

Newsletter of the Idaho Native Plant Society • Promoting Interest in Idaho's Native Flora **2023 Rare Plant Conference Report** By Beth Corbin, Southern Idaho Rare Plant Working Group Coordinator, with Carol Prentice Photos by Nancy Miller

The 2023 Rare Plant Conference was held February 28–March 2 this year, once again at the Idaho Department of Fish and Game (IDFG) building in Nampa. Everyone I talked to agreed this was an exceptionally good Rare Plant Conference (RPC), with great presentations, good snacks, botany fun, interesting posters with engaged presenters, a well-attended banquet, a significant number of Rare Plant List ranking updates, and a fun post-conference field trip. We all were so glad to be back in-person for the first time since 2020; the networking and reconnecting was particularly sweet for the 60-some conference attendees.

The RPC is generally held every two years, sponsored by Idaho Native Plant Society, and is attended by a wide variety of agency, INPS, academic, and interested public members. Primary objectives of the RPC include sharing information on Idaho's rare plants and related subjects and updating the INPS Rare Plant List. This list is used by land and resource agencies to inform management and to help prioritize conservation activities.

We started the RPC Tuesday afternoon with opening remarks from INPS President Michael Mancuso, noting that the first RPC was in 1984. By my count this is the 31st RPC, although the agenda and swag show it as the 30th, not counting the 2022 on-line RPC. Our excellent conference cochairs Kristin Williams and Brittni Brown did introductions and gave logistical information. Ben Legler (now at University of Wyoming) was our keynote speaker, providing us with an insightful overview of Idaho's *Botrychium* (moonworts), including the conference logo plant, *B. hesperium*.

Agency updates were next, and we heard informative presentations from Karen Colson (U.S. Fish and Wildlife Service), Robert Jaeger (USFWG) on whitebark pine, Anne Halford (Bureau of Land Management), Tova Spector (U.S. Forest Service Region 4, virtually), Amanda Hendrix (USFS R1), Lynn Kinter & Jennifer Miller (IDFG), and Angela Soddenaa & Blair McClarin (Nez Perce Tribe, virtually). Our evening casual social was held at Fiesta Guadalajara in Nampa, where companionship, Mexican food, and a few margaritas were enjoyed.

Wednesday was our full conference day, starting with conservation talks where we learned a lot. Clara Buchholtz from Boise State University shared her research on *Astragalus mulfordiae*, that pollinators highly increase fruit development and there is low overlap between pollinator species inhabiting the Boise Foothills vs. the Owyhee Front. Wallace Keck gave us an update on pinyon pine (*Pinus monophylla*) at City of Rocks Reserve where they are removing black-stain fungus infected trees to protect healthy ones. Soledad Diaz from Corvallis spoke on using remote sensing for rare and uncommon plant detection, particularly showing alarming trends in

... Continued on Page 4

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Letter from the President

The Idaho Native Plant Society depends on volunteers to get things donewhether it's leading a field trip, helping at a chapter's native plant sale, disseminating information about native plants at a community event, serving on a committee, updating the website, responding to email inquiries, keeping the financial books in order, organizing the annual meeting, writing an article for *Sage Notes*, being a chapter or state board member, and the list goes on. INPS is fortunate to have a dedicated cadre of volunteers to help the organization meet its mission and serve its membership. Articles about two exceptional INPS volunteers, Nancy Miller and Paul Shaffer, are included in this newsletter.

Recently, several members volunteered to form and serve on the INPS Scholarship Committee. This committee was tasked with formulating and implementing a plan to establish a long-term scholarship program sponsored by INPS. Many hours of research, coordination, and perseverance later, the scholarship program is now in place and will make its first award for the Fall 2023 semester. I applaud the Scholarship Committee volunteers for all their hard work bringing the scholarship program to fruition. An article in this issue of Sage Notes by Lindsey Barber, the scholarship committee chair, provides more information about the scholarship. Additional information about the scholarship is also now available on the INPS website. It includes a link to donate to the scholarship fund. The more robust this fund becomes, the more scholarships INPS will be able to sponsor each year. Education is central to the INPS mission, and I see the scholarship program as a way to help college or university students interested in native plants and plant communities attain their goals. They will be needed as future native plant advocates.

The Wood River Chapter has been working hard organizing this year's INPS Annual Meeting, to be held June 30 to July 3 in the beautiful Sawtooth Valley area. I hope to see many of you at the meeting for a good dose of wildflowers and camaraderie.

Thank you to everyone who volunteers time, knowledge, and passion to benefit Idaho's native flora. Enjoy your time in the hills this spring and summer, in your native plant garden, or wherever you have the opportunity to spend time with your favorite plants.

Illustration of western moonwort,

Mike Mancuso, **INPS** President



Announcements

INPS Scholarship Program Has Taken Root!

By Lindsey Barber, Calypso Chapter

The Idaho Native Plant Society is excited to announce the inaugural year of its annual scholarship program! The INPS board has allocated funds for an annual scholarship in the amount of \$2,000 to be awarded to an Idaho college or university student demonstrating an interest in native plants and plant communities. Through the scholarship, INPS supports the education of those who will carry on the INPS mission for years to come.

The INPS Scholarship Committee was created in November of 2022 to ensure the success of the program. The committee is made up of volunteers from INPS chapters across the state: Penny Morgan (White Pine), Bill Bridges (Loasa), Liz Martin (White Pine), Paul Ries (Wood River), Don Morishita (Loasa), and Lindsey Barber (Calypso). Lindsey is a new INPS member and currently serves as chair of the Scholarship Committee.

It can be challenging to initiate a scholarship program when committee members are located hours away from each other, but through Zoom meetings and Google Drive, all things are possible! Early committee work focused on establishing the criteria for eligibility, determining how applicants would be evaluated, detailing the funding, and agreeing on how to administer the award. Later work included drafting the application, building a list of contacts to help solicit applicants, and creating social media posts and informative flyers for wider dissemination. The work accomplished this year will serve as the baseline for continued administration of the scholarship each Fall.

We've received many positive comments from the faculty members and other professionals we contacted as a way to share information with students. We also used the INPS Instagram and Facebook accounts to spread the word. People told us, "This is a generous scholarship," and, "Our students will be eager to apply!"

The deadline for submitting a completed application package was April 30, 2023. The INPS Scholarship Committee received applications from 22 applicants! The committee will now select the winner of the award for the 2023-2024 school year. The winner will be profiled in a future issue of *Sage Notes*.

For more information, including the criteria that will be used to select the best candidates, please visit the INPS website at https://idahonativeplants.org/scholarship-news/. We welcome your comments and questions at INPSScholarship@gmail.com. If you wish to donate to the INPS Scholarship, you may do so using PayPal at https://idahonativeplants.org/scholarship-news/. Your contributions will help us continue to offer scholarships well into the future. •

Doug & Pat Mason



Pleasant Hill Farm Farm Palouse area native forbs and grasses for reforestation, restoration, and

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landscaping.

2023 Idaho Rare Plant Conference ... Continued from Page 1

Astragalus mulfordiae suggesting the cumulative probability of quasi-extinction is very likely to occur within a 60 year period. Joe Kuhl from University of Idaho updated us on the Stillinger Herbarium, where they hope to hire a collections manager soon.

After a break and more botany fun (a candy plant occurrence treasure hunt), we began the rare plant species conservation ranking. I gave an overview of the process (including the NatureServe Global and State ranks and the Rank Calculator) within the Rare Plant Working Groups (RPWG) and culminating at the RPC. I also presented some simple name changes for updates to the Rare Plant List.

Derek Antonelli single-handedly presented ranking proposals from the Northern Idaho RPWG for 15 plants, including a few mosses (see the discussion and tables below for specifics). The Southern Idaho RPWG started ranking presentations mid-afternoon, which were continued on Thursday. Wednesday ranking presenters were Jennifer Miller, Carol Prentice, Sandy Smith, Sam Seabrook-Sturgis, and me.

Late afternoon was the poster session (organized by Michael Ottenlips) and social. About a dozen posters on a variety of plant-related topics were presented, with representatives from several different colleges/universities, government agencies, and a private company. Our banquet consisted of a very tasty dinner catered by Kanak Attack, followed by a talk (delivered remotely) by Cathy Cripps of Montana State University about whitebark pine and its co-dependence with high elevation mycorrhizal fungi, which was very interesting.

Thursday morning the RPC continued with three more conservation presentations. Trevor Caughlin from BSU talked about using drone technology to map and monitor native plant communities in the sagebrush steppe, to provide standardized measurements of plant community structure. Don Mansfield, emeritus from College of Idaho, talked about his recent publication separating slickspot peppergrass (Lepidium papilliferum), into two taxa (L. papilliferum and L. montanum var. owyheense), including some implications for management of this federally listed plant; he also uncovered a third taxon, L. phylonitron, in the complex that needs to be investigated. Francis Kilkenny from Rocky Mountain Research Station talked about forage kochia's spread from fuel-break plantings into slickspot peppergrass and Davis peppergrass (Lepidium davisii) sites.

We then had the rest of the SIRPWG ranking presentations, from presenters Sandy Smith, Lynn Kinter, Jessica Irwin, Elle Kramer, Rose Lehman, and me. Of note, we had three new people research and two new presenters. To wrap up the RPC, INPS Pahove Chapter President Karie Pappani gave closing remarks for the conference.

But wait, there's more! Barbara Ertter led an optional field trip to the Boise Foothills above Eagle (Big Springs Trailhead and the Ada/Eagle Bike Park) where sagebrush buttercups were in bloom and we observed numerous plants not in flower as well as a few lichens. That evening, some of us gathered at Brick 29 Bistro in Nampa for a great casual social dinner and chance to renew and make new acquaintances.

There was a lot packed into those two half-days and one full day and many people to thank. But first, here's more information on the rare plant rankings. In total, 50 plants were presented and ranked. The majority of these (26) were plants currently on the Rare Plant List which had not been ranked at a RPC using the RPWG & Nature-Serve Rank Calculator. Another 15 plants ranked are new additions to the List, including two recently published plants (Potentilla maryae and Townsendia lemhiensis). Four plants are removed from the list based on updated information. Two plants had been previously ranked using this process, but ranks were updated based on new information. Two plants were ranked that are endemic to Idaho but not rare. And one plant was evaluated but not added (see Tables 1-5). These changes have been made to the Idaho Rare Plant List and the 2023 version is posted on the INPS website.

These rankings and presentations represent a lot of hard work by the RPWG members, as well as the active participation and ratification by attendees of the RPC. The result is an updated Rare Plant List reflecting the best available scientific information for Idaho's rare plants. And of course the RPC as a whole could not occur without the dedication of its planners and implementers. Special recognition is due to our 2023 RPC coordinators Kristin Williams and Brittni Brown for pulling off not only this RPC but the 2022 on-line RPC! In addition to those already mentioned, thanks go to: moderators Crista O'Conner, Rose Lehman, and Anne Halford; registration Janet Bala, Craig Carpenter, and Karie Pappani; treasurer Karen Getusky; scribes Lynn Kinter (real-time rank calculator recorder), Clara Buchholtz, Sam Seabrook-Sturgis, and Elle Kramer; botany fun Kristin Kaser; snacks Carol Prentice; banquet coordinator Crista O'Conner; IT Jim Strickland; venue coordination Jennifer Miller; swag Kristin Williams, Brittni Brown, Holly Giard, and Elle Kramer; copies Holly Giard; and all who helped with setup and cleanup.

We hope to see you at the 2025 RPC! •

Table 1. Plants on Rare Plant List not previously RPC Ranked (26)

Species	Common Name	Presenter	State Rank	Status
Astragalus mulfordiae	Mulford's milkvetch	Carol Prentice	S2	RARE
Betula pumila	Bog or swamp birch	Derek Antonelli	S2Q	RARE
		for Blair McClarin		
Carex aboriginum	Indian Valley sedge	Beth Corbin	S1	RARE
Carex abrupta	Abrupt sedge	Beth Corbin	S ₃	RARE (from REVIEW)
Carex chordorrhiza	Creeping sedge	Derek Antonelli	S2S3	RARE
Carex magellanica ssp. irrigua	Boreal bog sedge	Derek Antonelli	S2S3	RARE
Ceanothus prostratus	Mahala-mat ceanothus	Sandy Smith	S1*	RARE*
Cleomella hillmanii var. goodrichii	Goodrich's rhombo-pod	Jessica Irwin	S2	RARE
Cyperus bipartitus	Shining flatsedge	Beth Corbin	S3S4	RARE
Downingia insignis	Parti-color downingia	Jennifer Miller	S1S2	RARE
		for Michael Daines		
Ericameria parryi var. montana	Parry's rabbitbrush	Rose Lehman	S2	RARE
Erigeron humilis	Low fleabane	Sandy Smith	S2	RARE
Eriophorum angustifolium ssp. angustifolium	Tall cottongrass	Beth Corbin	S3	RARE
Eriophorum viridicarinatum	Green-keeled cottongrass	Derek Antonelli	S2	RARE
Eryngium alismifolium	Inland coyote-thistle	Jennifer Miller	S1S2	RARE
Gaultheria hispidula	Creeping snowberry	Derek Antonelli	S2	RARE
		for Blair McClarin		
Lupinus uncialis	Inch-high lupine	Jennifer Miller	S_3	RARE
Mentzelia mollis	Smooth stickleaf	Beth Corbin	S2S3	RARE
Penstemon compactus	Bear River Range beardtongue	Jennifer Miller	S2	RARE
Prenanthella exigua	Desert prenanthella	Beth Corbin	S2	RARE
Primula alcalina	Alkali primrose	Sandy Smith	S2	RARE
Primula incana	Jones primrose	Sandy Smith	S1	RARE
Pyrrocoma integrifolia	Entireleaf goldenweed	Sandy Smith	S_3	RARE
Ranunculus pygmaeus	Dwarf buttercup	Sandy Smith	S1	RARE
Streptopus streptopoides	Small twisted stalk	Derek Antonelli	S3	RARE
		for Blair McClarin		
Tellima grandiflora	Large fringe-cup	Derek Antonelli for Blair McClarin	S2	RARE
*Adams County population only				

*Adams County population only

Table 2. Plants Ranked and Added to the Rare Plant List (15)

Species	Common Name	Presenter	State Rank	Status
Allium macrum	Rock onion	Beth Corbin	S1	RARE
Cleomella hillmanii var. hillmanii Hillman's rhombo-pod		Jessica Irwin	S2	RARE
Cleomella hillmanii	Hillman's stinkweed	Jessica Irwin	S2S3	RARE
Epilobium suffruticosum	Shrubby willowherb	Carol Prentice	S2	RARE
Geocaulon lividum	False toadflax	Derek Antonelli	S3	RARE
Grimmia hamulosa	Dry rock moss	Derek Antonelli	S1	RARE
		for Alma Hanson		
Impatiens ecornuta	Spurless touch-me-not	Derek Antonelli	S2	RARE
Juncus hemiendytus	Hermann's dwarf rush	Beth Corbin	S2	RARE
Neottia borealis	Northern twayblade	Elle Kramer	S3	RARE
Polytrichastrum formosum	Bank haircap moss	Derek Antonelli	S1	RARE
		for Karen Gray		
Polytrichastrum longisetum	Long-stalked haircap moss	Derek Antonelli	S1	RARE
		for Karen Gray		
Potentilla maryae	Mary's cinquefoil	Beth Corbin	S1	RARE
Rhodiola integrifolia	Western roseroot	Derek Antonelli	S2S3	RARE
ssp. integrifolia	or King's crown			
Stephanomeria paniculata	Stiff-branch wire-lettuce	Beth Corbin	S1S2	RARE
Townsendia lemhiensis	Lemhi Townsend daisy	Lynn Kinter	S1	RARE

...Continued on Page 6

2023 Idaho Rare Plant Conference...Continued from Page 5

Species	Common Name	Presenter	State Rank	Status
Aliciella triodon	Coyote gilia	Beth Corbin	None	No verified Idaho Records
Carex fuliginosa	Shortleaf sedge	Beth Corbin	None	No verified Idaho Records
Cercocarpus montanus	Colorado birchleaf mountain-mahogany	Sandy Smith	None	No verified Idaho Records
Iris versicolor	Blue flag iris	Derek Antonelli	None	Considered exotic in Idaho

Table 4. Others (5)

Species	Common Name	Presenter	State Rank	Status
Carex vernacula	Native sedge	Beth Corbin	S3	Re-ranked; maintain RARE
Chaenactis evermannii	Evermann's pincushion	Sandy Smith	S4	Endemic but not rare
Pyrrocoma insecticruris	Camas or bugleg goldenweed	Sam Seabrook-Sturgis	S2	Re-ranked; maintain RARE
Scopidium scorpioides	Hooked scopidium moss	Derek Antonelli	None	Specimen thought to be this is not;
		for Alma Hanson		no verified Idaho records; do not add
Trifolium longipes	Long-stalk clover	Sandy Smith	S4	Endemic but not rare
var. penduculatum				

Table 5. NatureServe Rank Descriptions. See NatureServe.org for ranking information. S refers to ranking for the state of Idaho. Q= Taxonomic uncertainty.

Rank	Brief Description
S1	Critically Imperiled
S2	Imperiled
S3	Vulnerable
S4	Apparently Secure
S2 S3 S4 S5	Demonstrably Secure



Michael Ottenlips standing with our excellent poster presenters.



Brittni Brown (RPC 2023 co-chair) and Michael Mancuso discussing conference logistics.



Karen Colson speaking with a group after her USFWS presentation on Endangered Species Updates and Conservation Highlights.



Derek Antonelli and Beth Corbin (Rare Plant Working Group Chairs) (both standing) with group.



Crista O'Connor (standing, with group) started the conference off right as our moderator the first day.



Michael Mancuso, Peggy Faith, Don Mansfield, Nyika Campbell, Lisa Harloe, Kristin Williams (RPC 2023 cochair), Derek Antonelli, and others in line for a snack.



Elle Kramer helping with Botany Fun at break.

Invasive Species

Bur Buttercup is Not a Friend of Mine

Article and Photo by Roger Rosentreter, Pahove Chapter

Bur buttercup (*Ranunculus testiculatus, Ceratocephala testiculata*) is native to Eurasia. Now common in many dry-

land habitats at low elevations, it was uncommon when I began my botanical career in Southern Idaho in the late 1970s. Back then, I made a formal collection of this annual invader and was so proud



to show this "new" plant to College of Idaho botany professor Dr. Patricia Packard. Dr. Packard is best known for her stern character, but she had a delightful twinkle in her eye when she saw my collection. This invader was first reported for Idaho near Mountain Home. (R. L. Piemeisel 40-398; Apr 11, 1940).

Unfortunately for western rangelands, bur buttercup quickly became much too common. To control this plant, we need to know and understand its habits:

Description

- Low-growing annual, from 1-2 inches tall, with light green, antler-like leaves
- Small single yellow flowers which grow taller than leaves
- Five petal flowers that mature to oval-shaped, spiny burs; each bur produces 5 to 80 seeds
- Short taproot

Phenology

- Fall, winter, or spring annual with germination dependent on when ground temperatures reach 41°F
- Flowers produced quickly, within 3 weeks of germination
- By late spring to early summer, plant foliage dries and turns brown and brittle, once shallow soil moisture is gone
- Burs are sharp and annoying to humans and wildlife

Chemistry

This and other buttercup species contain alkaloids, glycosides (mustard oils) and protoanemonin, which are toxic to humans and animals (Gleadow & Møller 2014). Contact with plant sap may cause inflammation and blistering of the skin, while ingestion can cause irritation of the mouth, vomiting, and diarrhea (Patra & Saxena 2009). Hence, no animals eat this plant.

Ecology and Phenology in SW Idaho

I have found that biological soil crust field work at low elevations is best conducted in early spring, prior to maturation of bur buttercup fruits. Immature fruits are green and flexible rather than stiff and spiny, so field work is much less painful. The weather is often cool and moist too, perfect conditions for identification of biocrusts.

For the last six years, I have volunteered at the World Center for Birds of Prey campus south of Boise. Habitat restoration has been the focus of my volunteer efforts (See *Sage Notes*, June 2022, page 10). For the first few years, we mostly battled summer cypress or kochia (*Bassia scoparia*, *Kochia s.*). Once the kochia was removed, it opened up more bare ground for bur buttercup to explode. Bur buttercup's growth and phenology have differed somewhat every year. Let's look at the last few years as an example (Table 1):

Bur buttercup germinated 3.5 months later in 2023 than it did in 2021. This produced much smaller plants and fewer seeds per plant. The persistent winds have also dried the surface soil between storms. In March 2023, bur buttercup plants were initially so small and short that it was difficult to grip them for removal.

IPM Recommendations for Control

- Hand pull plants prior to seed maturation.
- Shallow tillage or hoeing will control young plants.
- Apply a mulch layer 3 inches deep to reduce seed germination.
- Apply an appropriate post-emergent broadleaf herbicide directly to target weeds.
- If perennial vegetation dominates the site, then apply a pre-emergent herbicide before bur buttercup germinates.

Literature Cited

- Gleadow, R. M., & Møller, B. L. (2014). Cyanogenic glycosides: synthesis, physiology, and phenotypic plasticity. Annual Review of Plant Biology, 65, 155-185.
- Patra, A. K., & Saxena, J. (2009). Dietary phytochemicals as rumen modifiers: a review of the effects on microbial populations. Antonie van Leeuwenhoek, 96, 363-375.

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Year	Fall	Winter	Spring	Germination	Biomass
2021	dry/mild	wet/mild	wet/mild	Oct, Nov	large plants
2023	very dry/ cold	wet/cold	wet/cold & windy	late Feb, March	small plants

Botanical Research

Idaho 25 Peaks Project

By Michael Mancuso, Pahove Chapter

Getting to the top of many Idaho peaks can be a challenge, but you are rewarded with grand views, joy, gratitude, and if you time your visit right, a bonanza of wildflowers and more botany than may first meet the eye. Idaho's highest mountains reach elevations that extend beyond the biological limit of trees. This is the alpine, an ecosystem that supports a diversity of low-growing plants tougher than they may look. In Idaho, alpine habitats have received less systematic botanical scrutiny and documentation in the past compared to forest, shrub-steppe, riparian, or other lower elevation ecosystems in the state. Many Idaho peaks have been visited by plant collectors over the years, but their collections tended to be selective and the visits rarely included making a complete plant species list for the summit area. An article by Paul Allen in the December 2022 issue of Sage Notes introduced INPS members to the Idaho 25 Peaks Project. Here, I give a little more background about the project and summarize what we found on the 10 summits visited during summer 2022.

David Giblin with the University of Washington Herbarium initiated the Washington 50 Peaks Project in 2021 to better document that state's alpine flora. His project aims to conduct botanical surveys on 50 high elevation summits in Washington's Cascade Mountains over a 5-year period. His project caught the attention of other botanists and ecologists who recognized the value of obtaining similar floristic information for alpine habitats outside of Washington State. This shared interest led to expansion of the project in 2022 to include alpine summit surveys in British Columbia, Wyoming, Colorado, New Mexico, and Idaho. The Idaho 25 Peaks Project is Idaho's contribution to what has developed into a collaborative, multi-jurisdictional project for alpine botanical surveys in western North America. Our goal for Idaho is to conduct botanical inventories on 25 alpine summits in the state over a 3-year period that began in 2022.

The Idaho effort is volunteer-based and modeled after Washington's 50 Peaks Project, with surveys consisting of a thorough inventory of all vascular plant species found on selected peaks using specimen collections and field observations. The result is a complete checklist of each peak's vascular flora. The project has floristic, biogeographic, and conservation goals that include (1) obtaining a more comprehensive floristic baseline for Idaho's high elevation plant diversity; (2) improving understanding of the distribution of Idaho's high elevation plant diversity; and (3) documenting populations of plant species on the Idaho Rare Plant List encountered during the summit visits. The project also aims to have an education component by providing field botany and plant collecting experience to participants less familiar with these skills.

Derek Antonelli, Beth Corbin, Trista Crook, Anne Halford, Jessica Irwin, Mike Mancuso, Don Mansfield, Mike Merigliano, Bob Moseley, and Renee Mullen, all Idaho botanists/ecologists experienced with the state's flora and mountains, volunteered to lead or co-lead surveys to one or more Idaho summits in 2022. Group research and discussions led to a preliminary list of Idaho peaks potentially suitable for the project based on criteria such as geographic distribution, variability in geologic substrate, relatively straightforward accessibility, and lack of much if any previous plant collecting history. Team leaders/coleaders then selected which peak they wanted to survey. To recruit team assistants we sent an announcement outlining the opportunity to participate in the project to the INPS membership and to several Idaho university/college instructors and herbaria directors who might have interested students. Pre-field work tasks included producing preliminary plant lists for each summit using in-



Figure 1. Location of Idaho 25 Peaks Project summits surveyed in 2022.

formation from the Consortium of Pacific Northwest Herbaria website, acquiring maps and access information, and acquiring U.S. Forest Service Region 1 and Region 4 plant collecting permits.

Our intent was to sample as much of the alpine zone for these selected peaks as possible. Upon arrival at a peak, team leaders used their best judgment to delineate boundaries for the summit survey area based on features of the topography, vegetation, substrate stability, and safety concerns. The survey area for each peak was documented as a polygon using GPS Tracks or by drawing a perimeter on an aerial image of the summit. Surveys were conducted by walking a series of loose transects or intuitive meanders, sampling all slope aspects and as many microhabitats in the survey area as possible. Surveys consisted of a thorough inventory of all vascular plant species found in the summit area using both specimen collections and field observations. Field observations minimized collecting well-documented, widespread/common species team leaders could confidently identify in the field, providing extra time to search for less common species over a larger area on the summit. We assigned each species on the peak to an abundance category and also noted its phenology, and on which aspects it occurred. The peak inventory protocol included collecting leaf tissue samples for a subset of vouchered species, and also one or more rock samples to help document the summit's geology. Notes recorded information about the summit, its vegetation, whitebark pine (Pinus albicaulis), and other points of interest such as pollinators and disturbances. At a minimum, we took photos of the summit survey area, general vegetation patterns, and the surrounding landscape. Some teams also took photographs of plant species found on the summit.

Teams sampled a total of 10 summits in 9 different mountain ranges during summer 2022 (Figure 1; Table 1). All except the two northern Idaho peaks exceeded 10,000 ft elevation. Plant diversity on summits ranged from 35-73 species (Table 1). A total of 308 voucher colplant species. Summit survey areas varied in size from <1-36 acres. Voucher specimens collected at each peak are deposited at the Snake River Plains Herbarium (Boise State University), Stillinger Herbarium (University of Idaho) or Ray J. Davis Herbarium (Idaho State University). Overall, teams hiked a total of 73 round trip miles from trailheads or other starting points to the peak summits which were reached via day hikes except for a backpack trip to South Wet Peak. Summit ascents totaled approximately 25,000 ft of elevation gain.

Overall, we documented 238 distinct plant taxa on the 10 summits, including 181 forb, 36 graminoid, 15 shrub, and 6 tree species. Antennaria microphylla (white pussytoes) and Polemonium viscosum (sky pilot) occurred on 8 summits, the most of any species. Achillea millefolium (common yarrow), Antennaria umbrinella (umber pussytoes), Astragalus kentrophyta (thistle milkvetch), Erigeron compositus (cut-leaf daisy), Hulsea algida (alpine hulsea), Oxyria digyna (mountain sorrel), Packera werneriifolia (rock butterweed), Juncus parryi (Parry's rush), Poa secunda (Sandberg bluegrass), Ribes montigenum (alpine prickly currant), Trisetum spicatum (spike trisetum), and whitebark pine were the other species recorded on five or more summits. One-hundred forty species (59%) occurred on only one summit. Carex (sedge) contributed 11 species, the most of any genus, followed by Erigeron (fleabane) with 9 taxa, Castilleja (paintbrush), and *Eriogonum* (buckwheat) with 7 taxa, Poa (bluegrass) and Penstemon (beardstongue) with 6 taxa, and Antennaria (pussytoes), Boechera (rockcress), Draba (draba), and Potentilla (cinquefoil) with 5 species each. Summit species represented 38 plant families, the 3 largest being Asteraceae (aster family) with 52 taxa (22%), Poaceae (grass family) with 20 taxa (8%), and Brassicaceae (mustard family) with 18 taxa (7%). The project documented populations of 8 species on the Idaho Rare Plant List. This included one or more rare plant species on all summits. One of these rare plant species, whitebark pine, was recorded as very rare, rare,

lections were made. Associated leaf tissue samples were collected for 206 (67%) plant collections. These were sent to Dr. Hannah Marx at the University of New Mexico for her ongoing morphological trait analyses and DNA analyses research for high elevation

Table 1. Idaho 25 Peaks Project summits surveyed in 202	2.

Peak Name	Mountain Range	County	Elevation ft (m)	Plant Species
Backdrop Peak	Smoky	Blaine	10,099 (3078)	45
Mt. Baird	Snake River	Bonneville	10,025 (3056)	44
Mt. Pend Oreille	Cabinet	Boundary	6755 (2058)	35
Patterson Peak	White Cloud	Custer	10,872 (3314)	73
Peak 10644	White Knob	Custer	10,644 (3244)	49
Peak 10677	Lost River	Custer	10,677 (3254)	37
Rock Roll Peak	Boulder	Blaine	10,458 (3188)	65
Smiley Mountain	Pioneer	Custer	11,513 (3509)	43
South Wet Peak	Lost River	Custer	11,138 (3394)	35
Stevens Peak	Bitterroot	Shoshone	6838 (2084)	44

...Continued on Page 10



On approach to Peak 10644. Photo by Claire Parsons.



View south from summit of Peak 10644. Photo by Claire Parsons.



Cerastium beeringianum, South Wet Peak. Photo by Gary Hundt.



Hulsea algida, Rock Roll Peak. Photo by Don Mansfield.



South Wet Peak summit. Photo by Bob Moseley.



View NE from Stevens Peak at Stevens Lakes. Photy by Derek Antonelli.



Peak 10677. Photo by Jessica Irwin.



Astragalus kentrophyta, South Wet Peak. Photo by Gary Hundt.



SE ridge, Rock Roll Peak. Photo by Don Mansfield.



View SE from Patterson Peak. Photo by Don Mansfield.



Backdrop Peak 2022, Tao Huang collecting plants. Photo by Becky Reed.

or scattered on 7 summits. The summits contained a variety of geologic substrates, including examples of igneous, metamorphic, and sedimentary rocks ranging from Precambrian to Tertiary in age.

As an all-volunteer effort, the team leaders gratefully acknowledge the volunteers who assisted on the peak surveys: Emily Hintzman, Liz Martin, Jason Smith (Mt. Pend Oreille); John Harbuck, Darryl Steigemeirer, Bob Wilson (Stevens Peak); Paul Allen, Kristin Kaser, Linda Merigliano (Mt. Baird); Becky Reed, Tao Huang, Heather Johnson (Backdrop Peak); Brittni Brown, Claire Parsons, (Peak 10644); Kirk Halford, Sean Halford, Cara Halford, Riley Gibson, Laura Gibson, Ethan Ellsworth (Smiley Mountain); and Paul Allen, Gary Hundt, Kim Ragotzkie (South Wet Peak). We also thank INPS for contributing funds to the project in 2022 to reimburse volunteers for vehicle fuel expenses. •

Lifetime Membership

Nancy Miller Awarded INPS Lifetime Membership

By Penny Morgan, White Pine Chapter President

Nancy Miller was recently awarded a Lifetime Membership in the Idaho Native Plant Society. Our board voted unanimously to recognize Nancy for her leadership in both the White Pine Chapter and our state organization during her 34 years as a member. As INPS President Mike Mancuso said, "Nancy is one of the key volunteers INPS can depend on to get the 'behind the scenes' work done."

Former INPS President Steve Love said she was the "go-to" person for her knowledge and commitment to INPS.

At the state level, Nancy served as past Secretary and current member 'at large' on the INPS State Board. She is instrumental in the state website. As Mike Mancuso said, "Simply put, INPS would be a less effective organization without its website, and the website would be less effective without Nancy's many contributions to it." Similarly, Nancy's writing and reviewing have contributed to many years of informative *Sage Notes*.

Five board members of our local White ^{Bettie Hoff.} Pine Chapter nominated Nancy. She has served on almost all of our committees and chaired several of them. Nancy is the webmaster for the White Pine Chapter. Nancy has been instrumental in our native plant sale, now in its 13th year. Nancy has engaged many members as volunteers where we delight in learning together. Year after year, even during the pandemic, whether in-person, online, or both, Nancy has ably helped our plant sale be successful. This year we will sell almost 3,000 plants of more than 100 different species, many of which are grown and donated by members encouraged by Nancy. Wow. Through the sale, many people have found great joy from growing native plants in yards and conservation projects, thus adding diversity, inspiring beauty, and providing food and habitat to pollinators. Our native plant sale proceeds are used in local native plant conservation and education projects.

Nancy has been a strong supporter of conservation efforts for native plants and their communities, particularly



Reid and Nancy Miller. Photo by Bettie Hoff.

when those efforts support pollinators and birds. She has established many native plants in an old field near her home. Though she does not have a botany background, Nancy has learned how to propagate and establish plants native to the endangered Palouse Prairie ecosystem. She often collects and shares seeds with people wanting to grow native plants in their yards. Her seeds and many ideas have contributed to the success of the Pleasant Hill Farms nursery that grows plants for local conservation. Nancy kindly shares her knowledge gained through active listening, trying things, and being cu-

rious. She is a keen observer. Many people and native plants benefit. She has mentored many of us.

We are grateful for Nancy's enthusiasm, kindness, and sage advice to help guide the INPS. Nancy's husband, Reid Miller, has been her stalwart knight and helpmate. Nancy and Reid have been delightful members making countless contributions to the Idaho Native Plant Society. As Steve Love said, "Nancy's exceptional service has actively contributed to the conservation of Idaho's native plants." Nancy enthusiastically supports native plants and the people who love them. •

In Memoriam

Mary Conitz 1929-2022

Article and Photos by Nancy Miller, White Pine Chapter

Mary Conitz was a long-time member of the INPS White Pine Chapter. She passed away September 20, 2022,

at the age of 93. She and her husband Merrill, who passed away in 2009, were early members of the chapter, joining within a few years of when the chapter formed. They regularly participated in chapter activities, events, and field trips. They enjoyed the company of other early members, many of whom were in forestry at UI or in various land management and re-



Mary on the Elk River field trip. Photo by Nancy Miller.

search agencies. Merrill served as President in 1999 (with Mary's assistance) and on the White Pine Chapter Board in other capacities for several years.

Many of you who remember the Conitz family will have heard the story about how they met but it bears repeating. Although Mary was from the Midwest, her family had moved to Cheney where she graduated from high school. During her college years this young music major worked as a camp cook for the Forest Service in Northern Idaho, and it was at one of these camps she met Merrill, who was also working for the Forest Service in the white pine blister rust control program. Mary later related that she thoroughly enjoyed cooking for all those hungry workers and living in wild Idaho. Together Mary and Merrill enjoyed being in the woods and relishing what the natural world offered. After graduation and marriage, Merrill began work at UI and they built their first home on Ridge Road. Mary returned to her musical career, teaching music lessons and participating in many musical events. The lure of international adventure interested them, and they began a long odyssey of international work and travel interspersed with

living and working in Moscow and its environs.

There were years in Kenya– working in Nairobi—introducing their children to the wildlife and na-



Mary with the group on the Elk River Field Trip. Photo by Nancy Miller.

tional parks. Mary taught, directed musical theater for the school and played with the Nairobi Orchestra. From their many experiences in Africa, they would later share their knowledge of many trees and shrubs of East Africa with the chapter. This article is too brief to include some of their other adventures in Africa and volunteer activities in China.

As they approached retirement, they decided to return to the Moscow area where they built their forest home near Deary (the 4th of 5 homes Merrill built during his lifetime); they planted a tree farm on previously farmed land. In 1999 they gave the chapter a tour of their forest home and the tree farm. Their daughter Margo relates that they especially enjoyed the forest area and managed it for conservation, and it was a special place where other family members could enjoy the woods of Idaho with them. She told of the many trails Merrill built to specific spots on the property where they knew special wildflowers could be found.

Mary was very involved in the music world of the area. She taught in schools near their Deary home and played with the Hog Heaven Big Band and the Washington-Idaho Symphony.

After Merrill's passing, Mary finished editing and publishing his novel, "The Wells of Belisa Kulal." She continued an active independent life,

erties, and walking



managing their prop-INPS Freezeout field trip. Photo by Sarah Walker.

and cycling with friends and family especially on the Latah Trail system. She continued to participate in chapter activities even through the COVID years. Sarah Walker had this remembrance: "Mary certainly did keep going. One dreary late winter day (years ago) I drove to an out-of-town access to the bike trail, near Troy, to find something skiable. There wasn't much snow left but some of us still wanted to slide around on our skis! That other "someone" was Mary. She was out there skiing too, I discovered. We had a good chat about women needing some daily time outside and taking ourselves out there to do just that." Janet Campbell said she learned an important winter outdoors precaution from Mary—always be wary of "tree wells" around the bases of trees under the snow. It's possible Mary might have stepped in one while cross country skiing or snowshoeing and damaged a leg. Janet (as well as others) admired how Mary just kept going over the years, attending field trips and talks, valuing her independence, and participating in life to the fullest—always with a friendly smile and concern for others. Reid and I have fond memories of dancing to the Hog Heaven Band with Mary playing with the group—the last time was not that long ago. We also had the pleasure of playing tennis with our dedicated group of players, including Merrill before he passed away. •

Volunteer Recognition

Thank You to Paul Shaffer

By Michael Mancuso, INPS President and Karie Pappani, Pahove Chapter President



The Idaho Native Plant Society is fortunate to have many volunteers dedicated to its success. One of these people is long-time Pahove Chapter member Paul Shaffer. Among his many contributions to INPS, Paul has been generous

Photo courtesy Paul Shaffer.

in lending his IT expertise for over 20 years. With Paul's help, INPS was able to build, and in subsequent years maintain, a well-regarded and user-friendly website, including the capacity for members to renew their INPS membership and make donations. Paul did the research and acquired the software INPS uses to keep track of membership and other organizational tasks.

Paul was instrumental in initiating Pahove's Annual Native Plant Sale. This event continues to be a resounding success and important way for INPS to connect with the larger Treasure Valley area community. Paul's work for INPS flies under the radar and goes unrecognized by most members. This made it especially gratifying to publicly recognize and acknowledge Paul at the April Pahove Chapter meeting. Paul received a gift card as a small token of our appreciation for his many years of service to INPS.

We would also like to acknowledge Paul's contributions to the design and development of the *Treasures of the Boise Front* website (https://boisefrontnature.com/).

Barbara Ertter's inspiration for this website came from her goal of increasing public appreciation for the flora of the Boise Front and making it available online. Thank you, Paul! •



Barbara Ertter discussing the rare plant, Allium aaseae, during our RPC 2023 field trip. Photo by Lynn Kinter.



Chapter News

CALYPSO CHAPTER

When: The next chapter meeting will be October 4, 2023 at 7:00 pm. Chapter meetings are held on the first Wednesday evenings of March, April, May, and October. The public is invited to all chapter activities, which may change, so watch chapter emails for updates.

Where: Meeting are held in the Wildlife Building, North Idaho Fairgrounds, Coeur d'Alene.

Contact: For more information about Calypso Chapter activities, contact Derek Antonelli:

ds.ca.antonelli@gmail.com, (208) 691-1070.

Past Events

May 20: Spring Plant Walk.

Upcoming Events

June 10: Summer Plant Walk, English Point Trails. Joint activity with Panhandle Back Country Horsemen. **June 30 to July 3:** INPS Annual Campout and Meeting, Stanley.

July 8: Summer Plant Walk, UI Experimental Forest. Joint activity with the White Pine Chapter.

July 13 to 17: Idaho Botanical Foray, Cabinet Mountains.

August 12: Mountain Plant Hike, Benard Peak to Farragut State Park.

October 4: Calypso Chapter meeting. The presentation topic for this meeting has not been determined yet. Please submit topic suggestions.

LOASA CHAPTER

When: Meetings are held third Thursday of each month at 7:00 p.m.

Where: Taylor Building, Room 247, College of Southern Idaho, Twin Falls.

Contact: Bill Bridges, bridgesbill34@yahoo.com

PAHOVE CHAPTER

When: Meetings are held the second Tuesday of each month from October–April starting at 7:00 pm. Times, dates, and topics are tentative. Current information will be sent to members via email. Annoucements are also posted on the Pahove Chapter page of the INPS website: https://idahonativeplants.org/pahove/

Where: Chapter presentations currently offer hybrid viewing formats, both in-person at MK Nature Center and a Zoom link for at-home enjoyment.

Contact: For more information about Pahove Chapter activities visit the website: www.idahonativeplants.org or email Karie Pappani at

pahove.chapter.president @gmail.com.

Past Events

Chapter presentations for the 2022/2023 season ended with a flurry of activities this spring including our Annual Native Plant Sale, Adopt A Plot, Boise Metro Area City Nature Challenge, Wildflower + Show, Orton Botanical Garden Tour, Friends of Military Reserve Pahove Chapter Demonstration Table, and an End of the Season Social Garden Party hosted by Russ and Janet Buschert. Thank you so much to our board members who manage and coordinate these events:

- Annual Native Plant Sale: Susan Ziebarth, Vicki Henderson, and Kirsten Severud
- Adopt A Plot: Karie Pappani, Kirsten Severud, and Ray Corbin
- Wildflower + Show: Barbara Ertter
- Orton Botanical Tour: Caroline Morris, Ann DeBolt, Vicki Henderson, and Susan Ziebarth
- Friends of Military Reserve Tabling Event: Barbara Ertter
- End of the Season Social-Garden Party: Peggy Faith. Special thanks to Russ and Janet Buschert for opening their lovely home and native garden to us to enjoy.

And a HUGE thanks to all of the volunteers who make these events possible! We couldn't do it without each and every one of YOU. We appreciate your help! And thank you to all of our MEMBERS who support our chapter. You are the best!

Upcoming Events

We will continue to keep you updated on botanical news and activities happening in our area over the summer. However, we do take a break from presentations from June-September. See you for those in the fall!

SAWABI CHAPTER

When: Board meetings are held at least quarterly and will be announced. An autumn potluck is also planned. *Where:* Winter programs are presented in the North Fork room of the ISU Student Union Building in Pocatello. Field trips generally car-pool from the bison statue in front of the ISU Museum of Natural History. *Contact:* Paul Allen at pokyallen@hotmail.com, 208-241-5265

Past Events

May 1: Annual meeting for the Sawabi Chapter. Officers were elected and we discussed this season's plant walks.

Upcoming Events

Plant walks will be announced via email for most Saturdays and some Monday evenings throughout the spring and early summer.

UPPER SNAKE CHAPTER (INACTIVE)

Contact: Kristin Kaser, kaser.kristin@gmail.com

WHITE PINE CHAPTER

When: Meetings are typically held the third Thursday of the month, September through April. Current information is posted on our chapter webpage:

https://www.whitepineinps.org/WPschedule.html

Where: We are currently offering hybrid meetings. The in-person meetings are held at the 1912 Center in Moscow with a Zoom link for virtual attendance.

Contact: For more information about White Pine Chapter activities, contact us at INPS, White Pine Chapter, PO Box 8481, Moscow, ID 83843 or

whitepine.chapter@gmail.com. Visit the chapter website for upcoming event information:

https://www.whitepineinps.org/

Past Events

May 11-13: Annual Native Plant Sale was held at the Latah County Fairgrounds Depot Building. This sale consisted of an online sale May 11-12 followed by an in-person sale on May 13.

May 21: Field trip to Mary M. McCroskey State Park was led by Pam Brunsfeld, retired UI Systematic Botany Instructor and UI Stillinger Herbarium curator.

Upcoming Events

Dates TBD: Tours of native plants in local gardens and yards and other early spring fieldtrips have been postponed from their originally scheduled dates in early May. We are eagerly awaiting the arrival of spring this year! Check our event calendar for the latest information on rescheduling:

https://www.whitepineinps.org/WPschedule.html

WOOD RIVER CHAPTER

When: Typically we have talks in the cold months and walks in the warm ones. Non-members are welcome. Please see our website or email newsletter for information on all programs.

Where: Field trip and talk locations and details will be included with the description, posted online and emailed to members and other interested parties.

Contact: For more information about Wood River Chapter activities: email: woodriverinps@gmail.com; website: www.woodriverinps.wixsite.com/wrinps; phone: Mary (559) 696-9953; to subscribe to the newsletter: email us.

Upcoming Events

June 3: Native Plant Sale. We're partnering with the Hunger Coalition on this event. Paid up Members of INPS will be able to have early entry and first choice of the available material. Mindy Rider of the Hunger Coalition has grown these native species and the sale benefits the Hunger Coalition. Regular sale hours begin at 10 am. Members only sale runs from 9 am-10 am at the Hunger Coalition, 110 Honeysuckle, Bellevue ID.

June 10: Camas Prairie Trip to Centennial Marsh. We'll try to shoot for the best bloom of the lovely camas lily, Camassia quamash. It should also be a great day for viewing water and shore birds and maybe even nesting sandhill cranes. Watch this site and the newspaper for updates but with all the snow, we think the bloom will be later than usual. Meet at Timmerman Hill Rest Stop by 8:45am MT to leave at 9am. Rated Easy, mostly driving. June 21: Croy Canyon Solstice Let's do an evening walk on this longest day of the year. Meet for carpooling at Hailey Park & Ride at 6:15 pm to leave at 6:30 pm MT. We'll head out Croy and do one of the trails, depending on the bloom. Expect to see lots of variety and discuss plant adaptations for living in such a dry environment. Rated Medium for difficulty.

July: You'll have to come to the State Meeting if you want plant hikes in July!

August 16: Hailey Alley Walk. Our popular alley exploration walk is back. Explore the alleyways of Hailey with members of the Wood River Chapter. You may be surprised at the variety of plants we will see. We can talk about garden escapees, invasive plants, Idaho natives, trees and more. This "hike" will be around a mile but rated Easy although the terrain can be a little uneven. Allow 2 hours. Meet outside Town Center West (River St X Croy St, Hailey) at 6:15 pm MT, ready for head out walking at 6:30 pm.

September 16: Noxious Weeds TBA. There are, unfortunately, plenty of examples of these plants in our valley. Learn why they are so successful, why they are unwelcome and how to control them. We will also talk about the difference in a weed and a noxious weed.

October TBA: Members Only Hike. We are still scheming on this one, but it will likely involve Ponderosa Pines, just as a teaser. More details will be forthcoming. •



Idaho Native Plant Society Membership Form

Membership Level:

 \Box Student \$10

 \Box Senior \$15

□ Individual \$20

□ Household \$25

□ Sustaining \$40

□ Patron \$100+

□ Household-Senior \$25

Name _____

Address

*City/State*_____*Zip*_____

Phone E-Mail

Chapter Affiliation:

Calypso (Coeur d'Alene)Loasa (Twin Falls)

- □ Pahove (Boise)
- □ Sawabi (Pocatello)
- □ Upper Snake (Idaho Falls) Inactive
- □ White Pine (Moscow)
- □ Wood River (Ketchum/Sun Valley) □ No Chapter

Please indicate if your membership is: □ New □ Renewal I would prefer to receive *Sage Notes*: □ Print □ Electronic □ Both

Send completed form and full remittance to: Idaho Native Plant Society, P.O. Box 9451, Boise, ID 83707

Memberships run calendar year. New memberships enrolled after June 1 include the following year. *Renew or join online: https://idahonativeplants.org/membership/*

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