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Dates to remember

March 31: Deadline to submit 2012 ERIG proposals

April 29–May 5: Native Plant Appreciation Week

June 22–24: INPS Annual Meeting in North Idaho

July 12-15: 5th Annual Botanical Foray, Paris Canyon



IDAHO NATIVE PLANT SOCIETY

February 2012
Volume 34 (1)

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

Palouse Prairie Restoration Tour and Roundtable

By Brenda Erhardt, Assistant Resource Conservation Planner,
Latah Soil and Water Conservation District

Photos courtesy Latah Soil and Water Conservation District

The Palouse is an important agricultural region which was once dominated by a forb-rich prairie ecosystem. Palouse Prairie is found in southeastern Washington and adjacent northern Idaho and is a critically endangered ecosystem with less than 1% of intact prairie remaining. Fragmented Palouse Prairie remnants are currently threatened by weed invasion and development, making education about Palouse Prairie preservation all the more important. In 2010, the Latah Soil and Water Conservation District (Latah SWCD) received a grant from the Intermountain West Joint Venture (IWJV) Capacity Grants program to help increase awareness and knowledge about the importance of Palouse Prairie restoration and conservation. The IWJV Capacity Grant program is funded through a cooperative agreement between the U.S. Fish and Wildlife Service (USFWS) and Ducks Unlimited.

As a part of this award, the Latah SWCD organized a Palouse Prairie Restoration Tour and Roundtable in the summer and fall of 2011. The tour and roundtable aimed to generate enthusiasm for Palouse Prairie restoration, to showcase restoration techniques, and to provide examples of the potential results of a successful Palouse Prairie planting.

On June 10, 2011, thirty-one participants joined Latah SWCD staff to tour several Palouse Prairie restoration projects in Latah and Whitman Counties. We visited five projects during the tour and highlighted an additional three projects in an informational packet given to all participants. All of the unique sites were in various stages of the restoration process and each provided multiple learning opportunities.

Our first stop for the day was to the Pullman Plant Material Center (PMC) in Whitman County, Washington, where Pamela Pavek (Conservation Agronomist) and Dave Skinner (retired) shared information on multiple ongoing research projects concerning native Palouse Prairie plants. Knowing the correct species to plant in a Palouse Prairie restoration project, such as prairie smoke (*Geum triflorum*), little sunflower (*Helianthella uniflora*), slender cinquefoil (*Potentilla gracilis*), and Oregon checkermallow (*Sidalcea oregana*), when to plant them, and how to control the weeds are all integral components to a restoration project. Skinner and Pavek have done extensive work to advance this knowledge and it was great

(Above) Tour participants enjoy the flowering taperleaf penstemon (*Pentemon attenuatus*) at the Folwell restoration site in Whitman County, Washington.

Continued on p.4

IDAHO NATIVE PLANT SOCIETY

Address: P.O. Box 9451,
Boise, ID 83707

Email:
info3@idahonativeplants.org

Web site:
www.idahonativeplants.org

INPS BOARD MEMBERS

President: LaMar Orton
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2012 Photo contest committee:
Pahove Chapter

Nominating chair: Kelvin Jones
(Loasa) (*We still need additional
members for this committee.*)

Rare Plant Conference chair:
Beth Corbin (Pahove)

Greetings from the President

Dear Idaho Native Plant Society Members:

It is an honor for me to serve as your president. Our secretary, Nancy Miller, and our treasurer, Jody Hull, deserve very special recognition for the exceptional job they have performed for us in holding the Society together while we have been without a president and vice president. They are dedicated and hardworking people and we have been fortunate to have them leading us. They still have a real challenge ahead of them to keep your new president on the right track.

We are all very fortunate to live in Idaho where we have wide open spaces, a large range of elevations with a variety of ecological niches accessible to the public, and a full array of incredible wildflowers. In addition, we have INPS with its cross section of people with many different talents and all full of enthusiasm and a willingness to share knowledge, information, ideas, special places, gardens and often plants and seeds with others.

It is always exciting to look at the opportunities that lie ahead for us. Some of the opportunities ahead for us this year through INPS include:

1. attending our annual meeting to be held near Lake Pend Oreille and hosted this year by the Calypso Chapter from Coeur d'Alene,
2. attending chapter meetings and field trips,
3. photographing our favorite wildflowers and submitting our best photographs to photo contest,
4. sharing our knowledge by writing articles for Sage Notes,
5. expanding our knowledge by reading Sage Notes,
6. and finally, helping in any way we can both at the local and state level to increase appreciation of and protection for our State's flora.

INPS is like any other organization in that the more we as individuals put into it the more we receive in return. The more knowledge and ideas our members share, the better INPS will operate. If any of you have ideas or comments on how to make INPS serve its members better or if you would like to serve within the organization, please email me at [lorton1 at msn dot com](mailto:lorton1@msn.com) or call me at 208-308-6840. I would be very happy to hear from you.

LaMar Orton
INPS President

Editor's notes:

TECHNICAL REVIEWER WANTED: Mike Mancuso has been providing technical reviews for drafts of Sage Notes. His input has been invaluable! (THANKS, MIKE!) Unfortunately, Mike has just let us know that this issue is the last time he'll be able to provide this service for the Sage Notes Committee. If anyone is willing to follow in his footsteps, PLEASE email Nancy Miller and myself (Jane Rohling) at sage-editor@idahonativeplants.org

DECEMBER ISSUE: We neglected to include the following notes in Danielle Clay and Cindy Salo's article about Danielle's research on hybridization in Christ's paintbrush (*Castilleja christii*):

Janelle Brown at BSU edited the piece (which improved it greatly) and gave us permission to reuse it. Janelle asked that the following statement be included:

"A version of this article is posted online at Boise State University's Division of Research and Economic Development: <http://www.boisestate.edu/research/>."

The U.S. Forest Service Intermountain Region's botanist requested permission to post the article on the Forest Service's national Celebrating Wildflowers web site so watch for it there soon: <http://www.fs.fed.us/wildflowers/>

INPS State News

Fifth Annual Botanical Foray

Save the Date: July 12-15, 2012

By Janet Bala, Ray J. Davis Herbarium

The Ray J. Davis Herbarium at Idaho State University will host the 2012 Idaho Botanical Foray in the Bear River Range of the Caribou-Targhee National Forest in southeastern Idaho. We'll explore beautiful Paris Canyon (elevation 6,600 feet) in Bear Lake County, and camp at the Paris Springs Campground, about five miles from Paris, Idaho.

Participants will help herbaria staff from throughout the state with the collection of roughly 500 different plants. The plants will be used for research and to resupply herbaria. Who knows? Maybe we'll discover a new species or find an already named plant growing in a new habitat.

The Idaho Botanical Foray is designed to be a truly statewide undertaking, and the host institution rotates among the facilities with the four largest plant collections in the state. In 2008 (Mt. Harrison) and 2009 (Wildhorse Creek area) the foray was hosted by Boise State University. In 2010, the College of Idaho hosted the foray to the Yankee Fork of the Salmon River. In 2011, the Payette National Forest north of the Cuddy Mountains was a collaboration with the University of Idaho and the University of Washington as co-hosts.

One of the best parts of the foray is the camaraderie in camp, on the trail, and at the Saturday night potluck. This is a great event for meeting native plant enthusiasts from all over Idaho while learning how to collect plant specimens for research. During the winter months, the Ray J. Davis Herbarium will be hosting identification workshops to identify the hundreds of plants collected.

If you have joined in on any of the previous forays you know how fun and rewarding they can be. If you haven't had the opportunity to attend then hopefully you will be able to do so in 2012. If you are interested and would like more details, email Janet Bala from the Ray J. Davis Herbarium at balajane@isu.edu, or call her at 208-282-2815.



Getting instructions for collecting plants at the campground the first morning of the 2011 Botanical Foray. Photo: Ashelee Rasmussen



Payette National Forest Photo: Pam Reschke

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 posted in full color online at www.idahonativeplants.org/news/Newsletters.aspx along with a searchable index of 2006-2010 issues. We are scanning and uploading older issues as time allows.

Submissions: Members and non-members may 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 link 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.

Advertising: Advertisements help reach environmentally-minded, native-plant-loving customers and help support INPS. Prices: 1/8 page = \$5, 1/4 page = \$8, 1/2 page = \$15. Submit ads to the editor electronically (JPEG, TIFF, PSD, or PDF files).

Send payment to:
Sage Notes Ads,
P.O. Box 9451,
Boise ID, 83707

Sage Notes editor:
Jane Rohling, sage-editor@idahonativeplants.org
Phone: (208) 938-3529

More INPS State News on p.6

Palouse Prairie Restoration Tour Continued from p.1

to see the research plots that have helped ensure more successful and diverse Palouse Prairie plantings. Pavék also highlighted her work on the Pollinator Habitat Demonstration Planting, which aims to show the variety of options available to benefit native pollinators using Palouse native wildflowers and grasses. Pavék and Skinner co-authored Technical Note 54 "Evaluation of Planting Time and Survivability of 16 Forb and 2 Grass Species Native to the Inland Northwest" (<http://www.plant-materials.nrcs.usda.gov/pubs/idpmstn10094.pdf>), which is a great resource for those interested in planting Palouse natives.

Our second stop was to a Palouse Prairie restoration site in Whitman County where Joan and Ray Folwell aim to convert 18 acres to native vegetation. The Folwells have planted a variety

of upland and riparian trees, shrubs, wildflowers and grasses, and during the tour they shared a number of their experiences with seeding methods, weed control, and funding sources. Their dedication to the land was obvious as we walked through their bright array of blooming wildflowers towards a pond densely vegetated with native riparian plants. The diversity of native plants on their property provides habitat for wildlife, pollinators and beneficial insects. The Folwell's stewardship to the land is evident as they continue to expand and add species to their native areas.

After lunch, we visited a restoration site within the Moscow city limits. Maynard Fosberg is a retired soil scientist from the University of Idaho (UI) and he now works regularly to convert an old pasture

to native grasses and wildflowers. Fosberg shared some of his many successes and challenges with site preparation, weed control, and seeding methods during the tour. UI researchers were on hand as well to give details of the research and results from experiments done on Fosberg's project site. This property has an excellent native grass stand and the wildflowers are turning the area into a haven for pollinators and wildlife. We continue to learn much from this project site as it evolves, and Fosberg continues to enhance this site by planting additional forb seedlings yearly and scouting tirelessly for non-native weeds.

South of Moscow we visited a site where retired farmer Bob Clyde is restoring approximately 31 acres of old farm ground to native grasses and wildflowers. This project site is adjacent to approximately 100 acres of Palouse Prairie remnant. Clyde has worked hard to manage weed invasions, such as ventenata (*Ventenata dubia*), on the remnant as well as in his fields. Ventenata is a non-native winter annual grass with extensive cover in the Palouse and Clyde's innovative weed control techniques have shown positive results in reducing the cover of this aggressive annual grass in treated areas. Walking through the remnant where the arrowleaf balsamroot (*Balsamorhiza sagittata*), western larkspur (*Delphinium nuttallianum*), and silky lupine (*Lupinus sericeus*) were blooming was a refreshing reminder of what these restoration projects aspire to be. Restoring native plant communities near existing remnants is an excellent way to increase wildlife and pollinator habitat, and Clyde's dedication to these endeavors will provide increased protection to his adjacent Palouse Prairie remnants.

The final stop of the day was to Thorn Creek Native Seed Farm's seed increase plot south of Moscow. Jacie Jensen shared information about seed increase methods and lessons learned about growing these native plants in the plot and fields, as well in their own restoration efforts. The Jensens are owners and stewards of a large Palouse Prairie remnant and spend many



Bob Clyde shares some of his ecologically sensitive weed control techniques amidst blooming fernleaf lomatium (*Lomatium dissectum*) and arrowleaf balsamroot (*Balsamorhiza sagittata*).

Photo:
Patrick Adams

hours scouting their fields and the remnant for weed invasions. Their efforts have helped prevent the expansion of many weeds on their property like rush-skeleton weed (*Chondrilla juncea*), orange hawkweed (*Hieracium aurantiacum*), and yellow star-thistle (*Centaurea solstitialis*). The Jensens are also working with Pavek from the PMC to research methods to establish native forbs into existing grass stands. Pavek spent time at one of these research plots to explain the project and answer questions. This research is just getting underway and the preliminary results look promising.

The main purpose of this tour was to provide an opportunity for landowners to talk with each other as well as with researchers and local experts about successful Palouse Prairie restoration methods. Many discussions were facilitated throughout the day as the landowners shared their experiences on their sites, and the innovative approaches to Palouse Prairie restoration inspired all who participated in the tour.

The tour was followed by a Palouse Prairie Restoration Roundtable on Tuesday, October 25, and Wednesday, October 26, 2011. This event drew approximately 100 participants each evening. Local experts, agency personnel, and landowners gave presentations on the Palouse Prairie ecosystem, including: pollinators on the Palouse, non-native annual grass control, integrated pest management, and site preparation. They also highlighted upcoming research on the Palouse and funding opportunities for Palouse Prairie restoration with USFWS and USDA Natural Resources Conservation Service (NRCS).

The presentations on October 26 were followed by a panel discussion where six local Palouse experts answered questions about specific types of weed control, restoration methods, plant species suitability, and a variety of other topics. Informed audience members also shared their expertise throughout the panel discussion. The panel discussion was an appropriate ending to an event that aimed to encourage the flow of ideas and knowledge between those who have current on-the-ground restoration projects and those interested in getting started.

The excellent participation and interest in this event showcased the enthusiasm and growing awareness of Palouse Prairie conservation and restoration in the region. Participants appreciated the opportunity to learn about Palouse Prairie restoration methods and, according to evaluation forms, they look forward to future events where more practical knowledge can be shared. We hope to build on the enthusiasm generated following both of these events to get more prairie restoration projects on the ground.



(Above) Pamela Pavek explains the research project underway on the Jensen's CRP ground to add native forbs to existing grass stands.

(Below) Tour participants enjoy the flowering taperleaf penstemon (*Pentemon attenuatus*) at the Folwell restoration site in Whitman County, Washington.



INPS State News

2012 Education, Research & Inventory Grants

INPS is soliciting proposals for the Education, Research & Inventory Grants (ERIG) program. Grants of up to \$1,000 will be awarded in 2012 to support projects that contribute to the appreciation, conservation, or knowledge of Idaho's native flora or vegetation. The ERIG committee encourages you to submit a proposal if you have a project that may qualify. Previous grants have funded scientific research, interpretive projects, 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 Sage Notes.

Grant requirements, guidelines, and application procedures are on the INPS web site: <http://idahonativeplants.org/erig/Erig.aspx>

Submit proposals by March 31, 2012 electronically to Janet Bala, balajane@isu.edu, or by U.S. Mail to: Idaho Native Plant Society, ERIG Committee Chair, P.O. Box 9451, Boise, ID 83707

Are your dues past due?

If you haven't renewed your membership for 2012 please do so ASAP. This will save INPS the time and money it takes to send out reminders. THANKS!

Hurray for volunteers!

Justin Fulkerson just joined the INPS Conservation Committee. With his background in conservation science he'll be a terrific asset. THANKS for stepping up to the plate, Justin!

Are there any more volunteers lurking out there, waiting for an opportunity to pitch in? Don't be shy. Contact any state or chapter officer or committee chair. We can always use a few more hands!

Actually, we have a vacancy for a technical reviewer on the Sage Notes committee—see p.2 for information. We need members for the Nominating Committee, too.



Sticky geranium
(*Geranium viscosissimum*)
Photo: Nancy Miller



Photo: Jane Rohling

Idaho Native Plant Society FY 2011 Financial Summary	
Income and Expenses	
INCOME	
Memberships & Donations	\$ 5,414.25
Fundraisers	196.08
Sage Notes Advertising	73.50
Total Income	\$ 5,683.83
EXPENSES	
Annual Meeting	\$ -
ERIG Grants	612.25
General Administrative	516.52
Sage Notes	4,668.39
Sales Tax	239.83
Total Expenses	\$ 6,036.99
NET	
Deficit	\$ (353.16)
Balance Sheet	
ASSETS	
Bank Account	\$ 7,918.27
6-month CD	2,917.40
Total Assets	\$ 10,835.67
LIABILITIES	
Dues to Chapters	\$ 1,307.00
Unclaimed ERIG Funds	2,526.00
Total Liabilities	\$ 3,833.00
NET	
Balance	\$ 7,002.67

2012 INPS Annual Meeting in North Idaho

Updates on the big event

By Derek Antonelli, President, Calypso Chapter
Photos courtesy of Idaho Department of Fish and Game

The 2012 annual meeting/campout of the Idaho Native Plant Society will be hosted by the Calypso Chapter from Coeur d'Alene from June 22–24. The meeting will be held at the Clark Fork Drift Yard where the Clark Fork River meets Lake Pend Oreille between the cities of Clark Fork and Hope, east of Sandpoint on Highway 200. The focus of the gathering will be the restoration and protection of natural habitats. In particular, we will be looking at the efforts to restore the natural function of river deltas on Lake Pend Oreille that were damaged or destroyed with the construction of the Albeni Falls Dam on the Pend Oreille River.

We will also look at the efforts to protect the spectacular area in the Cabinet Mountains north of Clark Fork by establishing the Scotchman Peaks Wilderness Area.

Schedule of Events

Friday, June 22

8:00 a.m. to 12:00 noon: Camp Set-Up.

The Calypso Chapter will be setting up the camp during the morning of June 22. We will be putting out signs to mark the location of the camp. We will be bringing in drinking water, picnic tables, extra portable toilets, barbeque grills, trash containers, etc. Please bring a supply of drinking water if you have the capability.

8:00 a.m. to evening: Arrival. You are welcome to arrive anytime on Friday. You can even arrive before Friday if you like, but remember that the campsite is a primitive site. There will be no drinking water or tables prior to Friday. The location of the site will not be marked until Friday.

8:00 a.m. to 6:00 p.m.: Informal Activities. You can explore the surrounding wetlands. We will attempt to have hip waders available for your use during these explorations. Guides will help you interpret what you are seeing. You can kayak, canoe, boat, fish, or swim on your own within the Clark Fork River Delta. You can catch up with old friends and make new friends within the Society at the group campsite.

2:00 p.m. to evening: Check-In. Please let us know you have arrived. Official check-in will start at 2:00 p.m. At that time you can verify your payment of \$10 per adult participant for the registration fee and \$10 per meal for Saturday evening. You will be asked to confirm your participation in Saturday's events. You will be able to get the scoop on all the official and unofficial activities planned for the weekend.

6:00 p.m. until we're scraping the bottom: "Rock Soup" Potluck.

Anyone who wishes to participate in the potluck should bring a can of soup or an ingredient that will go into soup. We will dump all of the contents of all of the cans into a big pot and heat the whole concoction up. Once it is hot we will begin serving. This restores the original meaning to the term pot "luck".

7:00 p.m. until the owls stop calling: Campfire. Following the potluck there will be the traditional gathering of friends around the campfire. In keeping with our theme, Phil Hough from the Friends of Scotchman Peaks Wilderness will provide

The INPS Annual Meeting will be hosted by the Calypso Chapter, June 22–24, 2012.

Derek, Sylvia, Janet, Laura, Marv, Bill are enjoying the lupines while searching for purple meadowrue during a spring field trip to Trout Creek.

Photo: Susan Lee



2012 INPS Annual Meeting

an informal update on that organization's efforts to protect the Scotchman Peaks area and to have it officially designated a federal wilderness. If you stay up long enough, you just might score a s'more!

Saturday, June 23



*"Is it a bentgrass?"
Sousan Moslemi
and Karen Williams
wonder during a field
trip near the Pack
River Delta.*

Photo: Susan Lee

8:00 a.m.–12:00 noon: Tour of Pack River Delta

Restoration. You will be shuttled by boat to one or more of the newly constructed islands. You will have an opportunity to observe first hand what worked and what didn't work during the restoration effort. You can look at the native plant plantings accomplished by over 100 volunteers.

8:00 a.m.–12:00 noon: Hike Morris Creek. The Morris Creek hike is a beautiful walk into the Scotchman Peaks roadless area. The trail is about two miles one-way along the creek with a modest gain in elevation. The vegetation found along the trail is a good representation of native plants found in the moist northern Idaho western hemlock/ western red cedar forests. I hiked this trail this September and counted over 100 different species of plants. The return leg will be back down the same trail so you will have an opportunity to see anything you might have missed on the way up. *Group size is limited to 15 people so get your registration form in early to reserve your spot.*

12:00 noon–1:00 pm.: Lunch. Everyone will be responsible for their own lunch.

1:00–5:00 p.m.: Tour of Pack River Delta Restoration. See 8:00 a.m. listing above.

1:00–5:00 p.m.: Hike Morris Creek. See 8:00 a.m. listing above.

8:00 a.m.–5:00 p.m.: Scotchman Peak Hike. An alternate activity for Saturday is an all-day hike to the top of Scotchman Peak. This is a very rigorous hike. It is only four miles one-way but very steep. There is a 3,700-foot gain in elevation. If you can make the summit, the view is spectacular. *Group size is limited to 15 people so get your registration form in early to reserve your spot.*

6:00–7:30 p.m.: Dinner meal. We will meet at the Clark Fork Senior Center for dinner served up by the Senior Center staff. The meal will consist of fried chicken, mashed potatoes, vegetable salad, and apple pie for dessert. A vegetarian meal will be available on request. ***The cost of the meal is \$10 per person. Your reservation needs to be received by June 1.***

7:30–9:00 p.m.: Annual Meeting/Presentation. The Idaho Native Plant Society annual meeting will be held at the Clark Fork Senior Center. The meeting will start by addressing the business of the Idaho Native Plant Society.

Following the formal business portion of the meeting, Kathy Cousins of the Idaho Department of Fish and Game will give a presentation. She will describe the efforts to restore the Pack River Delta (that we toured earlier in the day). The Pack River drains a portion of the Selkirk Mountains and flows into the north end of Lake Pend Oreille. The Albeni Falls Dam on the Pend Oreille River that flows out of Lake Pend Oreille raises the level of the lake during the summer and inundates the wetlands of the Pack River Delta. As a result, the wetlands drown leaving only mud flats during the winter when the lake level is drawn down.

The project which Kathy managed constructed eight islands in the delta and installed a series of structures to help trap sediments moved down the Pack River. The islands were planted with nearly 50 species of native woody and herbaceous plants. Kathy will describe how the lessons learned from the Pack River Delta Restoration Project will be applied to efforts to restore the much larger Clark Fork River Delta.

Sunday, June 24

8:00–9:30 a.m.: INPS Board Meeting. A Board of Directors meeting will be held for state INPS board members. The meeting will be held at the Clark Fork Senior Center.

8:00 a.m.–2:00 p.m.: Caravan to Ross Creek Cedar Grove. The Ross Creek Cedar Grove is a magnificent grove of giant western red cedars located about 45 miles from our campsite on the eastern margin of the Scotchman Peaks area in Montana. We will arrange a caravan if there are enough people interested in visiting this site. *We will provide maps to the site so you can visit the site on your own schedule if you choose.*

Monday, June 25

8:00 a.m. until the crowd disperses: Camp Break Down. During the morning, Calypso Chapter members will remove the amenities we provided.

Campsite: Clark Fork Drift Yard

Idaho Department of Fish and Game has established a campground near the Clark Fork Drift Yard that is available to the public free of charge. The site is on a side channel of the Clark Fork River. *(See photos in the Dec. 2011 issue of Sage Notes.)*

- ✿ This primitive campground will enable our group to camp together in a single area.
- ✿ The campground does not have a water source so the Calypso Chapter will bring in water for the use of our group.
- ✿ We will bring in a number of picnic tables and supplement the toilet at the site with additional portable toilets.
- ✿ As a group we will need to tend to our own garbage; Calypso Chapter will bring in garbage cans for our use.
- ✿ There are no RV hook-ups or electricity at the site.
- ✿ Alternate camping is available in the area at both private and public developed facilities. You can request information on these facilities on the registration form.
- ✿ Motels and hotels are available in the area and can be found using internet search capabilities.
- ✿ The Clark Fork Drift Yard site has a very nice boat ramp and a large gravel parking area for parking boat trailer and other vehicles. The Clark Fork River Delta is an excellent area for kayaks, canoes, and small boats. Larger boats can easily access the main lake from the boat launch.

*Derek, Sylvia,
Laura, Janet, Bill,
John exploring Trout
Creek Fish and
Game Preserve.*

Photo: Susan Lee

Contact Information

Derek Antonelli can be contacted at [antonelli8 at frontier dot com](mailto:antonelli8@frontierdot.com) or (208) 762-2575. Alternate contact is Karen Williams, (208) 667-8790.

Please send registration forms to: Derek Antonelli, Calypso Chapter President, INPS, 821 W Mustang Ave, Hayden, ID 83835.



For more photos and information on restoration work at the Pack and Clark Fork river deltas see page 22. A registration form for the meeting is on page 23.

INPS Chapter News

INPS CHAPTERS

CALYPSO CHAPTER

821 W. Mustang Ave.
Hayden, ID 83835

President: Derek Antonelli
Vice President: Vacant
Secretary: Karen Williams
Treasurer: Janet Benoit
Newsletter: Vacant

LOASA CHAPTER

340 E 520 N.
Shoshone, ID 83352

President: Kelvin Jones
Vice President: LaMar Orton
Secretary/Treasurer:
Lois Rohay

PAHOVE CHAPTER

P.O. Box 9451
Boise, ID 83707
Pahove.chapter@gmail.com

President: Karie Pappani
Vice Pres.: Elaine Walker
Secretary: Susan Ziebarth
Treasurer: Caroline Morris
Conservation:
Justin Fulkerson
Members at Large:
Cyndi Coulter, Karen Colson, Chris Colson,
Jody Hull

SAWABI CHAPTER

146 South 17th Ave.
Pocatello, ID 83201

President: Ardys Holte
Vice Pres.: Bob & Chris McCoy
Secretary: Barbara Nicholls
Treasurer: Cathy Frischmann
News to members: Linda Johnson
Chapter News: Ardys Holte
Web site: Catalina Steckbauer
Hospitality chair: Pauline Havens
Conservation/Education chair: Janet Bala
Members-at-large: Mel Nicholls, Karl Holte, Dick Anderson, Judy Minshall

CALYPSO CHAPTER

When: Our next three Calypso Chapter meetings will be held at 7:00 PM on the first Wednesdays of March (3/7), April (4/4), and May (5/2). The March meeting will be a planning meeting for field trips and chapter events.

Where: Conference room of Idaho Department Fish and Game, 2885 W. Kathleen Ave., Coeur d'Alene, ID 83815

Contact: Derek Antonelli for more information: antonelli8@frontierdotcom

LOASA CHAPTER

All INPS members and the public are welcome to attend 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 held on the 2nd Thursday of each month. Topics are emailed and posted on the Idaho Native Plant Society website.

Where: Most meetings are usually held at the MK Nature Center Auditorium.

Contact: For more information about Pahove Chapter activities visit the website: www.idahonativeplants.org or email Karie Pappani at [pahove.chapter.president@gmail.com](mailto:pahove.chapter@president@gmail.com).

UPCOMING EVENTS

March 8: *Castilleja christii* Danielle Clay will give a presentation about her fascinating research on *Castilleja* hybridization which was featured on the front page of the December Sage Notes.

April 12: Michael Mancuso, a well-known Boise botanist, will present on a topic to be announced.

RECENT ACTIVITIES

November 10: Elaine Walker explained how she finds interesting information for her Master Gardener column which appears in the Idaho Statesman. **Alayne Blickle** taught us about her environmental education program, **Horses for Clean Water**, which involves manure composting, pasture management, mud and dust control, water conservation, chemical use reduction and wildlife enhancement.

December 8: Our annual **Pahove Chapter Holiday Party** was held at the Old Spaghetti Factory. It was a great setting for our annual get-together during the holiday season.

January 10: Movie Night: Double Feature: **The Incredible Journey of the Butterflies** followed the 2000 mile trip to a sanctuary in the highlands of Mexico. **Hummingbirds, Magic in the Air** was about our tiniest birds—some of the toughest, most energetic creatures on the planet.

February 9: Exotic Places

Lisa Harloe entertained us with her exploration of the Plants of Bali and Jane Rohling shared her adventures last summer in the Pantanal region of Brazil.



Rheas and cattle are commonly seen together in west-central Brazil. Photo: Jane Rohling

Castilleja species & lupines. Photo: Danielle Clay



SAWABI CHAPTER

Meetings: We welcome the public to our chapter's informative programs.

When: First Monday of each month, October through March, 7:00 p.m.

Where: Pond Student Union Building, Room 308, ISU Campus, Pocatello.

Contact: For more information call 208-716-0218.

New Sawabi president: Our chapter president, Melinda Walker, moved to Corvallis, OR, this fall. Ardys Holte graciously agreed to serve as interim president until next April's elections.

Sawabi tee-shirts, showing an artistic rendition of glacier lily (*Erythronium grandiflorum*), desert or Indian paintbrush (*Castilleja angustifolia*), curl-leaf mountain mahogany (*Cercocarpus ledifolius*) and sawabi (big sagebrush, *Artemisia tridentata*), are still available for \$10 (plus postage). The design, printed on sage green 100% preshrunk cotton shirts, is 11" high x 9" wide. To order, contact Cathy Frischmann at 208-406-4559.

UPCOMING EVENTS

March 5: Sawabi members' annual "Show and Tell" program. Members and friends are invited to bring photos of their 2011 adventures and field trips. Your photos can be shared as prints, albums on CDs or thumb drives, or as PowerPoint presentations.

April 2: Sawabi Chapter annual meeting will be held at El Jacalito Restaurant, 1513 S. 5th Ave., Pocatello. After dinner, 2012 officers will be nominated/elected, and tentative field trip suggestions will be compiled. We urge all members to attend this important meeting.

Saturday, April 21: Sawabi Chapter will once again have a booth at the annual Portneuf Valley Environmental Fair. Various exhibitors will provide information and activities that help community members learn about the small steps we can all take at home, work and around town to improve our local environment. Last

year's attendance reached well over 5,000, and a similar crowd is expected this year!

Sawabi has used this event as an INPS advertising opportunity by handing out informational brochures which include our field trip schedule, signup sheets and membership forms. We also promote Native Plant Appreciation Week during the event. We provide seeds for children to plant in little pots of soil, and offer free starts of dozens of native plants contributed by members.

The Fair is Saturday, April 21, 2012, 11:00 a.m.–3:00 p.m. in Optimist Park, Pocatello, east of City Hall. Admission is free and information and fun abound.

RECENT ACTIVITIES

January 9: "Breathtaking Alaska," by Bob and Chris McCoy.

February 6: "Beauty in an Unnamed Canyon: Wildflowers of the Pioneer Mountains," a presentation to be given by Dr. Stephen and Monaquita Love. The Loves showed photos of the Pioneer Mountains and particularly a new area with abundant wildflowers they visited last summer. The Pioneer Mountains are the second highest mountain range in Idaho, rising east of the Sun Valley/Ketchum/Hailey area in the Salmon/Challis National Forest. Hyndman Peak, the highest at 12,009 feet, towers over at least a dozen other peaks at 11,500 feet or more. The Pioneers are a hiker's and climber's paradise, and botanists revel in the populations of wildflowers gracing the slopes and valleys.

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

INPS CHAPTERS

UPPER SNAKE CHAPTER

President: Sue Braastad
Vice President: Rose Lehman
Secretary: Alan Crockett
Treasurer: Dave Godfrey

WHITE PINE CHAPTER

PO Box 8481
Moscow, ID 83843
whitepine.chapter@gmail.com

President: James Riser
Vice President: VACANT
Secretary: Pat Fuerst
Treasurer: Elisabeth Brackney
Past President: Helen Yost
Landscaping & Restoration
Plants: Juanita Lichthardt
Publicity Chair: VACANT
Web: Nancy Miller, Patricia Hine
www.whitepineinps.org

WOOD RIVER CHAPTER

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

INPS Chapter News

February 15: Whitebark Pine Ecology, by **Cathy Hardin**, Forester for the Ashton/Island Park Ranger District. She will cover what is going on within the whitebark pine ecosystem, specifically in the Greater Yellowstone area (white pine blister rust, mountain pine beetle, etc.). She'll discuss restoration projects on the Caribou-Targhee National Forest and Whitebark Strategy for the Greater Yellowstone Area.

March 21: High Altitude Wildflowers of Colorado, **Dr. Rick Williams**, Associate Professor at the Biology Department at ISU and Curator of Botany at ID Museum of Natural History. He will talk about the wildflowers and research at the Rocky Mountain Biological Lab.

April 18: Rare Plants by Rose Lehman. Rose will teach us about the rare plants in the area. We will also have a session on how to use a plant press. You can bring your own plant press, or use plant press that will be available at the meeting.

RECENT EVENTS

October 19: Heidi Albano of the Sagebrush Regional Land Trust talked about how a land trust works, and current projects of the Sagebrush Regional Land Trust.

November 23: Wildflower photography **Bob Anderl** talked about photography of wildflowers and shared some of his photographs.

January 18: Aspen Communities Aren Eddingsaas a biologist with the Shoshone-Bannock Tribes talked about his work with the Aspen Working Group, teaching us about the importance of aspen communities.

WHITE PINE CHAPTER

Meetings: During the spring and fall, meetings are held once a month. Field trips occur regularly whenever the weather allows. Please check the chapter website for events which may be scheduled or have details finalized after this issue is printed: www.whitepineinps.org or e-mail the chapter officers at whitepine.chapter@gmail.com.

Contact: James Riser at [jriserii at gmail dot com](mailto:jriserii@gmail.com) or Helen Yost at [helen.yost at hotmail dot com](mailto:helen.yost@hotmail.com) or White Pine Chapter, PO Box 8481, Moscow, ID 83843.

Thanks to all our members and friends who purchased INPS 2012 calendars this year (all 110 of them). Your support is very much appreciated.

Please note that some of our local native plant vendors are advertising in Sage Notes again this issue. Let them know their support is valued when you visit their shops.

UPCOMING EVENTS

February 23, Thursday, 7:00 p.m.

Location: 1912 Center, Fiske Room, 412 East Third St., Moscow, Idaho (between Adams and Van Buren)

Asclepias family: the Milkweeds

Speaker: James Riser Learn about Idaho's milkweed species and the important role they play for pollinators. We will examine the complicated milkweed flower and find out why it is often referred to as the orchid of the dicot plants. Additionally, we will look at the diversity of this native plant genus throughout its range in the western United States and current research on milkweeds.

For more information, contact James Riser, [jriserii at gmail dot com](mailto:jriserii@gmail.com), or call 406-531-4509.



A pollinator paying a visit to an Idaho milkweed.

Photos: Jane Rohling



February through April: Keying parties at the UI Stillingher Herbarium
Your help is needed! 2011's Fourth Annual Botanical Foray was a huge success and as a result we have a LOT of plants that need to be keyed. This winter's keying work parties were great but there's more work to be done so the UI Stillingher Herbarium will continue to hold work parties from February through April. The parties will be held at the Stillingher Herbarium, CNR Room 22, University of Idaho, Moscow. Details will be emailed to INPS White Pine members and contacts. For more information, contact the Stillingher Herbarium (email [dtank at uidaho dot edu](mailto:dtank@uidaho.edu) or call 208-885-2346) or check the White Pine chapter website: www.whitepineinps.org.

March monthly Chapter meeting: Details have not been finalized. Please check the website later. An email announcement will be sent to members and contacts.

March 22, Thursday: *Mertensia* Research: Mare Nazaire of WSU's Owenby Herbarium will talk with us about her research on the genus *Mertensia*. When meeting details are finalized they will be sent via email and posted on the chapter website.

April 18, Wednesday, 7:30 p.m.: "Landscaping with Native Plants with Wildlife in Mind." This will be a joint meeting of Palouse Audubon and INPS White Pine Chapter.

Location: 1912 Center, Great Room, 412 East Third St., Moscow, Idaho (between Adams and Van Buren)

Speakers: Several members of each organization will present the program. Garden-worthy native plants that provide food, shelter, protection, and nesting or breeding habitat will be discussed. Birds and Butterflies will be the emphasis.

Contact: Nancy Miller, [nmiller at moscow dot com](mailto:nmiller@moscow.com) or call 208-301-0560.

Summer field trips are being planned. Our target native species will be members of the *Penstemon* genus. Pam Brunsfeld will start things off with a *Penstemon* workshop at the herbarium. We will then conduct a number of field trips to varying locations and habitats in Washington and Idaho to maximize the number of different *Penstemon* species which we can see and study. All locations should be within a 2 1/2 hour drive. If you have a favorite *Penstemon* you would like to learn more about, or you know where less common ones can be found within several hours' drive, let us know.

Contact: Nancy Miller, [nmiller at moscow dot com](mailto:nmiller@moscow.com) or call 208-301-0560.

WOOD RIVER CHAPTER

Contact: Carol Blackburn at [blackburncrl at yahoo dot com](mailto:blackburncrl@yahoo.com) for information on activities and gatherings.



Help INPS Celebrate Native Plant Appreciation Week April 28–May 5, 2012

INPS Chapters will be planning events around the state. If you are aware of opportunities to promote this week at the state or chapter level, please contact an INPS state or chapter officer.



(Above) Composites provide great landing pads for painted ladies and other butterflies.

(Left) Checkerspot, painted lady and Milbert's tortoiseshell butterflies on mountain monardella (*Monardella odoratissima*).

Photos: Jane Rohling

NatureServe's Rank Calculator:

A new tool for assessing the status of rare plants

Article and photos by Lynn Kinter, Idaho Natural Heritage Program

For more than 20 years, an important part of each INPS Rare Plant Conference has been assessing the conservation status of Idaho's rare plants and lichens. In recent years, one day of the two-day conference has been spent on this assessment process, or 'ranking'.

Conference attendees include INPS members, agency personnel, academicians, consultants, and lay botanists. Collectively, these attendees possess a tremendous knowledge base, and through the years they have ranked plants for the primary purpose of determining which taxa are sensitive. There are some 3,200 native plant and lichen species in Idaho of which about 350 taxa (species, subspecies, or varieties) are considered to be at moderate or high risk of extinction. Ranking of the sensitive taxa helps to prioritize research and conservation efforts.

After more than 20 years of ranking, it might seem like the task would be complete, but in fact the need is on-going. When plants and lichens new to science are discovered or are documented in Idaho for the first time, they need to be ranked. Taxa that have been previously ranked may need to be reassessed as more information becomes available. For example, a particular species may become less of a concern if many new locations have been documented in recent years; it may become more of a concern if new threats or population declines are reported.

The INPS ranking process is the most comprehensive in Idaho, but its ranks are not directly comparable to those used by the Idaho Natural Heritage Program, some federal agencies, or entities in surrounding states. Additionally, the INPS ranking process depends on 'champions' at the Rare Plant Conference, so if a particular expert is absent, a species may be ranked differently, or missed entirely. In 2011, to make the process more repeatable, objective, and comparable to those used in other organizations and states, INPS tested a new tool—the 'NatureServe Conservation Status Assessments Rank Calculator' (NatureServe 2009).

The current version of the Rank Calculator was released in 2009 and is now widely used in most states surrounding Idaho and in British Columbia. It is also used in Idaho for ranking animals. It was developed by a working group from NatureServe and its network of natural heritage programs, which provide scientific information for the conservation of rare species and ecosystems. This working group began in 2005, but the foundation for the calculator was laid from 2000 to 2004 in a series of workshops by the National Center for Ecological Analysis and Synthesis (NCEAS). Development of the calculator was funded by the U.S. Fish and Wildlife Service, U.S. Forest Service, National Council for Air and Stream Improvement, and others.

The Rank Calculator can be used to assess plants, plant associations, and organisms from other kingdoms, such as fungi and lichens. It is presented in an Excel spreadsheet, though no particular knowledge of Excel is needed. The training process is not complicated. I was taught in less than an hour by Rita Dixon, who has long used it to rank wildlife species for the Idaho Natural Heritage Program. She indicated that this is typical for learning to use the calculator.

There are 10 factors, or criteria, used in the calculator (Faber-Langendoen et al. 2009, Master et al. 2009):

1. Range extent = the smallest polygon encompassing all individuals
2. Area of occupancy = the actual area inhabited by those individuals
3. Number of occurrences = the number of populations or occupied sites
4. Number of occurrences with excellent or good ecological integrity = based on several traits
5. Population size = the number of individuals

6. Environmental specificity = specialist vs. generalist
7. Short-term trend = past ~10 years or 3 generations; <100 years
8. Long-term trend = past ~200 years
9. (a) Scope of threats = % of total population or occurrences affected
(b) Severity of threats = % reduction of population within the scope affected
10. Intrinsic vulnerability = based on biological traits, such as slow maturation, infrequent reproduction, few offspring, and limited dispersal

For each factor, data are entered into categories, such as '≤100 sq km (≤40 sq mi)' for 'Range extent', and '1-5 occurrences' for 'Number of occurrences'. For most plants and lichens, we do not have data for all of these criteria; however, the calculator works with less than complete information. If too little information is entered, it will indicate that ranking is not possible.

The conservation status ranks assigned by the calculator are those long used by NatureServe and natural heritage programs across North America. They range from 1 (critically imperiled), to 5 (demonstrably secure). (See p.16 for more details.)

In our first efforts with the calculator at the Rare Plant Conference, this method seemed to me to be more objective and repeatable than the previous method. At the time, it seemed somewhat subjective in assigning values for threat scope and severity. However in hindsight, I believe these assignments may have seemed subjective because we lacked specific information. The categories themselves (1-10%, 11-30%, 31-70%, and 71-100%) are not subjective.

Once we were familiar with the new method, the ranking process for any single organism was not terribly time-consuming. The Rank Calculator probably reflects extinction risk more accurately than does the previous method, because it considers more factors. It certainly records the specifics of the ranking process more clearly than did our scribe notes from previous conferences. Some conference participants said they would prefer to have more details incorporated into the calculator.

One possible advantage of the calculator that might not have been apparent at the conference is that an expert or small group of experts could rank a particular plant or lichen prior to the Rare Plant Conference, and then send their version of the calculator for review and the addition of new information by the larger group. Those experts would not necessarily need to be present at the conference for a rank to be assigned. If we opt for this at future conferences, it may be an efficient way to evaluate about 100 unranked taxa that have been on the INPS 'Review' list for many years.

Overall, the calculator is a valuable tool. It provides a way to assess plant conservation status that is standardized, widely accepted, and directly comparable to ranking efforts in other states.

Citations: These references are all available free online at <http://natureserve.org/prodServices/standardsMethods.jsp>

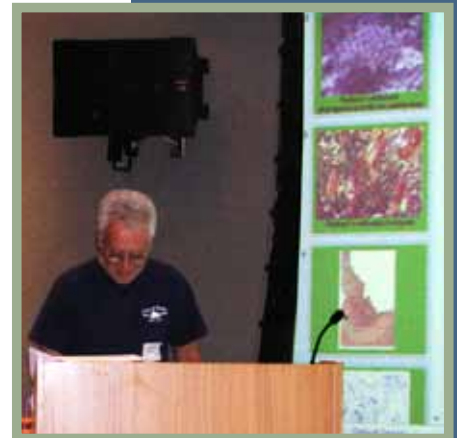
Faber-Langendoen, D., L. Master, J. Nichols, K. Snow, A. Tomaino, R. Bittman, G. Hammerson, B. Heidel, L. Ramsay, and B. Young. 2009. *NatureServe Conservation Status Assessments: Methodology for Assigning Ranks*. NatureServe, Arlington.

Master, L., D. Faber-Langendoen, R. Bittman, G.A. Hammerson, B. Heidel, J. Nichols, L. Ramsay, and A. Tomaino. 2009. *NatureServe Conservation Status Assessments: Factors for Assessing Extinction Risk*. NatureServe, Arlington.



(Above) Many expert botanists contributed their knowledge during the RPC.

(Below) Michael Mancuso discusses *Astragalus cusickii* v *packardiae*.



(Below) Barbara Ertter, Don Mansfield, and Beth Corbin comparing notes.



NatureServe Conservation Status Rank Definitions

(Right) Don Mansfield showing herbarium specimens of *Lomatium bentonitum* during a presentation on the ranking process.

(Below) *Sedum valens* (Salmon River sedum) was one of a few newly described species ranked at the conference. This species, published by Curtis Björk, is known only from a short section of the lower Salmon River Canyon.

Photo:
Curtis Björk



Ranks are given at three geographic scales

G = global

N = national (We seldom use this level.)

S = subnational (This is typically called the “state” rank in the U.S., but it also can indicate rank within a province. At the Rare Plant Conference, we focused on S ranks—within Idaho.)



Ranks have one of seven values

X = presumed extinct = not located despite intensive searches and virtually no likelihood of rediscovery

H = historical records only = possibly extinct, but some hope of rediscovery; not documented in ~20-40 years despite some searching

1 = critically imperiled = at very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors

2 = imperiled = at high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors

3 = vulnerable = at moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors

4 = apparently secure = uncommon but not rare; some cause for long-term concern due to declines or other factors

5 = demonstrably secure = common; widespread and abundant

The conservation status of an organism or plant association is designated by the geographic scale of assessment, and the rank at that scale. For example:

G1 = critically imperiled globally

S1 = critically imperiled in Idaho

S4 = apparently secure in Idaho

These two ranks are often denoted together. For example:

G1 S1 = critically imperiled globally, and critically imperiled in Idaho

G5 S1 = demonstrably secure globally, and critically imperiled in Idaho

When ranking organisms at the infraspecific level (subspecies or variety), a “T-rank” (trinomial) is given using the same scale of X, H, 1, 2, 3, 4, or 5, and denoted after the G-rank. For example:

G5T2 S1 = globally, the species is secure but the subspecies is imperiled, while in Idaho, the subspecies is critically imperiled

Uncertainty about the exact rank is denoted with a range of numbers: G4G5 = G4 or G5

Citation: NatureServe 2010. *NatureServe Conservation Status*. NatureServe, Arlington. Online at <http://www.natureserve.org/explorer/ranking.htm>

Idaho's Natural Heritage Program botanists and the assessment of our rarest plants

By Danielle L. Clay and Justin R. Fulkerson

For over twenty years, Idaho Natural Heritage Program (IdNHP) botanists have monitored populations of rare plants throughout the state. Botanists from local government agencies, the private sector, academia, and the public have also contributed to the knowledge that we at IdNHP use to track rare plant taxa, however there are still many plants in Idaho about which very little is known.

Some, such as *Heterotheca barbata* (Spokane false goldenaster) and *Viola lithion* (rock violet) are ranked by NatureServe as 'critically imperiled' or 'imperiled' globally (G1 or G2, respectively) and reported to be in Idaho, but are not ranked or tracked at the state level. Others, such as *Andreaea heinemannii* (Heinemann's Andreaea moss) and *Eriogonum hookeri* (Hooker's buckwheat), are ranked as 'critically imperiled' in Idaho (S1), but no records of them exist in the IdNHP database. Populations and numbers of individuals of any particular rare plant species may be very limited throughout Idaho; however, because botanists have not compiled basic information about these rare plants, they are not well understood, and it is possible that they may be impacted or extirpated before they have been thoroughly examined.

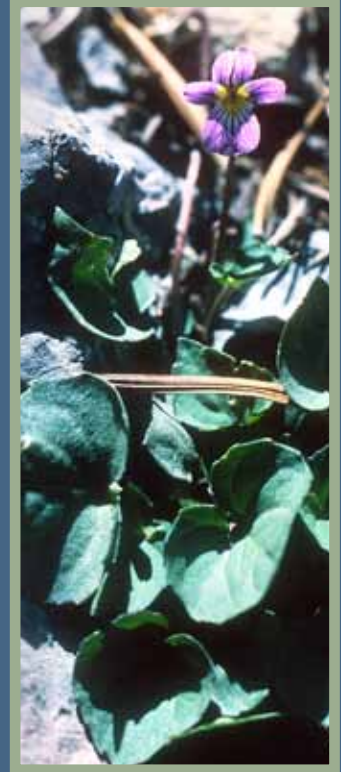
To address these concerns, we are assessing the conservation status of many rare plant species that have long raised questions for Idaho Native Plant Society (INPS) members and others. Approximately 65 rare plant species are on the list, some of which are only known from one or two locations within Idaho. Each taxon is researched in a series of steps to amass as much information as possible. We are specifically most interested in how often a particular taxon occurs in Idaho, its distribution across Idaho, its population size, and any threats that may compromise the integrity of the populations. Additionally, to gain a broader picture of the taxon, we gather background information about the natural history of the plant (for instance, the substrate on which the plant grows). After the aforementioned data are assembled, the taxon is ranked using NatureServe's rank calculator (*for more information about NatureServe's rank calculator see Lynn Kinter's article in this issue*).

Researching may seem like a daunting task: where to begin? We obtain information from various sources, in a process that we affectionately call "botanical sleuthing."

Herbaria: Many herbaria throughout the United States have online access to their plant specimens. This includes digitized photographs of herbarium sheets and labels, both of which are important in obtaining the date of collection, habitat and locality (latitude/longitude or township and range) and phenology of a plant. All online herbaria that house Idaho specimens are searched for records. We have also visited several herbaria, including those at University of Idaho, Boise State University, and College of Idaho, and have photographed and recorded the specimens. We then used ArcGIS—a computerized mapping program—to map the sites where the herbarium specimens were collected.

Literature: Academic research journals are a wonderful source of collection information published by botanists. These journals contain historical documentation of nomenclatural changes, and often cover similar species, habitat requirements, and various ecological attributes. The Biodiversity Heritage Library (<http://www.biodiversitylibrary.org>) is a terrific free source for finding articles, particularly from older journals. We also consult the floras of our region for similar types of information.

IdNHP data: Data collected throughout the years by academicians, agency personnel, consultants, lay botanists, and IdNHP researchers is compiled at the IdNHP. At Idaho Fish and Game, where IdNHP is housed, the file cabinets are literally overflowing with information on Idaho's rarest plants.



(Above) *Viola lithion*
(rock violet)

Photo: Mark Egger

(Below) *Eriogonum hookeri*
(Hooker's buckwheat)





(Above) *Cryptantha* species.

Photo: Nancy Miller

Botany websites: To ensure that the correct names of rare plant species are used in this project, and to obtain more information on the plants in general, authoritative websites like 'The Plant List' (<http://www.theplantlist.org/>) are consulted. The Plant List is a working list of all known plant species, and is a collaborative effort between the Royal Botanic Gardens, Kew and Missouri Botanical Garden. The Plant List contains up-to-date information on the correct nomenclature for plant species, as well as synonyms and older taxonomic names; these data are helpful in tracking down older herbarium specimens and other useful information about a taxon. NatureServe is also consulted to check the current state and global ranks for particular species.

Personal communication: Local or regional botanists are often very helpful because many rare plant records or collections are housed at their respective facilities. Knowledgeable botanists can scour their memories and their file cabinets for information to share. Of course, each year at the Idaho Rare Plant Conference, agency, private, academic, and citizen scientists gather to share an enormous amount of data on some of Idaho's rarest species.

Once all information is compiled for each rare plant taxon, the data are synthesized into a document outlining all key points about the plant. We then input these data into the rank calculator to generate a state conservation ranking. NatureServe state rankings generated from this assessment will aid conservation planning and management efforts for some of Idaho's rarest plants.

Of course, researching is never without a few snags, and we have had to do a lot of "botanical sleuthing" to obtain accurate information on these rare plants. Some plant locations were quite nebulous, particularly those recorded near the turn of the last century (e.g., "in the vicinity of Pocatello" or "in the valley of the Spokane River"). Sometimes proper species identification was a concern. For instance, many *Cryptantha* (cryptantha) species are morphologically similar and easily confused. If funding permits, IdNHP botanists may travel to field sites to determine if the rare plant species is actually present, and to collect additional data on habitat, threats to the population, and numbers of individuals.

We hope that this research and data compilation will result in a better knowledge of the actual ranges of some of Idaho's rarest plants, particularly those which have been in question for many years. We also hope these data will aid conservationists and land managers when considering actions on public lands that may impact these rare taxa.

Acknowledgements: Much of our research at IdNHP would be impossible without the generous assistance of local and regional botanists and historians. In particular, we would like to thank Lynn Kinter for her assistance and insightful commentary on this article; Misako Nishino (data manager at BONAP) for unwavering commitment to helping us locate information; Janet Bala (collections manager, R.J. Davis Herbarium and the Idaho Museum of Natural History) for sending a number of scans of old specimens; Dr. Pat Holmgren (Director Emerita at NYBG) and Dr. Wendy Applequist (Researcher and Associate curator at MOBOT) for their help with *Lomatiums*; Curtis Björk (botanist and lichenologist) for his assistance with *Andreaea heinemannii*; Dr. Jim Reveal (Professor and honorary curator at NYBG) for his help with Idaho's *Eriogonums*. We'd also like to thank the U.S. Fish and Wildlife Service and the Idaho Nongame Fund for funding this research.

Examples of “botanical sleuthing” at its best...

by Danielle Clay and Justin R. Fulkerson

***Pediocactus nigrispinus* (snowball cactus)**

Nomenclature changes may affect the status of a rare plant. *Pediocactus simpsonii* (Simpson's hedgehog cactus) is a tracked species (S3, G4) found in southern and east-central Idaho. Two similar-looking species, *Coryphantha missouriensis* (Missouri foxtail cactus) and *C. vivipara* (spiny star), have also been reported in Idaho, and the latter is tracked (S2, G5). However, the Flora of North America, Volume 4, published in 2003, states that reports of the two *Coryphantha* species from Idaho are incorrect—they are actually *P. simpsonii*.

In light of this information, we obtained all Idaho records of *Coryphantha* and converted them to *Pediocactus simpsonii*. But to confuse things a little, these two species of *Coryphantha* have recently reverted to an old name for the genus—*Escobaria*. So we also had to search for records under the new/old name *Escobaria*.

Then we had to take into account that populations of *Pediocactus simpsonii* in the lower Salmon River region have been described as a new species—*P. nigrispinus* (snowball cactus), based on unique molecular and morphological characters in *P. nigrispinus*. In Idaho and other states, *Pediocactus nigrispinus* has a much more limited range than *P. simpsonii*, therefore, its conservation status now needs to be assessed by INPS. It is likely much more rare than *Pediocactus simpsonii*.



(Above) *Pediocactus simpsonii* (Simpson's hedgehog cactus).

Photo: Nancy Miller.

***Eutrochium maculatum* var. *bruneri* (spotted Joe-Pye weed)**

Collection locations can sometimes be very cryptic. When researching *Eutrochium maculatum* var. *bruneri*, we had some clear locations, while others were difficult to track down. One such collection was made in 1935 by Ray J. Davis, botanist, professor and founder of the Idaho State University's herbarium. The only locality information he included on his label was that the specimen was collected at “Havenor's ranch near Pocatello.” The specimen contained no township or range information, and tracking down Havenor's ranch proved to be quite difficult. We enlisted the help of Tabatha Butler, director and curator of the Bannock County Historical Museum. Luckily, she emailed us a scan of a few pages from *The History of Bannock County*, which contained information on the Havenor family. Percy Havenor was a city engineer, county surveyor and road supervisor in Pocatello for many years, beginning in 1907. In the late 1880s, Havenor homesteaded a ranch five miles west of Pocatello, along the east bank of the Portneuf River. In 1911, he filed for his 120-acre homestead, and later acquired 40 more. He chose the area because of good spring water. From *The History of Bannock County*, we learned that Havenor's homestead is now the site of the FMC employee park and FMC gravel pits. It is uncertain if the population collected by Davis is still in existence at the 1935 collection site; however, four additional, more recent observations of spotted Joe-Pye weed have been made in the area west of Pocatello.



(Above) *Eutrochium maculatum* var. *bruneri* (spotted Joe-Pye weed)

***Saussera weberii* (Weber's saw-wort)**

The literature can harbor misinformation on a plant's occurrence in Idaho. A rare plant guide of Idaho and Wyoming plants published by the U.S. Forest Service (USFS) in 1989 shows a map of *Saussera weberii* occurring in Fremont County, Idaho and Sublette County, Wyoming. The guide was cited in two research articles, which mentioned that *Saussera weberii* occurs in both Wyoming and Idaho. Interestingly, all other information regarding this plant species, including many floristic surveys in Idaho, yielded no records from Idaho and noted that the plant was only known from the Bridger-Teton National Forest in Wyoming. An exhaustive search of herbarium records from Idaho, and data from several thorough floristic surveys conducted in Fremont County, yielded no results or records of *Saussera weberii*. This left us wondering how the 1989 USFS publication determined that *Saussera weberii* occurs in Idaho. As it turns out, surveys have only located *Saussera weberii* on

More botanical sleuthing...

Both specimens below are identified as *L. lepidus* var. *cusickii*.



a few mountain tops in Fremont and Sublette Counties, Wyoming. The USFS rare plant guide did indeed mark Sublette and Fremont Counties, but mistakenly marked the Fremont County of Idaho instead of the Fremont County of Wyoming, which is adjacent to Sublette County in Wyoming. Needless to say, this was an “Ah-hah! moment” for us, after a long time researching this taxon.

Lupinus lepidus var. *cusickii* (Cusick's lupine)

Sometimes we come across rare plant species that have such complicated stories that we must ask for assistance from experts. For example, *Lupinus* species are quite variable and difficult to differentiate between subspecies or varieties. One of the plants on our list, *Lupinus lepidus* var. *cusickii* has gone through several name changes, including *L. cusickii* var. *cusickii* and *L. longivallis*. According to a 1995 publication by Broich and Morrison, Cusick's lupine occurs only in Baker County, Oregon, where it grows on steep slopes of ashy volcanic soils in sagebrush habitats. Despite its reported narrow range, we located five Idaho specimens, including one identified by Broich in 1990. All five are from Long Valley, along the Payette River. The earliest of these five was collected in 1895 and was the basis for describing the species *L. longivallis*. The other four Idaho records have been identified by several renowned botanists as *L. lepidus* var. *cusickii*. If these identifications are correct, the Long Valley population is disjunct from the Oregon population and occurs in a markedly different habitat: sandy river beds of open ponderosa pine forests. For our analysis, we are left with the following options: 1) *L. lepidus* var. *cusickii* has a broader habitat and range than tuffaceous soils in sagebrush habitats of Baker County, Oregon; 2) these five specimens are misidentified by the experts and are actually *L. lepidus* var. *utahensis*, a similar, more common variety; or 3) the Long Valley plants are different from the Baker County plants and should be reinstated to *L. longivallis*. Options 1 and 2 seem highly unlikely, so we suspect that option 3 is correct, but we will have to wait for help from the experts before we know for sure.

Four *Lupinus* herbarium specimens with conflicting information, along with name changes and confusing records, left our botanical sleuths baffled...at least for the time being...

The eastern Oregon specimen at right is labeled as *Lupinus lepidus* Douglas var. *cusickii* and *L. cusickii* Watson. The Idaho specimen (far right) is labeled as *L. helleri* (1941), as *L. ornatus* (1970), *L. lepidus* var. *cusickii* (2009).



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Restoring the Pack and Clark Fork river deltas



(Above) Kathy Cousins (IDFG) securing matting to protect the newly constructed islands from erosion during the Pack River Delta Restoration Project. Kathy will talk about this project and its application to restoration projects within the Clark Fork River delta during the annual meeting.

It's a tough job but somebody's got to do it!

All photos courtesy of Idaho Dept. of Fish and Game



(Above) Heavy equipment at work during the construction of the islands in the Pack River Delta Restoration Project. Eight islands were constructed adding about 24 acres to the wetlands found in the delta.



(Above) Volunteer crew at work planting native trees and shrubs on Island 8 of the Pack River Delta Restoration Project. During the project, over 3,600 woody plants, 10,000 herbaceous plants, and 600 pounds of native grass seed were planted.



(Above) The ecologically complex Clark Fork River delta.



(Above) Forested wetlands, scrub-shrub wetlands, and herbaceous wetlands with emergent and submergent vegetation within the Clark Fork River delta.

2012 INPS ANNUAL MEETING REGISTRATION

Location: Clark Fork Drift Yard, Clark Fork, Idaho

Dates: Friday, June 22, through Sunday, June 24

Mail completed form to: Derek Antonelli, 821 W Mustang Ave, Hayden, ID 83835

Questions? Contact: Derek Antonelli, [antonelli8 at frontier dot com](mailto:antonelli8@frontierdot.com) or (208) 762-2575.

Alternate contact is Karen Williams, (208) 667-8790.

Name(s)		
Address		
City, State, Zip		
Phone		Email:
Registration Fee: \$10 per adult participant		
Number of people		Total:
Meals @ \$10/person		
Regular	Vegetarian	Total:
Please Indicate Activity Preferences		
Saturday, Tour of Pack River Delta Restoration		
Morning:	Afternoon:	Either:
Saturday, Morris Creek Hike		
Morning:	Afternoon:	Either:
Saturday Alternative, Scotchman Peak I Hike, All Day		
Sunday, Caravan to Ross Creek Cedar Grove		
Are you interested in an organized boating activity on Sunday?		
Boating Activities: Will you bring:		
Boat	Canoe	Kayak
Would you like information on alternative camping arrangements?		
	Yes	No



Mountain goat above the Clark Fork Delta.

Photo: Derek Antonelli



Sage Notes

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Rare MacFarlane's four-o'clocks (*Mirabilis macfarlanei*) grace a Hells Canyon hillside. This beauty is known from just a few sites in the canyons of the Imnaha, Snake, and Lower Salmon rivers. Paul Warnick at UI Arboretum has successfully grown this plant to bloom stage.

Photo: Jane Rohling