

Newsletter of the Idaho Native Plant Society • Promoting Interest in Idaho's Native Flora

Community-Driven Habitat Restoration

By Aaron Connolly, Idaho Bird Observatory

In the early 1900s, the diversion dam was built on the Boise River, just upstream of a current Intermountain Bird Observatory (IBO) research site. This dam was built for the purpose of diverting irrigation water into the New York canal and dispersing it across the Treasure Valley's farmland. Since those early days, this particular site has gone through many years of abuse and neglect. Unrestricted vehicle use, cattle grazing, and other unregulated uses introduced exotic invasive weeds like cheatgrass (Bromus tectorum), rush skeletonweed (Chondrilla juncea), and tumble mustard (Sisymbrium altissimum). The site is riddled with these and many others. Furthermore, the flood control introduced by the upstream dams has channelized the river and slowed the natural regeneration of native trees like black cottonwood (Populus trichocarpa).

In October 2018, IBO undertook a habitat restoration project at their 22-acre Boise River research site located a few hundred yards upstream just under the State Highway 21 bridge. Part of IBO's vision in this restoration is that it will someday resemble what the river corridor may have looked like before European settlement, development, and channelization. There are even plans of re-establishing a historic river side channel that will expand the water table, improve vegetation, and provide benefits for many wildlife species. IBO hopes to find ways to outcompete invasives, encourage natives, and help inform other restoration projects downstream.

This is being explored through an experimental approach which uses over 20 species of native plants evenly spaced within 10-foot by 10-foot plots. In 2018, 45 experimental plots were divided into three habitat types (sandy soil, sandy-loam soil, and gravel soil) and were assigned one of three treatments. These included a layer of burlap placed to try and control weed emergence, an over seed of Sandberg bluegrass (*Poa secunda*) to try and outcompete invasives, and a control of no treatment. Each plot was given a total of 46 plants in different configurations based on habitat/soil type. Many aspects of their survival were tracked and monitored by a team of interns during the summer of 2019. The team also maintained the plots through weekly watering and weeding to encourage and support the seedlings in their first year of growth.

Results from this first year were encouraging, as the project saw around 55% survival across the site. A few of the forbs with the highest survival rates were scabland penstemon (*Penstemon deustus*) which had nearly 100% survival in sandyloam soils and western yarrow (*Achillea millefolium*) achieved around 80% survival across the site. These hardy plants and others such as Munro's and gooseberry globemallow (*Sphaeralcea* spp.), had no reservations in showing off their beautiful flowers. ...*Continued on Page 4*

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Letter from the President

Surviving the Pandemic

I think that most of you know that I have significant heart health issues. As a result, I am considered very high risk with regards to COVID-19. Consequently, I have spent the last six months hunkering down and avoiding close contact with people, including the members of my own Sawabi Chapter of the Idaho Native Plant Society. I miss the camaraderie and opportunities to learn about the unique plants and ecosystems found within the borders of our beautiful state. For that reason, I was truly excited about the invitation from the Pahove Chapter to participate in their Zoom-delivered monthly meeting. I am not a big fan of Zoom meetings, but this one filled a personal need for me. Kudos to Karie Pappani and her crew for delivering a quality program to the entire INPS membership. Also, my compliments to Barbara Ertter and Don Mansfield for their fascinating presentations. Other chapters within our society are planning similar events and plan to issue invitations for statewide participation. Way to go, INPS leadership! I am beginning to think we will survive this pandemic.

Stephen Love, INPS President

Announcement

INPS State Board of Directors Election

Due to the cancellation of our 2020 INPS Annual Meeting, we did not elect the current officers sheduled for re-election. Hence, the 2020 Treasurer position has not been voted on and the election will be conducted via email.

Karen Getusky is the nominee for Treasurer on the 2020 ballot. Being the current Treasurer, she is willing to accept another two-year term if elected.

When sending in your ballot, please indicate your preferred candidate (write-in nominations are accepted), and send the ballot via email to the secretary, Janet Bala at balajane@isu.edu.

The Vice-President will be voted on during the 2021 ballot, alongside the President and Secretary positions. If you are interested in running for a position, or know someone who is, please have them contact our President, Stephen Love, at slove@uidaho.edu.

BALLOT

Treasurer: Karen Getusky ____ Other (write in name) _____

The society is giving a 60-day window for receiving votes. The deadline is January 15, 2021. Votes are accepted any time after receiving this notice (the sooner the better). The chapter presidents will be notified of the voting results and can share them with their chapter members.

Thank you everyone for taking the time to vote!

The Bedrock Meadows of Lake Pend Oreille

By Viktoria Wagner and Ricarda Pätsch, Dept. of Biological Sciences, University of Alberta, Edmonton, Alberta

The mid-elevational zone of the Interior Pacific Northwest is home to natural meadows that occur interspersed among forests in northwestern Montana, northern Idaho, northeastern Washington, and southeastern



British Columbia (Fig. 1). This meadow habitat type is often bound to argillite, a bedrock in the Belt supergroup with an extremely dense texture. The combination of this water-impermeable bedrock and a high snow fall create near-surface seepages that lead to a lush vegetation carpet in late

survey in the Interior Northwest.

spring (Fig. 2a). Although this vegetation type is globally unique, it has never been studied by scientists.

In the last two years, we undertook a field survey in the Interior Northwest in order to assess the plant diversity of this habitat type. An ERIG grant from the Idaho Native Plant Society allowed us to explore the bedrock meadows of the northern Lake Pend Oreille area, on the Grouse and Talache Mountains, in the Kaniksu National Forest. Our team included a botanist specializing in meadow vegetation (Hans Georg Stroh, Germany). In late May 2019, we recorded all vascular plants in fifteen plots with a size of four by four meters (13.1 × 13.1 sq. ft.). We also collected aboveground plant biomass (20" × 20" plots) to estimate productivity, and soil samples which we are currently analyzing for nitrogen, carbon and heavy metal element content.



Fig. 2. (a) Bedrock meadow and (b) shrub encroachment of a bedrock meadow (both on Grouse Mountain).

Throughout our survey in the Interior Northwest, the meadows on Grouse Mountain were some of the largest we have encountered. Furthermore, they were some of the few meadows that were encroached by shrubs, which could pose a threat to this habitat type (Fig. 2b). We are currently finalizing our sample analysis and comparing the species composition of bedrock meadows to other open habitat types in the Inland Northwest and adjacent regions. Our first results show that this habitat type is distinct from subalpine meadows, intermountain grasslands, and coastal grasslands and meadows, and thus warrants its own status in vegetation classification systems. Furthermore, our tentative results suggest that bedrock meadows differ in their high richness of annual, succulent and bulbous plants—life forms that are perfectly adapted to wet soils in spring and dry and hot soils in the summer. Annual plants that we encountered included false mermaid (*Floerkea proserpinacoides*) and



Fig. 3. Bedrock meadow plants on Grouse Mountain. a) Lanceleaf springbeauty (Claytonia lanceolata), b) false mermaid (Floerkea proserpinacoides), c) narrowleaf minerslettuce (Montia linearis), d) Wyeth biscuitroot (Lomatium ambiguum; yellow flowers)

narrowleaf minerslettuce (*Montia linearis*). Wyeth biscuitroot (*Lomatium ambiguum*) and lanceleaf springbeauty (*Claytonia lanceolata*) were some of the perennials with underground storage organs (e,g, bulbs, rhizomes) that were common in bedrock meadows (Fig. 3).

Although we did not specifically study the origin or the historic dynamics of bedrock meadows, we speculate that the Grouse Mountain meadows might have been much larger in the past, promoted through fire by local Native American tribes to stimulate growth of edible plants with taproots, rhizomes, or bulbs that grow abundantly in these meadows. Given their unique species composition, size and ecology, the meadows on Grouse Mountain would benefit from shrub removal in the future. •

Habitat Restoration ... Continued from Page 1

As for shrubs and grasses, Wyoming big sagebrush (*Artemsia tridentata* spp. *wyomingensis*) did very well with a sitewide average survival of nearly 90%. Sand dropseed (*Sporobolus cryptandrus*) was the only grass species planted in this first year and did well at over 70% survival and silver sagebrush (*Artemisia cana*) had about 50% survival.

While we did not find any immediate differences in success from our treatments of burlap and seeding Sandberg bluegrass, we did find that burlap helped to keep gophers from completely decimating our plots. A thin layer of bark mulch was intended to be used around each individual plant but because of variations in application from our volunteers, we found that heavy mulching in some plots helped with weed control. These two materials found more extensive use in 2019 because of these surprising benefits.

These results are promising and keep IBO hopeful and optimistic for future planting and restoration efforts. These efforts would be futile if not for generous time and energy put forth by so many volunteers from the community. In 2018, 150 volunteers came to the October planting day and made planting over 2,000 seedlings possible. The results outlined above are from this first effort. Again, in October of 2019, 112 volunteers came to help plant an additional 1,600 seedlings. The special thing this time was that volunteers came to help equipped with full sets of rain gear. We had a rainstorm roll in mid-morning and at one point it was roaring; rain, thunder, and lightning.

IBO has worked closely with Boise State University, the College of Western Idaho, the Golden Eagle Audubon



An example of a plot layout and some species that were planted in October 2018.



2019 October planting day with volunteers working hard under the bridge. Photo by Libby Burtner.

Society, the Idaho Department Fish and Game, the US Fish and Wildlife Service and other partners to make this project a reality. The site is owned partly by Idaho Department of Transportation and partly by Boise State University. IBO has used it since about 2013 for bird banding events, school field trips, and other community outreach.

For those interested in becoming a volunteer, IBO is rolling out a new opportunity for 2020. The Adopt-a-plot program will allow volunteers to take some ownership of



A complete experimental plot with burlap treatment and heavy bark mulch. Photo by Kim Bahruth.



Monarch caterpillar, IBO restoration site. Photo by Dusty Perkins.

Hunt's bumble bee, IBO restoration site. Photo by Aaron Connolly.

a plot or two and keep them looking sharp. Weeding, straightening plant protection cages and caring for a few dozen seedlings will be a huge help in IBO's restoration efforts. Other opportunities will include the 2020 fall planting day which is planned for mid-October, and bird banding events at the Boise River research site. Because of COVID-19, volunteer opportunities may change at a moment's notice, but all social distancing guidelines will be adhered to for everyone's continued safety. For more information, you can visit IBO's website at https://www.boisestate.edu/ibo/, or you can contact their Education and Outreach director, Heidi Ware Carlisle at heidiware@boisestate.edu or Adopt-a-plot coordinator, Aaron Connolly at aaronconnolly@ u.boisestate.edu. •

About the author:

Aaron Connolly first became involved with IBO as a habitat restoration and monitoring intern in the summer of 2019. Through this experience, he was able to conduct undergraduate research and produce a poster which he presented at the 2020 Idaho Chapter of the Wildlife Society meeting in Moscow, Idaho. As a current student at Boise State University, Aaron plans to continue working toward an education in biology while pursuing a career in wildlife and natural resources management.



Lewis' flax, IBO restoration site. Photo by Aaron Connolly.



Hoary tansyaster, IBO restoration site. Photo by Aaron Connolly.



Globemallow, IBO restoration site. Photo by Aaron Connolly.



Sundancer daisy, IBO restoration site. Photo by Aaron Connolly.

Article Update

Foote Park's Native Plantings Still Lure!

By Alice Crockett, Ann Debolt and Caroline Morris, Pahove Chapter

The *Sage Notes* June 2019 article "Pahove Planting Committee's Work at Foote Park Interpretive Center" informed readers about Pahove members' native planting at the new Boise historic memorial near Lucky Peak Dam. Since then, Pahove's native planting has thrived, reflecting its sound planning, appropriate native plant material selection, thorough site preparation and installation, and ongoing progress checks and "as-needed" irrigation. No on-site water is available, but between the Army Corps of Engineers staff and their "water buffalo" (a 500-gal wheeled container), and Pahove volunteers and their water buckets, the planting still looks good, in spite of the summer heat.

Locally collected and grown species incorporated into the site after the original May 2019 planting include silverleaf phacelia (*Phacelia hastata*) and Douglas false-yarrow (*Chaenactis douglasii*). Natural recruitment of the site by two species of blazingstar—whitestem blazing-star (*Mentzelia albicaulis*) and smoothstem blazing-star (*M. laevicaulis*), has been fun to observe. We believe that the two inches of decomposed granite used to mulch the site not only limited invasive annuals from re-invading, but also facilitated recruitment by these two lovers of well-drained soils.

In areas adjacent to our planting site, invasive weeds, primarily whitetop (*Lepidium draba*), were discouraged by one autumn herbicide application. With the whitetop controlled and others subdued by a combination of hand-weeding and weed-whacking, we have facilitated natural recruitment by basin big sagebrush (*Artemisia tridentata* ssp. *tridentata*), gray rabbitbrush (*Ericameria nauseosa*), hoary aster (*Dieteria canescens*) and annual sunflower (*Helianthus annuus*). Soon we will install signs identifying native plants and requesting visitors to 'Please Stay on the Path.'

This site is now very pleasant for physically-distanced picnics. The Corps liked our work so much that we have been asked to tackle another nearby project soon. To see what the site looked like in 2019 and now, please visit Vicki and Ed Henderson's Gardentronic website:

https://www.flickr.com/photos/gardentroic/sets/ 72157708535378315/

Better yet, go and see it for yourself! •

izen science. These observations are automatically placed into the project's defined places such as Craters of the Moon National Monument. This app provides this information to the public for free, is user friendly, and helps share information about southeast Idaho plants with

members and non-members

ject to find plant observations

along plant walk routes. Users

can even upload their own ob-

servations to participate in cit-



(Vaccinium membranaceum). Photo by Catherine Black.

alike. As members embarked on the plant treasure hunts, armed with smart phones, they followed pre-recorded locations of plants along the paths trying to find all the noted observations. Members were entertained by the challenge

of trying to find all the original observations. At Craters of the Moon National Monument, an atypical white variant of the dwarf purple monkeyflower (Diplacus nanus) and the iconic bitterroot (Lewisia rediviva) were recorded and members were encouraged to find it. Near Victor, Idaho, up Moose Creek, the delicious thinleaf huckleberries (Vaccinium membranaceum) were ripe for the picking. Using iNaturalist as a surrogate for walks was a great help this summer but getting out to botanize the countryside wasn't the only important goal the chapter wanted to complete. Our goal was to make everyone more knowledgeable about what they were finding.

Although iNaturalist helped people find and identify plants, we wanted them to have some self-identification tools of their own. Using Zoom we held meetings discussing

plant family characteristics-characteristics that can be used to identify common plant families. Terminology can be tough to master alone, so we put together a small botany lecture covering the



Bitterroot (Lewisia rediviva). Photo by Kristin Kaser.

basics for the sunflower family (Asteraceae) and the rose family (Rosaceae). Members enjoyed learning that the common sunflower (Helianthus annus) and big sagebrush (Artemisia tridentata) both belong in the sunflower family because they have composite flowerheads. Others enjoyed refreshing their jargon and some were surprised to learn just how many plants belonged in the rose family. These new tools helped bridge the botanical knowledge gap allowing members to engage their environment with more purpose while getting everyone outside to enjoy the sunshine.

This summer was peculiar in many ways, but the plants didn't notice. They kept being plants and we just kept asking them who they were. Some are still not telling, while others flaunt their presence. Although learning new tools to ask these questions can be cumbersome, I have enjoyed becoming more acclimated to the virtual presence of our chapter. I want to thank our members who greatly contributed to this new system. We could not have had such a successful season without our team. THANK YOU so much for providing hope and encouragement. We plan to hold our final fall Zoom meeting in October before we have our winter break. The Zoom link is provided to anyone who reaches out to our chapter at upper-snake-inps@googlegroups.com.

Chapter Report

2020 in the Upper Snake Chapter

By Kristan Kaser, Upper Snake Chapter President

The Upper Snake Chapter had exciting plans for 2020. There were several meetings, a botany foray to join, hosting

an abrupt turn when the pandemic began. As lockdowns

began state-by-state, plans had to be paused and eventually

cancelled. COVID-19 crept into big and small cities, creat-

ing chaos. Although the disease has continued to persist,

our chapter took our early season excitement and used it to

stay active. We asked ourselves a simple question: How do

we involve our community in learning about local flora in

bers active in our region. In particular, our chapter used

iNaturalist for plant walks and Zoom to hold meetings.

The chapter found several solutions to keep our mem-

iNaturalist is a popular citizen science app typically used to

compile ecological observations. We used iNaturalist's pro-

ject key features of the app to produce a virtual self-guided

plant walk and an iNaturalist project was created to organ-

ize the different places tours are held. This dual-purpose

can be found by searching for the Upper Snake INPS pro-

eastern Idaho and maintain a safe environment?

a special spring speaker, and further developing our local field trips. Members were sorting out carpooling adventures and drumming up ways to improve guided plant walks by adding a berry picking adventure. All of these plans took



Dwarf purple monkeyflower (Diplacus nanus). Photo by Kristin Kaser.

For those of you that would like to join us on iNaturalist, please enjoy the following video tutorials and 'guided walks': iNaturalist project name: Upper Snake INPS; User names:

Chapter News

CALYPSO CHAPTER

When: Meetings are the first Wednesday of March, April, May and October at 7:00 pm. Field trips take place during the spring, summer, and early fall months.

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

Contact: Derek Antonelli, ds.ca.antonelli@gmail.com

LOASA CHAPTER

When: Meetings are held the third Thursday of each month at 7:00 pm.

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

Contact: Bill Bridges, bridgesbill34@yahoo.com

PAHOVE CHAPTER

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

Where: Meetings are usually held at the MK Nature Center Auditorium, 600 S. Walnut St, Boise (For now, they will be Zoom presentations instead).

Contact: For more information about Chapter activities visit our website: www.idahonativeplants.org or email Karie Pappani at pahove.chapter.president@gmail.com

Upcoming Events

Due to COVID-19, monthly meetings/presentations will be held online via Zoom for the foreseeable future. Our annual pizza party, which generally takes place in September at Idaho Botanical Garden, is postponed until further notice.

Virtual Meetings: The Pahove board is currently putting together an exciting line-up of speakers for the 2020-21 season. Details will be posted online and announced via email once they are confirmed. Invitations to monthly Zoom presentations will be sent via email. Stay tuned and stay healthy.

SAWABI CHAPTER

When: Meetings are held on the third Monday night of October, November, January, February, March and May. Programs begin at 7:00 pm and refreshments are available afterwards. Each meeting begins with a short presentation on the plant family of the month.

kristinkaser, blaccath; Video tutorials: https://www.inaturalist.org/pages/video+tutorials •

Where: The Middle Fork Room of the Pond Student Union Building on the lower Idaho State Univ. campus.

Contact: Geoff Hogander, ghogande@yahoo.com.

Upcoming Events

The Sawabi Chapter has discontinued all of its group activities for the time being due to COVID 19. Our usual summer plant walks were cancelled, and some members have been getting their "plant fix" through the Idaho Plant Society Community Group and Idaho Plants group on Facebook.

Virtual Meetings: At our board meeting in August we learned that our usual meeting room at Idaho State University will not be available this fall so we decided to try to conduct our fall/winter meetings using the virtual platform "Zoom".

Annual Meeting: We have reserved the same location at the Mink Creek group site for the 2021 INPS annual meeting for June 18–21. We're still looking forward to hosting this gathering.

UPPER SNAKE CHAPTER

Contact: Kristen Kaser, kaser.kristen@gmail.com.

WHITE PINE CHAPTER

When: Meetings are held once a month at 7:00 pm except during the summer. Field trips can occur most any month. Please check the chapter website at www.whitepineinps.org for events which may be scheduled or finalized after *Sage Notes* is printed; or email the chapter officers at whitepine.chapter@gmail.com.

Where: Great Room of the 1912 Building, 412 East Third St. in Moscow (between Adams and Van Buren).

Contact: INPS, White Pine Chapter, PO Box 8481, Moscow, ID 83843 or whitepine.chapter@gmail.com.

WOOD RIVER CHAPTER

When: Meetings are held on weekday evenings and wildflower walks generally on Saturdays. Times are announced in local news outlets and also in the chapter newsletter. Events are also posted on the Wood River Chapter page of the INPS website. Where: Each meeting's location is noted in the announcement. Contact: Subscribe to the newsletter by emailing Lisa Horton at 1gypsy2016@gmail.com. Address questions about programs to Kristin Fletcher at naturewalker7@gmail.com. •



IDAHO NATIVE PLANT SOCIETY

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