr.org/2010/12/26/126107761/small-beetles-massacre-the-rockies-whitebark-pines?sc=fb&cc=fp

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Whitebark pine Photo: Jane Rohling



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Newsletter: Ardys Holte
Members at Large: Mel
Nicholls, Janet Bala, Karl Holte,
Dick Anderson, Judy Minshall,
and Catalina Steckbauer



Gooding sagebrush
Photo: Jane Rohling

CALYPSO CHAPTER

When: Meetings are the first Wednesday of March, April, May and October. Field trips are scheduled during the spring, summer, and fall. This chapter does not meet from November to February.

Contact: Derek Antonelli for more information at antonelli8@frontierdotcom

Mailing address: INPS Calypso Chapter, Derek Antonelli, 821 W. Mustang Ave., Hayden, ID 83835

March 2, 2011: Calypso Chapter Meeting will be held at the Life Care Center.

April 16, 2011: Tubbs Hill Field Trip
Meet at 10 a.m. at the 11th street parking lot.

May 7, 2011: Q'emiln Trails Field Trip
Meet at 10 a.m. A potluck at Asbell's home is to follow. The alternate rain day for the field trip is May 14, 2011

LOASA CHAPTER

All INPS members and the public are welcome to attend Loasa chapter events.

When: Meetings are held the third Thursday of each month

Where: Taylor Building, Room 258, College of Southern Idaho

Contact: Kelvin Jones at (208) 886-7051 for more information

PAHOVE CHAPTER

When: Meetings are the 2nd Thursday of the month from January through April

Where: Usually at the MK Nature Center Auditorium. Monthly meeting dates and topics are emailed and posted on the INPS website.

Contact: Susan at susan.ziebarth@idfg.idaho.gov about the Pahove chapter activities or visit the website: www.idahonativeplants.org

UPCOMING EVENTS

March 10: Plants and Peshmerga: Botanizing in Iraqi Kurdistan While chasing plants in Iraq might not be

everyone's cup of tea, Boise botanists Barbara Ertter, Christopher Davidson, and Sharon Christoph jumped at the chance to participate in the inaugural expedition for a new Flora of Iraq, in the mountains of autonomous Iraqi Kurdistan. Barbara will share some Kurdish history and describe the Flora of Iraq project. She'll relate the challenges of chasing plants in a region far removed from Idaho but with some surprising similarities in habitats. The area is home to many of our weeds and a source of plants suitable for our gardens.

April: Meeting date and subject TBA. Details will be posted on the INPS website. Pahove members will receive an email and postcard about this meeting and upcoming Wildflower Walks.

April 29-30: Pahove Chapter Annual Native Plant Sale is moving to a new week! The plant sale will be held during Native Plant Appreciation Week instead of Earth Day this year. We expect a crowd so arrive early to be sure to get your favorite plants!

Member's Only Sale: April 29, 5–7 p.m.

Public Sale: April 30, 10 a.m.–1 p.m.

Where: MK Nature Center, 600 South Walnut, Boise (behind the Idaho Fish & Game office)

Rare Plant Conference Update
The Rare Plant Conference (RPC) will not be held this February (2011). See page 14 for more information.

Plant Keying Workshops Don Mansfield will continue holding workshops to identify plants from the 2010 Idaho Botanical Foray to the Yankee Fork. The plants are all sorted to family and in most cases to genus. Participants can either choose a genus to work with or they will be assigned to a family or genus. The plants, microscopes, identification keys, and other resources will be provided. Bring goodies to share, if you like.

When: Thursday evening, April 7.

Where: Past workshops have been held at the College of Idaho herbar-

ium in Caldwell. Some workshops may be held at Boise State University's herbarium.

Contact: Don Mansfield, email: dmansfield@collegeofidaho.edu or call 208-459-5287 for information.

RECENT ACTIVITIES

December 10, 2010: Members of the Pahove Chapter enjoyed their traditional holiday party, potluck, and white elephant gift exchange. Thanks again to Roger Rosentreter for his light-hearted and entertaining role as Salmon Claus!

January 13, 2011: Insect pollinators: Honey bees aren't the only pollinators in town! and Basic bat facts and interesting tidbits on pollinating bats in North America. These presentations were a follow-up from the movie, **Queen of the Sun**, featured in November. Entomologist Jim Ryan shared some of his vast knowledge about other insect pollinators with humor and a little philosophy. Brenda Beckley of the Idaho Department of Fish and Game gave an introductory presentation about bats.

SAH-WAH-BE CHAPTER

Meetings: Nonmembers welcome.

When: All classroom meetings are held at 7:00 p.m.

Where: Plant Science (PLSC) Bldg 69, ISU, Pocatello, classroom 114

Contact: For more information call 208-716-0218

UPCOMING EVENTS

March 7: Mushroom Mania Do you know where they are hiding? A presentation by Michael Piep, Assistant Curator, Intermountain Herbarium, Utah State University, Logan, Utah.

April 4: Annual Chapter Meeting Time and location TBA.

May 2: Invasive Plants Time and location TBA.

RECENT ACTIVITIES

December 6: Sagebrush Land Trust conservation work in the Bear River Range Joselin Matkin with the Sagebrush Land Trust gave an educational presentation on the organization's conservation work in the Bear River Range of Southeast Idaho. A list of Sah-Wah-Be members and small jars of jelly made from native currant berries, choke-cherry berries, and elderberries from Hurricane Hill (southeast of Pocatello) were passed out. We wished each other a good holiday season.

January 8: New Year's Party Despite the cold, approximately fifty members of the Sah-Wah-Be Chapter gathered for a holiday potluck at the home of Cathy & Pete Frischmann on Saturday afternoon to enjoy each other's company. The chapter provided deep-fried turkey and bratwurst sausages as a main course. Several members snowshoed the quarter mile perimeter trail on the property as the sunshine illuminated the snow-covered mountains in our Portneuf Valley. We were delighted that Wendy Velman, her family and new baby, Madeline Elaine, joined us. A good time was had by all.

February 7: Photo Share Our members provided the February program, sharing their native plant or field trip photos. It is always fun to see other people's eye on the world through a camera lens!

Continued on p.14

SAGEbrush trivia

The species name for big sage, Artemisia tridentata, refers to the plant's three-lobed or toothed leaves, though leaves with more or fewer lobes can be found. Leaf size and the amount of lobing are good indications of the available moisture at the time the leaves were forming. Those formed during the moist spring will be larger and have more pronounced lobes. Those formed later will be smaller and may lack any lobes.

Shrubs of the Great Basin, Hugh N. Mozingo, 1987, University of Nevada Press

UPPER SNAKE CHAPTER

President: Sue Braastad
Vice President: Rose Lehman
Secretary: Alan Crockett
Treasurer: Heidi Heyrend

WHITE PINE CHAPTER

PO Box 8481
Moscow, ID 83843

President: James Riser
Vice President: VACANT
Secretary: Pat Fuerst
Treasurer: Elisabeth Brackney
Past President: Helen Yost
Landscaping & Restoration
Plants: Juanita Lichthardt
Newsletter: Michele Leavitt
Publicity Chair: Margaret Ely
Website: Patricia Hine

WOOD RIVER CHAPTER

P.O. Box 3093
Hailey, ID 83333
President: Carol Blackburn
Vice President: VACANT
Secretary: VACANT
Treasurer: VACANT



Eagle foothills
Photo: Jane Rohling

INPS CHAPTER NEWS

American Penstemon Society Grants Available

The American Penstemon Society is offering funding to projects with outcomes that will be practical and useful to members of the organization. Projects focusing on endangered penstemon species are also encouraged.

Those submitting requests for funding must be members of the American Penstemon Society. You may join in order to submit a project.

Grants are for one year and generally range from about \$200 to \$1,000. Details about the grant process and application forms are found under Special Projects on the organization's website: www.apsdev.org

Grant submission period:
March 1—May 31, 2011

Award announcements: mid-June

Award payment periods: The first half the award will be sent as close to July 1, 2011 as possible. The second payment will be made January 1, 2012 and is contingent upon receipt of a brief report demonstrating reasonable progress.

Contacts: Barbara Lewis and Lynn Ackerman, Co-chairs, American Penstemon Society Special Projects

Questions: Contact Barbara at 303-903-9278 and blewis@iriscolorado.com



Penstemon pollinator
Photo: Jane Rohling

Continued from p.13

UPPER SNAKE CHAPTER

When: Meetings are usually held the 3rd Wednesday of the month at 7:00 p.m. **Field Trips** are scheduled in the spring and summer.

Where: Idaho Fish and Game office in Idaho Falls

Contact: Sue Braastad, jscbraastad@gmail.com

UPCOMING EVENTS

February 16: Plant domestication project Steve Love from the University of Idaho will give a presentation on this interesting topic.

March 8: Annual Chapter meeting Michael Piep from the University of Southern Utah will speak about mushrooms. (Note: this is not the usual day of the month for our meetings.)

RECENT ACTIVITIES

October 20, 2010: Ethnobotany and primitive skills Our first meeting of the year was well attended with 51 people coming to hear Kevin Taylor speak about ethnobotany. Kevin gave a presentation about edible and medicinal plants and primitive skills such as fire starting, rope making and basket making.

November 17, 2010: Reflecting on the year Members brought slides of field trips. Wendy Velman and Sue Braastad brought fossils they collected at the annual state INPS meeting in June 2010.

January 19, 2011: Restoring habitat with native plants Gene Weller from BYU talked about restoring habitat with native plants for the benefit of birds.

WHITE PINE CHAPTER

Meetings: The White Pine Chapter looks forward to sharing the wonders of Idaho's diverse flora and vast native habitats with our mem-

bers, colleagues, and communities throughout the state during 2011.

For information about upcoming chapter meetings, presentations, field trips, and site tours, please visit the INPS White Pine website at www.whitepineinps.org.

During the spring and fall, meetings are held once a month. **Field trips** occur regularly whenever the weather allows.

Contact: James Riser at jriser@comcast.net or Helen Yost at helen.yost@hotmail.com or White Pine Chapter, PO Box 8481, Moscow, ID 83843.

WOOD RIVER CHAPTER

Contact: Carol Blackburn at blackburncrl@yahoo.com for information on activities and gatherings.

Idaho Native Plant Society FY 2010 financial summary

INCOME	
Memberships & Donations	\$ 4,425.57
Native Flora Workshop	1,331.00
Other	148.87
Total Income	\$ 5,905.44
EXPENSES	
Annual Meeting	\$ 1,291.36
ERIG Grants	523.17
General Administrative	220.84
Sage Notes Printing	4,055.11
Sales Tax	232.71
Total Expenses	\$ 6,323.19
ASSETS	
Bank account	\$ 8,271.43
6-month CD	2,914.49
Total Assets	\$ 11,185.92

Continued from p.3

2011 Education, Research, and Inventory Grant

The Idaho Native Plant Society (INPS) is soliciting proposals for its annual Education, Research, and Inventory Grant (ERIG) program. Grants of up to \$1,000 will be awarded in 2011 to support projects that contribute to the appreciation, conservation, or knowledge of Idaho's native flora or vegetation as funds become available.

The ERIG committee encourages you to submit a proposal if you have a project that may qualify. Previous grants have been used to fund scientific research and community projects such as illustrated native plant guides, interpretive kiosks, trail restoration and creation of native plant demonstration sites.

Successful applicants will be required to submit a final report to the INPS documenting project accomplishments and a summary of the project to be published in the INPS newsletter, Sage Notes.

The deadline for submitting proposals is March 31, 2011.

Grant requirements, guidelines and application procedures are on the INPS state website: www.idahonativeplants.org/erig/Erig.aspx

Please submit proposals by email to Janet Bala at balajane@isu.edu or by U.S. mail to: Idaho Native Plant Society, ERIG Committee Chair, P.O. Box 9451, Boise, ID 83707

2011 Rare Plant Conference Update

The 2011 Idaho Rare Plant Conference (RPC) has been canceled for this February. The conference was held annually for 23 years until 2007, and then was to take place biennially starting with the February 2009 conference. The conference consisted of an evaluation of the Idaho Native Plant Society's (INPS) rare species list and rankings, along with presentations, workshops, and a banquet. Evaluation of rare species was done by subjective consensus of those present based on information available. (Notes from the 2009 RPC have not been posted yet.)

A spring 2011 conference was not planned for this year, primarily due to the lack of volunteers to make it happen, and because the previous volunteers and agency folks are now spread too thin to take on this additional work. There was also concern about the defensibility of the previous method of evaluation, and a desire to use the more objective NatureServe Rank Calculator in order to be consistent with other states.

The need for updating the rare plant list is as great as ever. So, a group of area botanists and Pahove Chapter members are organizing a planning committee for an alternative-format conference, possibly to be held this fall. The date and type of meeting/conference are yet to be determined. If you have suggestions or are interested in participating in this committee, contact Beth Corbin at ecorbin@blm.gov.

A spokesperson for the Pahove Chapter will communicate the details to all state members and interested conference/ meeting attendees as soon as those details are ironed out. We are sorry for any inconvenience this may have caused for those who were planning to attend in February. On the bright side, we all have the annual meeting at City of the Rocks in June to look forward to!

Susan Ziebarth, Pahove Chapter President

ERIG needs your support!

The ERIG program has in the past relied on funding from various sources particularly proceeds from Rare Plant Conferences, Native Flora Workshops and private donations.

As there will not be proceeds from a Rare Plant Conference this year, INPS will need to rely more on private donations to support the grant program. Your contributions are very welcome and would allow INPS to continue funding these worthy projects.

Tax deductible donations can be sent to:

ERIG Program, INPS
P.O. Box 9451
Boise, Idaho 83707

Checks should be made out to INPS. Please be sure to specify that your donation is to be used for ERIG projects.

Thank you for your help!

Janet Bala
ERIG Committee Chair



[INPS ERIG guidelines and application procedures](#)



INPS Annual Meeting, June 24–26, 2011

City of Rocks National Reserve & Castle Rocks State Park

The Loasa Chapter will host the 2011 INPS Annual Meeting at the City of Rocks National Reserve and Castle Rocks State Park, both headquartered at Almo, in south-central Idaho near the northern edge of the Great Basin. Our gathering, scheduled June 24–26, 2011, affords great opportunities to observe native flora and unusual rock formations. The Saturday evening dinner and meeting will probably occur at the Ranch House within the state park, just northwest of Almo, while field trips will explore the City of Rocks and Castle Rocks areas.

INPS received the welcome letter on the next page from Wallace Keck, Superintendent of City of Rocks National Reserve and Park Manager at Castle Rocks State Park

Additional details are available on the INPS state website (www.idahonativeplants.org). Please contact meeting organizer, Valdón Hancock, with your questions on his cell phone, 208-420-9042, or at his home, 208-734-6935, or by email at [valdonh at yahoo dot com](mailto:valdonh@yahoo.com).

Enjoy outstanding botany, great geology, unique landscapes!

The City of Rocks National Reserve and Castle Rocks State Park offer some terrific field trip opportunities through an interesting range of habitats. The field trips below are options we think you'll enjoy. Don't forget to bring your camera!

Almo Creek wetlands and adjacent sagebrush-grass and pinyon-juniper types within the Ranch Unit of Castle Rocks State Park: This unit has a good network of trails and interesting microclimates adjacent to the many granite monoliths used by rock climbers. The wetlands area has uneven footing but the walk is otherwise fairly easy, generally within a mile of the facilities at the ranch house.

Circle Creek drainage: This would involve a shuttle to the upper edge of the drainage, within the City of Rocks National Reserve, and walking three miles downhill through several habitat types to the Circle Creek Overlook. This trail would provide the best opportunity to see a variety of habitat types plus superb vistas, but there are no facilities along the way.

Emery Canyon: This field trip involves a minimum amount of walking—a riparian area and a hillside are alongside the road. This option allows the opportunity to drive to other sites within the area.

Be prepared: All field trips will require plenty of water and sun protection. Packing a light lunch is advisable.



City of Rocks photos by Jane Rohling



Welcome from Wallace Keck, Superintendent & Park Manager, to INPS:

A thick blanket of snow covers the City of Rocks National Reserve and Castle Rocks State Park of southern Cassia County. The last of the flower heads of rabbitbrush and sage have long-since fallen, and all is quiet. The past 10 years, I have witnessed this life cycle of the Albion Mountains flora, and I know it won't be long before I am trudging through snow, up along the sun-dried Granite Peak looking for the first Anderson's Buttercup of spring. Soon thereafter, each species will rise up to reveal new life. I will be tracking their blooms—nearly 500 species—with great expectations of a banner year. This year (2011), the excitement is more intense as many of you will be joining me in the quest, as the Annual Native Plant Society members converge in the Almo Valley. And we are ready to show you the best this corner of Idaho has to offer.

The National Reserve is well known for its granite spires and monoliths—the same that inspired nearly a quarter of a million emigrants bound for California in 1843–1882. You will experience this grand scenery, cultural landscape and history, as you tag along with guides knowledgeable in the diverse flora akin to the Basin and Range province. Don't be surprised when you encounter species of the Northern Rockies and Snake River Plain as well, for the Reserve is located strategically at what scientists recognize as a bio-geographic crossroads. City of Rocks contains the largest pinyon pine forest in Idaho. Add to this habitat the mix of soils from grussic sands to thick loam along Almo and Circle Creeks and you have rich biological diversity—plants, mammals, and birds especially. As you enjoy all of these natural wonders, your eyes might just wander to the pinnacles as climbers from around the world test their skills on the best granite faces in the country.

You will be surprised how modern the accommodations will be in the midst of such primitive resources. From our first class RV campground at Smoky Mountain with showers, flush toilets, and WiFi, to our yurts with electricity, to the Inn, B&B's, mercantile, and restaurants in the gateway community of Almo, you will find comfort at the end of a long day in the wild. There is even a hot springs and large swimming pool where you can relax and watch the sunset.

Let our visitor services staff help you plan your visit by calling us at 208-825-5910.

Soon the snow will melt, and the mountains will turn shades of green as the waters flow from 10,339-foot Cache Peak to the wide dry valley. Don't miss this year's INPS meeting to remember. Until then, I'm off to look for the first *Orogenia linearifolia*. See you soon!

Wallace Keck

“You will experience ...grand scenery, cultural landscape and history...diverse flora akin to the Basin and Range province. Don't be surprised when you encounter species of the Northern Rockies and Snake River Plain as well, for the Reserve is located strategically at what scientists recognize as a bio-geographic crossroads. “

Wallace F. Keck
Superintendent,
City of Rocks National
Reserve and
Park Manager,
Castle Rocks State Park
P O Box 169
Almo, ID 83312
Phone: (208) 824-5911
Fax: (208) 824-5563
Email: Wallace_Keck_at
partner_dot_nps_dot_gov

----- -Cut Line-----

2011 INPS ANNUAL MEETING RESERVATION June 24-26

Location: Castle Rocks State Park and City of Rocks National Reserve, Almo, ID

Please print

Name(s) _____

Address _____

Phone _____ Cell Phone _____ Email _____

Chapter affiliation _____ Non-member _____

If you plan to stay in one of the group campsites INPS has already reserved (no hookups), please indicate what you will need below.

RV site _____ Length of RV _____

Tent site for one tent _____ For 2 tents or more _____ How many? _____

For which nights: Friday _____ Saturday _____ Sunday _____

Number of Saturday dinner reservations @ \$20 _____ per person

Meeting registration fee @ \$10 _____ per person

Total enclosed \$ _____

Please mail this form with your check for the total shown above to:

Loasa Chapter, INPS, P.O. Box 5985, Twin Falls ID 83303-5985

----- -Cut Line-----

A few additional notes:

- If you plan to camp Thursday night please contact Juanita Jones at 208-824-5519 or register on-line at www.idahoparks.org
- If you want to stay in Smoky Mountain RV Campground (with hook-ups) you will need to make your own reservation. Call the state park reservation number (above) or register online: www.idahoparks.org (Scan the QR code with your phone to go right to this web site.)
- Friday night will be a casual gathering.
- If you are interested in exploring on other than the designated days, contact the Castle Rocks State Park and City of Rocks National Reserve office for suggestions.



City of Rocks Photo: Jane Rohling



INPS is dedicated to promoting interest in native plants and plant communities and to collecting and sharing information on all phases of the botany of native plants in Idaho, including educating the public to the values of the native flora and its habitats.

INPS MEMBERSHIP

The Idaho Native Plant Society (INPS), incorporated since 1977, under the laws of the State of Idaho, is dedicated to promoting interest in native plants and plant communities and to collecting and sharing information on all phases of the botany of native plants in Idaho, including educating the public to the values of the native flora and its habitats. In keeping with our mission, it is the intent of the INPS to educate its membership and the public about current conservation issues that affect Idaho's native flora and habitats. More information about INPS is available on our web site: www.idahonativeplants.org

Membership is open to anyone interested in our native flora. Membership forms are included in Sage Notes and posted on the INPS web site. Dues are payable annually in December for the coming year. New or renewing members can submit dues to your chapter treasurer or to the state treasurer at: **INPS Treasurer, P.O. Box 9451, Boise, ID 83707.**

Get Sage Notes in full color online! Printing Sage Notes is a major expense for INPS, so we are encouraging members to go green. Opting to forego the print version and receive your issues of Sage Notes electronically is good for the environment and allows more of your dues to be used for INPS projects.

Please indicate your choice of electronic or paper when you renew, and provide a current email address if you are interested in receiving Sage Notes electronically. We hope to implement this option soon.

Name(s) _____
 Address _____
 City/State _____ Zip _____
 Telephone _____ E-mail _____

Membership Categories	Annual Dues
____ Patron*	\$100+
____ Sustaining*	\$35+
____ Household*	\$22
____ Individual	\$17
____ Student	\$10
____ Senior Citizen	\$10

*Memberships in these categories are allocated two votes when they represent a household.

Sage Notes options

Electronic copy only _____ Paper copy only _____

Chapter affiliation: (check one)

- ____ Calypso (Coeur d'Alene; please add \$6 chapter newsletter dues)
- ____ Loasa (Twin Falls)
- ____ Pahove (Boise)
- ____ Sah-Wah-Be (Pocatello)
- ____ Upper Snake (Idaho Falls)
- ____ White Pine (Moscow)
- ____ Wood River (Ketchum-Sun Valley)
- ____ None (Those who do not live near a chapter are encouraged to join. We can put you in touch with members in your area and notify you about state level activities.)

WANT TO TRY SOMETHING NEW?

Look for QR codes like the one below in Sage Notes. These handy codes are beginning to pop up everywhere (our new editor is even including them in interpretive signs she's designing).

If you have a smartphone or other web-compatible device with a camera, you can scan QR codes to access a web site or other information linked to the code.

The QR code below will take you to the web page on plants on the City of Rocks National Reserve's web site:

<http://www.nps.gov/ciro/naturescience/plants.htm>



GET THE APP:

Here's how to add a QR Code Reader to your smartphone or other device. It shouldn't take more than 5 minutes for the entire process.

1. *Grab your smartphone and open up your web browser.*
2. *Google free QR code readers (there are many) and choose one that will work with your device. Here are a couple you can try: www.i-nigma.mobi or www.quickmark.com.tw*
3. *Download the software to your device.*
4. *Once it's downloaded, exit your browser.*

TRY IT NOW:

1. *Launch the application on your phone or other device.*
2. *Follow application's instructions to scan (take a picture) of the QR code. Generally this will be just like taking a picture of the code using the application.*
3. *Your phone will scan the QR code, then will automatically take you to the website or other information linked to the QR code.*

Sage Notes

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Sage Notes

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