

Douglasia

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WASHINGTON NATIVE PLANT SOCIETY

To promote the appreciation and
conservation of Washington's native plants
and their habitats through study, education,
and advocacy.



About This Issue

by Maddy Lucas

For many of us, the summer months are the busiest time of the year. Whether it's getting outdoors, traveling, or just plain finding time to relax, something always seems to be going on. *Douglasia* has been experiencing its own excitement this summer, and we look forward to sharing it with you!

Since the spring issue, several new faces have joined the team. In April, I began my position as Editorial Chair, a role I'm eager to embrace. I'm also very excited to welcome our new Managing Editor, Melissa Islam, to the team! We've both been learning the ropes, and it's been inspiring to see how everything comes together behind the scenes. The entire *Douglasia* staff looks forward to bringing you future issues of the journal.

Many of our contributors have been busy as well. Within this issue, you'll find several grant reports showcasing their hard work, dedication, and scientific contributions. From bryophytes to backyard restoration, there's much to learn about.

WNPS members also had the opportunity to join in several successful botanical adventures since our last issue. In April, Botany WA was hosted in the Columbia River Gorge, and later, Study Weekend was held in Blyn, WA in June. Many wonderful photos showcase these events, and I hope they encourage you to participate in 2025.

Other contributors set out on their own explorations this summer to seek out specific plant species. Their destinations range from the mountains to the deserts, encapsulating several different ecosystems in our beautiful state.

Lastly, but certainly not least, we recognize our 2024 Fellows and Awardees in this issue. I encourage you to read about their achievements and celebrate with us all!

Happy reading!



Information for Contributors

Members and others are invited to submit material for publication in *Douglasia*. We now accept scientific manuscript submissions that will be peer-reviewed. Other articles, book reviews, poetry, photography, or illustrations are welcome. All materials submitted should relate to the study of Washington's native plants. Acceptance will be based on space and appropriateness, and materials are subject to copyediting (substantive editing with author's permission). Contributors are reminded that the *Douglasia* audience ranges from the professional botanist to the interested enthusiast. For more information about how to contribute, see: wnps.org/douglasia/contribution.

Email submissions to Douglasia@wnps.org.

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* The WNPS Arthur R. Kruckeberg Fellow is the highest honor given to a member by our society. This title is given to those who have made outstanding contributions to the understanding and/or preservation of Washington's flora, or to the success of WNPS.

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On the cover: Elephant's head lousewort (*Pedicularis groenlandica*) and slender bog orchids (*Platanthera stricta*) grace a moist subalpine meadow near Bagley Lakes in late July. PHOTO: MARK TURNER

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President's Message: The View from Here

by Gail Sklar

Dear WNPS Members,

Do you remember seeing the poster with Uncle Sam pointing with the words, "I want you!"? Well, instead picture a group of native plants with the words printed, "We Want You!"

Wow, my imagination has appeared on this message!

The message is that participation is a critical part of success. WNPS needs you to be involved if we are to be successful.



With new staff and increased activities, WNPS needs its members to step up and become more active in their chapters, the State Executive Boards, and state committees. We want, and need, members to get more involved. At the state level, ten Directors are retiring out. I wonder, how many are retiring out at the chapter level? These are key positions for WNPS. We urge members of all ages and diverse backgrounds to engage. WNPS has key goals to promote the appreciation and conservation of Washington's native plants and their habitats through study, education, and advocacy, and volunteers like you help us reach these goals. Our native plants, their habitats, and their pollinators and wildlife need you to help them survive.

As I have written in past messages, there are many ways to get involved. Serving on a committee to learn how it works is

one way. What are these committees, you might ask? The titles might vary from chapter to chapter, but generally, they are:

- Conservation Committee
- Education Committee
- Stewardship Committee
- Publicity/Newsletter/Communications Committee
- Program Committee
- Plant Sale Committee
- Hike Committee
- NPAM Committee
- Technology Committee
- Volunteer Committee
- Board Leadership: Chapter Chair and Vice Chair, Immediate Past Chair, Secretary, Treasurer, and Directors at Large

There are different levels of participation, all of which are important. You can try out a committee by attending a few meetings to see if it is a good fit for you. Another way is to co-chair a committee and share the responsibilities. You can ask others for help and mentoring. I encourage you to reflect and see where your interests lie and areas where you might help.

We all want WNPS to thrive, but without help from members like yourselves, it can't happen. To start getting involved, you can reach out to your chapter chairperson. Their contact information can be found at wnps.org. When you visit the website, click on the chapter of which you are a member, and find the directory. If you would like to join a state committee, you can email me at wnpspresident@wnps.org or the committee chair directly from wnps.org.

The next time you go for a hike and see a group of native plants, bend down and listen carefully. You might just hear them chanting, "We Want you! We Want you! We Want You!"

We also want folks to apply for the Native Plant Stewards programs. There are two programs being funded by the Community Forestry Assistance Grants. The 100-hour Master Native Plant Steward program in Federal Way will begin in September, and a 30-hour program in Spokane will begin later. These are wonderful programs where you can learn and do so much for local communities. Brenden McGarry, Program Director for the Stewardship and YEER Programs will be leading this initiative. You can learn more by reaching out to Brendan McGarry at pmstewardsyeer@wnps.org or (206) 794-5928. The first 30-hour program was held in 2016 with the support of Bill Brookreson and the South Sound Chapter; instructor Jim Evans was my introduction to WNPS. I am still the Steward at China Lake Park after almost eight years, and I am still a volunteer with South Sound Chapter and on various state committees, including the Chair of Native Plant Appreciation Month.

The Strategic Planning Committee has been meeting and is working hard to develop a plan of action which will begin in 2025. This plan must be approved by the WNPS Board of Directors. The committee hopes to have a retreat for Board members to define, refine, and commit to achieving the goals statewide over a three-year period.

Native Plant Appreciation Month (NPAM) was very successful. More people participated in the NPAM webinars than in the past. The message spreads. I just heard from someone on a garden tour where I was a docent that he really enjoyed them and is planning on watching webinars from past years. WNPS also enjoys a flush of new members joining after participating in NPAM webinars. In case you are not aware, you can watch webinars from past years and even some amazing speakers from chapter meetings from a link on the WNPS webpage, <www.wnps.org/wnps-annual-events/virtual-events>.

While I was unable to attend, I learned that Botany Washington, which was held in the Columbia River Gorge, was an amazing event. Many thanks to David Giblin, who represented the University of Washington Herbarium, Burke Museum, and Denise Mahnke, Executive Director of WNPS, for coordinating this wonderful event. Attendees enjoyed the hikes, botanizing, classes, and good fellowship with fellow plant enthusiasts.

Study Weekend was another wonderful event. The Olympic Peninsula Chapter hosted this event from June 14–16 and it was well organized. The theme was “Exploring Sea to Summit,” and the event was based at 7 Cedars Hotel in Blyn (near Sequim). The Jamestown S’Klallam Tribe owns and manages the hotel, where participants gathered for social hours, dinners, and presentations on Friday and Saturday nights. While some participants were snowed on, others were rained on, and some experienced neither. All enjoyed themselves.

None of these events or activities at the state or chapters can happen without volunteers. WNPS wants and needs your time and energy to make things happen. Without active volunteers, these events can’t happen. Remember, “We Want and Need You!”

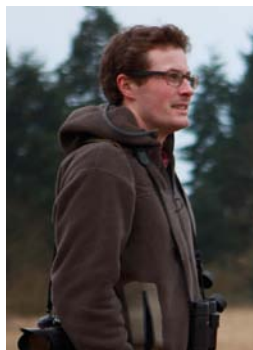


Meet Our New Staff

Native Plant Stewardship and YEER Program Manager Brendan McGarry

The natural world has always been a guiding star in my life. I was lucky to grow up in the Pacific Northwest in a family that valued being outside and gardening, and when I found myself enamored with birds at age eight, my parents were supportive advocates for this new passion. Growing up as a birder helped frame my understanding of the world around me and lead me down a path towards wanting to understand whole ecosystems. Learning about native plant communities in college helped me see the larger story of the places I considered home and was deeply fulfilling.

After several years of utilizing this knowledge as a field biologist and naturalist guide, I pursued my master’s in environmental education at Western Washington University and graduated in



2019. Since then, I have been lucky enough to engage diverse learners at places like the Burke Museum and the North Cascades Institute. The Pacific Northwest is a fantastic place to be an environmental educator, but there are still so many opportunities to connect learners of all ages to their local ecosystems and to develop a sense of responsibility towards those places.

I am excited to be on the WNPS team and to have the opportunity to support others in this journey towards ecological understanding. Being the new manager of both the Native Plant Stewardship and Youth Ecology Education through Restoration, I have had a lot to do while onboarding over the past few months. These two programs have already accomplished so much because of the hard work of the WNPS staff, members, volunteers, and partners and I have been grateful to work with so many knowledgeable, passionate people since starting this April. Thank you for having me and I look forward to meeting all of you.

New *Douglasia* Editors

Douglasia Managing Editor Melissa Islam

After twenty years in Colorado, I escaped the sunny plains for Washington’s rainy bluffs. Curiosity about this moss-filled landscape led me to the University of Washington Herbarium. And, eventually to this new role as *Douglasia*’s Managing Editor. My education, research, and early work experience focused on plant evolution. As my work has shifted towards editing, both as a USDA Cooperator and a Flora of North America technical editor, I delight in working with authors to meet a publication’s standards and ensure that their voices persist. I look forward to encouraging current and future *Douglasia* authors. To more voices! When not playing with archaic punctuation (commash anyone?), I teach botany, find the sweetest blackberries, and water a patch of liverworts.



Editorial Committee Chair Maddy Lucas

When I traded the rainy forests of western Washington for the dry rolling hills of the Palouse in 2016, I never dreamed that I would fall in love with the landscape and its flora the way I have. I feel so lucky that my introduction to native plants happened here, and I remain in awe as the wildflowers spring from the thawing ground of winter every year to decorate our prairie. Writing for *Douglasia* has allowed me to share the beauty of my small corner of the world, and in this new chapter serving as Editorial Chair, I’m excited to bring the stories of other landscapes, projects, and people to readers across the state and country.



Monument plant (*Frasera speciosa*)

by David E. Giblin, University of Washington
Herbarium, Burke Museum

There are a few native perennial herbs in our flora that are tall, relatively narrow, and have an abundance of flowers in their inflorescences. Examples that come to mind are California false hellebore (*Veratrum californicum*), Columbian monkshood (*Aconitum columbianum*), beargrass (*Xerophyllum tenax*), and tall scorpion-weed (*Phacelia procera*). Perhaps my favorite in this group is monument plant (*Frasera speciosa*), a member of the Gentian Family (Gentianaceae). For me, what distinguishes this species from the others mentioned are the size and coloration of the individual flowers, and the plant's monocarpic life cycle (more on that below).

Monument plant is native from Washington to California and east to South Dakota, Texas, and northern Mexico. Within that area it spans a broad elevational gradient, occurring at about 1,000 feet here in Washington and up to 10,000 feet in the Rocky Mountains where I first encountered it. Monument plant prefers meadows and forest openings that are at

least moist in the spring. Individual plants are single-stemmed from the base, can grow up to six feet tall, and have relatively large, simple, somewhat fleshy, opposite leaves. The stems are perfectly round and very spongy inside.

One dramatic aspect of each plant is the inflorescence, which can easily comprise half of a plant's height or more. Inflorescences typically have more than 100 greenish-white flowers arranged in a narrow pyramid—looking somewhat like a stone monument in outline. Another dramatic aspect is the overall morphology of the individual flowers, which often are over an inch in diameter.



Close-up of monument plant flower showing spotted corolla lobes, elongate foveae, and antesealous stamens. PHOTO: GERALD D. CARR



Growth habit of monument plant. PHOTO: ADAM SCHNEIDER

At the center of each flower sits a relatively globose, superior ovary (this ovary position is consistent throughout the family). Attached at the bottom of the ovary are four individual stamens arising at 90-degree intervals and sitting opposite the sepals (antesealous). Outside of the stamens are four corolla lobes (the unfused parts of otherwise fused petals), each with purple spotting at their tips and along the margins. While members of the Gentian Family can have between four and twelve corolla lobes, species in the genus *Frasera* are consistently four-lobed. The stamens appear to alternate with the corolla lobes. Adding to the attractiveness of the flowers are a pair of green, elongate, purple-fringed structures (foveae) on each corolla lobe, at the bottom of which sits the nectaries. Not surprisingly, the flowers are primarily bee-pollinated. Photos, a species description, and a distribution map for where the species occurs in Washington can be found at the Burke Herbarium Image Gallery <www.burkeherbarium.org/imagecollection/taxon.php?Taxon=Frasera%20speciosa>.

Monument plant exhibits an uncommon life history cycle known as monocarpy (Latin for fruiting once). Like salmon,

monument plant lives for several years before flowering and producing fruits, after which the plant dies. Monocarpic plants are different from annuals and biennials, which also die after reproducing but have distinct one- and two-year life cycles, respectively. Monocarpic plants typically live more than two years before reproducing, with the number of years dependent on how quickly or slowly they store nutrients from photosynthesis and soil nutrient uptake. Another monocarpic species in our flora is scarlet gilia (*Ipomopsis aggregata*). We all notice this species when it's flowering, but if you look around those flowering plants you will often see lots of scarlet gilia plants with just basal leaves. This is how most monocarpic plants live—they behave like a perennial with just basal leaves, and this is true for monument plant as well.

In terms of where to find monument plant in Washington, the greatest concentration of herbarium specimens and Burke Herbarium Image Collection photos is from the Rimrock Lake area in Yakima County. This is where I have seen it most reliably in Washington. iNaturalist shows several images just to the north of here and higher up along Bethel Ridge. WNPS member Connie McCauley has a photo of monument plant from Chelan County, which appears to be the northernmost population for the species here in Washington.

A final novelty of monument plant is that it has been studied as a possible example of parental care in plants. Parental care in animals is the norm—one or both parents provide food and shelter to offspring for some period after birth. In plants parental care or nursing is essentially unknown, or at least poorly understood. Plants largely disperse fruits and seeds into the world to fend for themselves. In the case of monument plant, the entire plant tips over and lays horizontally across the ground after fruiting. The seeds are gravity dispersed, meaning they simply fall to the ground once the fruit (a dry capsule in this case) splits open. As part of her dissertation research at the University of Missouri-Columbia, graduate student Anna Wied demonstrated that those seeds that fell under the fallen inflorescence had a greater likelihood of survival and reproduction relative to those seeds that fell beyond the fallen inflorescence. Interesting to consider.

I was recently down in east central Oregon collecting plants where I saw large numbers of monument plants. It reminded me of doing graduate field work in the Colorado Rockies, where it was also common in the open parks at 9,000–10,000 feet. Like beargrass (*Xerophyllum tenax*), monument plant has boom and bust years in terms of the number of flowering plants you will see in an area. In boom years they really brighten the landscape. Getting a chance to examine a plant up close will brighten your day and expand your appreciation for our native flora.

David E. Giblin is a long-term WNPS member, as well as Collections Manager and Research Botanist at the University of Washington Herbarium, Burke Museum. His research focuses on the diversity and distribution of Pacific Northwest vascular plants.



The Immensity of Minutiae: Utilizing Bryophytes to Detect an Ice Age Refugium in the North Cascades

by Miles Berkey, Master in Biological Sciences candidate, Western Washington University

Throughout the Pleistocene glaciations, ice age refugia were ice-free areas of ecological stability, isolated within and peripheral to the massive North American ice sheets. As a result, these refugia functioned as centers of endemism and speciation. Mostly displaced by the temperate ecosystems today, what remains of these ecosystems are considered *ice age relicts*: disjunct and endemic species from glacial and pre-glacial times. For these reasons, ice age refugia are biodiversity hotspots of high conservation concern.



Looking west towards the Big Four Ice Caves from the location of numerous ice age relicts. PHOTO: EVE BERNHARD

Locating ice age refugia is becoming a priority for the conservation of regional biodiversity. Remnant ice age refugia are mostly restricted to mountainous areas where extreme variations in topography maintain bioclimatic conditions analogous to the climate of the last glacial period. This climatic stability likely allows for long-term persistence of ice age relicts through the warmer climate of the Holocene. Therefore, ice age relicts represent a legacy of unique microclimatic and topographic factors that support long-term ecological stability. Today, locating ice age refugia may be key to conserving species that are intolerant of our warming climate.

Ice age refugia have been postulated to exist in numerous areas of once-glaciated regions of the northern hemisphere. Predominant evidence for ice age refugia includes a geomorphologic record showing ice-free conditions during the Pleistocene glaciations, disjunct species distributions, and genetically distinct species lineages. Based on these lines of evidence, numerous putative refugia have been identified in the coastal

The results of the field surveys produced bryofloras of each site. Each flora represented a species envelope—environmental conditions necessary for species persistence. If species envelopes were similar across all sites, then the occurrence of ice age relicts within Barlow Pass would likely not be the result of exclusive environmental conditions.

To understand how the relictual element of Barlow Pass' bryoflora relates to other ice age refugia in North America, the bryoflora of 20 different refugia were compared to 20 climatically and topographically similar non-refugia (glaciated during the LGM). The number of relict species were totaled for each of the 40 sites, and a series of statistical tests were conducted to understand factors that contributed to sites with a high number of ice age relicts. Finally, a logistic regression was used to predict the probability of Barlow Pass having functioned as an ice age refugium.

To determine areas within Barlow Pass that would have been ice free during the LGM, both the alpine glacial extent during the early LGM and the maximum extent of the Cordilleran ice sheet (CIS) were approximated via field surveys and cross-referenced with existing geomorphological data. Morphometric glacial reconstructions of the alpine glaciers and the CIS of the LGM were conducted based off terminal moraines, valley trimlines, and other features.

Results

In total, 1,172 collections representing a combined 238 species and subspecies of mosses and liverworts were identi-

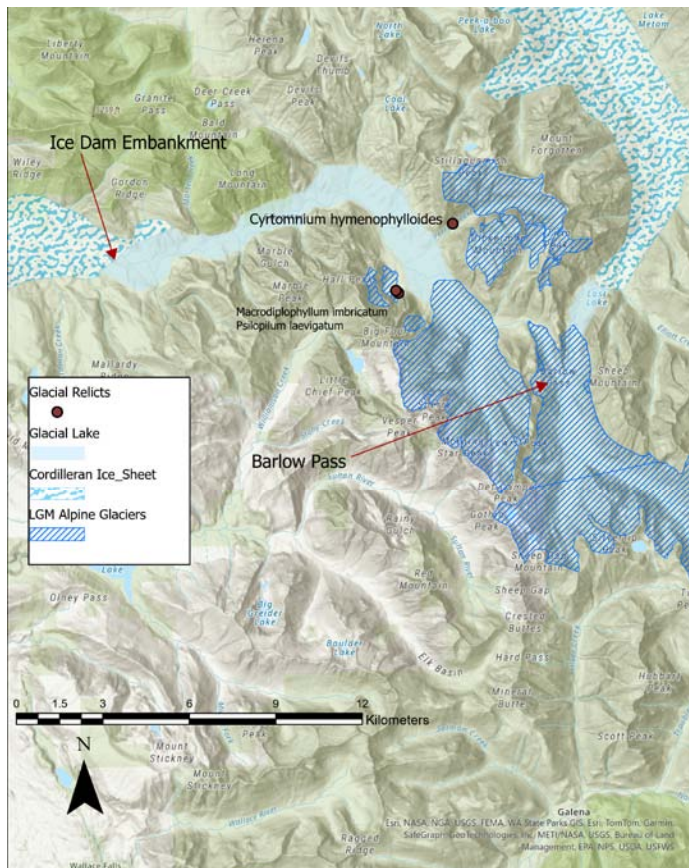


Fig. 3: Maximum extent of alpine glaciers approximately 21,000 years ago, and the maximum extent of the CIS approximately 16,400 years ago.

fied for Big Four Mountain and the four comparative sites. Of these 238 species, eight are reported new to Washington, and ten are noteworthy, rare species. Two relictual species were collected from Barlow Pass. Combined with historical records, this brings the total number of relicts to four for Barlow Pass. No relicts were found from the comparative sites.

A chi-square test of homogeneity showed no significant difference between species envelopes of Barlow Pass and the four other comparative sites ($\chi^2=15.62$, $p>0.05$). The relicts within Barlow Pass are therefore not a result of exclusive environmental conditions.

The pairwise analysis of refugia in North America showed that the total number of relict species per site was a function of the length of time since the last glaciation. Areas such as Barlow Pass, which were glaciated during greater glaciations before the LGM, have lower numbers of relict species.

A subset of late Pleistocene refugia and paired non-refugia were taken from this analysis, and a logistic regression was used to predict the probability of a site having functioned as a refugium based on total number of relicts. This test showed that a minimum number of seven relicts was required to have a 50% probability of having functioned as a refugium. Barlow Pass having four relicts has about a 30% probability of having functioned as an ice age refugium.

Discussion

The glacial reconstructions showed an early LGM alpine glacial advance that reached the valley floor in several places. These glaciers would have likely remained at this position until the global glacial maximum ended approximately 21,000 years ago. This marked the recession of alpine glaciers toward their valley heads. The CIS lagged in response to the changing climate and did not reach its maximum southern extent until 16,400 years ago (Fig 3). The entrance of the CIS to the Barlow Pass area sometime before 16,400 years ago dammed the valley drainage and created a pro-glacial lake that extended to the pass. This would have shifted suitable habitat to the margins of the pro-glacial lake and higher elevations.

Both the field sampling and the glacial reconstructions provide evidence to suggest Barlow Pass functioned as a cryptic refugium—a small ice-free area of sheltered topography with suitable and stable microclimate (Stewart and Lister 2001). The results from the field surveys within Barlow Pass revealed numerous arctic and sub-arctic species, which lack the means for long-range dispersal and are broadly disjunct from their nearest populations. Most notable are *Cyrtomnium hymenophylloides* and *Macrodiplophyllum imbricatum*, which are over 600 km and 400 km from their nearest populations, respectively. Dispersal mechanisms of any kind are extremely rare for *C. hymenophylloides* and unknown for *M. imbricatum*. Only female plants of *C. hymenophylloides* have been found in North America, and sporophytes have only been observed once in Sweden. The glacial reconstructions of Perry Creek indicate glacial ice did not occupy the area where *C. hymenophylloides*



2022 field crew sampling near Big Four Mountain. PHOTO: EVE BERNHARD

was found, therefore, this population may be *in situ* since the LGM. *Macrodiplrophyllum imbricatum* is known only from ice age refugia south of Alaska. It was found near the base of Big Four Mountain.

The analysis of late Pleistocene refugia showed Barlow Pass has a 30% probability of having functioned as an ice age refugium. Other putative refugia that were under the 50% probability threshold are Kodiak Island, the Gros Morne region of Newfoundland, and the Gaspé Peninsula, Quebec. One reason why Barlow Pass and these other refugia had a low probability of having functioned as a refugium is that they are a significant distance from Beringia. Among North American refugia, there seems to be a greater number of relicts with increasing proximity to Beringia. Size of refugium may also be a factor driving up the number of relicts within a refugium. Late Pleistocene refugia of small size such as Barlow Pass are difficult to identify based on total number of relict bryophytes. Cryptic refugia, such as Barlow Pass, may be better determined by a qualitative evaluation of the biogeography combined with alternate biological evidence such as phylogeography and fossil evidence.

The secondary results of this study characterized the bryoflora of steep north facing mountains in the North Cascades. With over ten rare species and eight new state records, these sites host a rich and understudied bryophyte community. A prime example of sites with such diversity is the base of Big Four Mountain, about 6 km west of Barlow Pass where the Big

Four Ice Caves are located. This area was extensively surveyed and is the site for some of the rarest bryophytes in Washington. The globally rare species *Oedipodium griffithianum* is known from fewer than 15 sites in North America. Its location near the Big Four Ice Caves is extremely imperiled due to the heavy visitation this site receives. Intermixed with *O. griffithianum*, the large leafy liverwort *M. imbricatum* is an ice age relict only known from several ice age refugia outside of Alaska. Several hundred feet from these species, the state's most imperiled moss *Bartramiopsis lescurii* exists as a population of 10–20 individuals. Six meters from this location of *B. lescurii* and over 2,000 km disjunct from the arctic, *Psilopilum laevigatum* was found in a narrow gully at the base of Big Four Mountain adjacent to a popular visitation area.

This study echoes the call for a comprehensive list of rare bryophytes for Washington. Many of the rare species and the new state records from this study have yet to be assigned a state conservation rank. A draft list of rare mosses exists but is in strong need of revision. No list of rare liverworts exists for Washington.

Over the past century, botanical meanderings among the valley bottom fens, rocky barrens, and sub-alpine meadows of Barlow Pass have resulted in a comprehensively documented flora highlighting the biogeographic significance of this area. This study further emphasizes the unique biogeography of Barlow Pass with the addition of novel disjunct species and

Native Plants with a Vantage

by Maddy Lucas

As a wildflower enthusiast, I make it a goal to visit Vantage, WA every year. Situated along the Columbia River, the area is teeming with plant life diversity and plenty of recreational locations to botanize in. The three-hour, and nearly 200-mile, drive from my home on the Palouse is worth it, especially considering I have seen at least one new species each time I have visited. In 2024, I spent two whole days in the area, treating myself to spectacular views and exciting plant finds.

While each year varies, I have found visiting Vantage around late April ensures I see the species on my wishlist. Included on this list are Franklin's sandwort (*Eremogone franklinii*), hairy balsamroot (*Balsamorhiza hookeri*), cushion cryptantha (*Greeneocharis circumscissa*), purple sage (*Salvia dorrii*) and the rare Columbia Plateau cactus (*Pediocactus nigripinus*), as well as several more species. Although some of these species are rather common, none are found in the Palouse region where I live, making them a special sight for me.



Franklin's sandwort (*Eremogone franklinii*). PHOTO: MADDY LUCAS

Setting out rather early on a Saturday morning, the temperature was comfortable, and the sky was overcast. My first stop in the Vantage area was at the Columbia River Scenic Overlook off of Interstate 90 in Grant County. One thing you can nearly always count on in Vantage, though, is the wind, and it was extremely windy that day. On this hillside, it was only worse! I took a minute or two to appreciate the view but only noticed many purple *Erigeron* plants, the species of which I'm not sure (admittedly, they all begin to look the same to me).

My next stop was a pull-off along State Route 243 south of the Vantage bridge, which is my favorite area to explore. Here, native plant species grow out of the thin soil amidst the rocky terrain. In addition, sand dunes provide more habitat for wildflowers. Out of the sand grew thread-leaf phacelia (*Phacelia linearis*), white sand verbena (*Abronia mellifera*), and a small *Gilia* species, likely shy gilia (*Gilia sinuata*). Thyme buckwheat (*Eriogonum thymoides*), bitterroot (*Lewisia rediviva*),



Miles Berkey points towards location of rare bryophytes at the base of Big Four Mountain, August 2022. PHOTO: EDWARD BERKEY

elucidates the possible origin of the disjunct element of its flora. While Barlow Pass may not be a significant refugium at a continental scale, Barlow Pass likely existed as a small haven for species during the harsh climate of the last glacial period and may serve as a refuge for biodiversity through our uncertain climatic future.

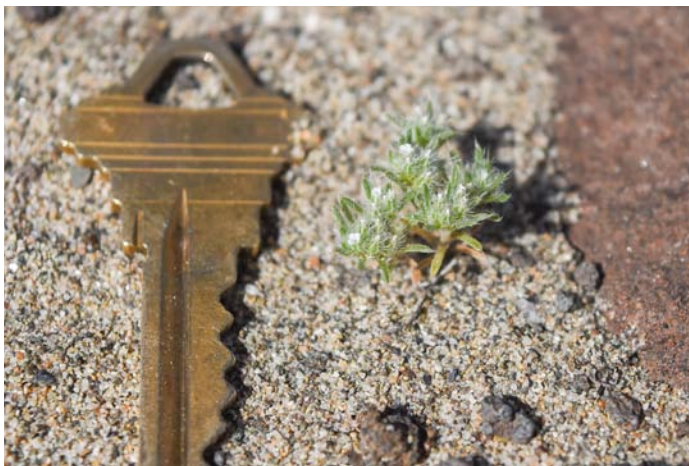
I deeply thank the WNPS for the continued financial support through the last two years. I also thank my advisor, Eric DeChaine and committee members, Mike Williams, Doug Clark, and Jon Riedel. I extend deep gratitude to the field and lab technicians: Ruby Novogrodsky, Hattie Bakke, Olivia Schmidt, Luke Turner, and Zach Zarling. I also thank the bryologists: David Wagner, Terry McIntosh, Dale Vitt, Jonathan Shaw, and Rene Belland who helped with taxonomic determinations.

Literature Cited

- Kruckeberg, A.R. 1976. Perry Creek, Washington, a Fern-Watcher's Eldorado. *American Fern Journal* 66(2): 39–45. <https://doi.org/10.2307/1546516>
- Thorson, R.M. 1980. Ice-Sheet Glaciation of the Puget Lowland, Washington, during the Vashon Stade (Late Pleistocene). *Quaternary Research* 13(3): 303–321. [https://doi.org/10.1016/0033-5894\(80\)90059-9](https://doi.org/10.1016/0033-5894(80)90059-9)
- Riedel, J.L. 2017. Deglaciation of the North Cascade Range, Washington and British Columbia, from the Last Glacial Maximum to the Holocene. *Cuadernos de Investigación Geográfica* 43(2): Article 2. <https://doi.org/10.18172/cig.3236>
- Stewart, J.R., and Lister, A.M. 2001. Cryptic Northern Refugia and the Origins of the Modern Biota. *Trends in Ecology & Evolution* 16(11): 608–613. [https://doi.org/10.1016/S0169-5347\(01\)02338-2](https://doi.org/10.1016/S0169-5347(01)02338-2)

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Cushion cryptantha (*Greeneocharis circumscissa*). PHOTO: MADDY LUCAS

and lineleaf fleabane (*Erigeron linearis*) seemingly grew straight out of the rocky terrain. I also checked off all of my wishlist species with the exception of the cactus and balsamroot. I spent a significant amount of time here soaking in the incredible scenery and plant life, feeling so grateful I got to experience such beauty.

As the afternoon grew later, I decided to move to my next destination, Sand Hollow Campground. I love staying here, as the sandy hillside in the campground is home to many different native plant species. Pale evening-primrose (*Oenothera pallida*) grows prolifically, and their white flowers could be seen from my campsite as I set up my tent. Up close, their scent is divine. Amongst them grew other species, including Columbia cut-leaf (*Hymenopappus filifolius*), woody-pod milkvetch (*Astragalus sclerocarpus*), and sand dune penstemon (*Penstemon acuminatus*).



Bitterroot (*Lewisia rediviva*). PHOTO: MADDY LUCAS

Getting hungry, I began to pull out my cookstove, but my nose was hit with a foul odor as I opened the trunk of my car. The culprit was the small propane tank for my stove, leaking.

Because all of the food I brought for dinner required cooking, I drove across the bridge to the single gas station in Vantage to see if they had more tanks. I was out of luck, as the store was sold out, so I grabbed some dinner and decided to check out a scrubby, sagebrush-filled area nearby. My luck returned when I found curve-pod milkvetch (*Astragalus speirocarpus*) growing here! Satisfied, I headed back to the campground and ended my day.



Leiberg's milkvetch (*Astragalus leibergii*). PHOTO: MADDY LUCAS

The next morning, I crossed the bridge again and headed up Old Vantage Highway. The weather was comfortable, and the sky was once again cloudy, making great conditions for photos. My goal was to see the cactus on my wishlist, as well as an *Astragalus* species I remembered growing at a pull-off along the highway I stop at each year. I spied the pull-off and flipped on my blinker, but the second I drove onto it, I knew something



Daggerpod (*Phoenicaulis cheiranthoides*). PHOTO: MADDY LUCAS



Columbia Plateau cactus (*Pediocactus nigrispinus*) growing amongst other wildflowers. PHOTO: MADDY LUCAS

was wrong. I got out of my car and was horrified to see that the gravel had been laid incredibly thick, and my small car had sunk many inches into it. The leaking propane tank from the night before seemed like a much smaller problem at this point!

After a few minutes, a kind couple stopped and helped me out, informing me that construction crews had dumped all of their extra gravel along this pull-off and the shoulder. By the time I got out, I had forgotten about the plant I was there to see, so I drove on to the Wild Horse Wind Facility's Renewable Energy Center. This visitor's center has several walking trails, plus a native plant garden with a placard describing the work done to save the Columbia Plateau cactus growing where the facility was constructed.

While the weather near the river had been comfortable, it was very cold and windy at the visitor center, although this did not stop me from exploring the trails that wound through wildflowers as far as the eye could see. Lining the trails was an abundance of rock lupine (*Lupinus saxosus*), creating almost a magical effect, with big-head clover (*Trifolium macrocephalum*) and hairy balsamroot (*Balsamorhiza hookeri*) dotting the landscape in between. I was excited to see a few new-to-me species, such as daggerpod (*Phoenicaulis cheiranthoides*) and Thompson's paintbrush (*Castilleja thompsonii*), plus my last wishlist species, the Columbia Plateau cactus, which was just about to bloom. I even saw the *Astragalus* species that led to my car getting stuck, Leiberg's milkvetch (*Astragalus leibergii*)! I returned to my car shivering but full of awe at the many wonderful species I got to see.

All in all, my 24 hours in Vantage left me with a list of over 40 plant species that I saw, only counting native forbs. Each year I visit the area is better as I discover more locations to botanize in, plus my identification and observation skills grow stronger each year. I look forward to returning in 2025 and highly recommend a trip to the area to all my fellow native plant enthusiasts.

Maddy Lucas serves as the Editorial Committee Chair for Douglasia. She enjoys exploring and photographing the native plant life of Eastern Washington, especially the Palouse region where she calls home.



A trail at Wild Horse Wind Facility lined with rock lupine (*Lupinus saxosus*). PHOTO: MADDY LUCAS

Washington's Rare Lichens and the Importance of Herbaria

by Jeanne Ponzetti, Daphne Stone, Katherine Glew, and Bruce McCune

Introduction

The Washington Natural Heritage Program (WNHP) maintains a list of lichens of conservation concern in Washington, with reliance on herbarium specimens for documentation. Over the past decades, the nonprofit organization Northwest Lichenologists has contributed expertise, data, and recommendations for periodic updates of the lichen list. However, for some taxa (plural of taxon, which can be a species, subspecies, or variety in this context), questions remain regarding historic specimens. For others, recent advances in lichen taxonomy have altered our species concepts or names.

Unresolved specimen determinations have hampered our ability to make informed decisions regarding the status and distribution of these rare or potentially rare taxa in Washington. Through a Washington Native Plant Society Research and Inventory grant, we obtained funding for travel and herbarium research. This work resolves numerous questionable identifications and provides supporting documentation for more accurate lichen occurrence data. Additionally, we hope that WNHP will use our results here to prioritize future field research.

Methods

We verified or corrected identifications for 20 lichen taxa (McCune 2017; McCune and Geiser 2023) of conservation concern in Washington. The authors visited herbaria at the University of Washington, Oregon State University, and Olympic National Park. When necessary and appropriate, we performed chemical spot tests to confirm identifications. Fred Rhoades examined specimens for us at the Western Washington University Herbarium.

Important specimens collected in Washington but held at other institutions were requested through herbarium loans. We



Katherine Glew (left) and Daphne Stone (right) at the Olympic National Park Herbarium. PHOTO: JEANNE PONZETTI

requested loans from 12 herbaria. In a few cases, trusted colleagues at other institutions verified specimen identifications, rather than ship fragile specimens. We also examined specimens from a few private collections.

For the specimens we examined, we photographed labels and recorded label data.

Results

We attempted to examine a total of 250 specimens. For those we obtained, we annotated specimens by either confirming the initial identification or supplying the new, corrected name. We created a spreadsheet of all the specimens we researched, their label information, and our confirmation or revision of the identifications, summarized in Table 1. A quick summary of our results for each taxon follows.

	Number of specimens	Percentage of specimens
Confirmed identifications	114	45.6%
Annotated with updated names or revised identifications	114	45.6%
Not determined (unavailable, not found, or not identifiable)	22	8.8%

Table 1. Summary of results for 250 target specimens.

Bryoria furcellata

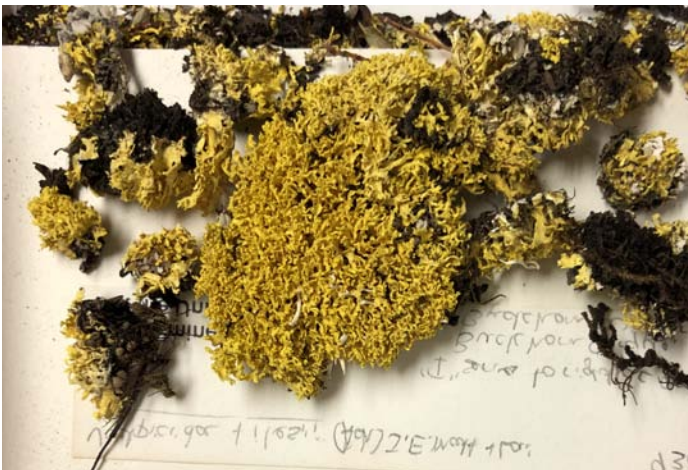
We corrected one specimen and verified three collections.

Buellia oidealea

We examined the only known collection of this species from Washington. The specimen was misidentified. To date, we are unaware of any reliable collection of *B. oidealea* from Washington.

Cetraria juniperina (syn. *Cetraria tilesii*, *Vulpicida juniperina*, *V. tilesii*)

We verified two specimens. One specimen was incorrectly databased, three were misidentified, and two were not found.



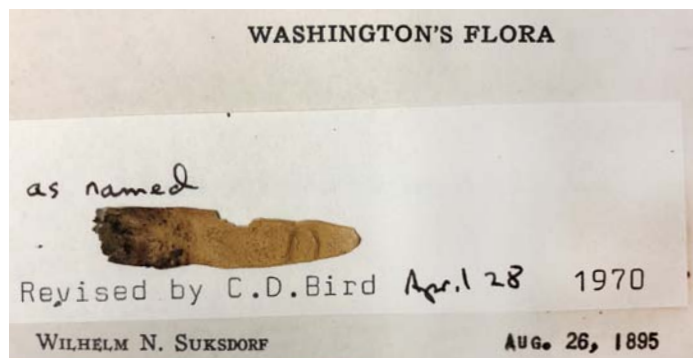
Cetraria juniperina collected by Katherine Glew from the Olympic Mountains. Specimen held at the University of Washington Herbarium, Burke Museum. PHOTO: JEANNE PONZETTI



Cetraria juniperina (syn. *Vulpicida tilesii*). PHOTO: TIM WHEELER

Dactylina arctica

We confirmed all four historic collections of this taxon in Washington. We verified their location information, based on specimen labels.



Dactylina arctica collected by Wilhelm Suksdorf. Specimen held at the University of Washington Herbarium, Burke Museum. PHOTO: JEANNE PONZETTI



Dactylina arctica in Alaska. PHOTO: RICHARD DROKER

Dactylina ramulosa

We verified the only known collection of this taxon from Washington. It is held at the University of Washington Herbarium, Burke Museum.

Felipes leucopellaeus

We contacted Tor Tønsberg to verify his specimen from Lake Ozette, held at the University of Bergen Herbarium in Norway. He graciously reexamined and confirmed the identification. It was also examined and confirmed by Curtis Björk in 2019.

Heterodermia leucomelos

One specimen we examined was misidentified. There are two vouchered locations of this taxon in Washington, and one reported location based on a reliable observation (no collection was made).

Hypogymnia heterophylla

We attempted to examine 34 specimens. Four specimens were not found, four were incorrectly identified, and two were unavailable. We confirmed 24 collections.

Kaernefeltia californica

As the time of this work, there were 74 Washington records for this taxon in the Consortium of Lichen Herbaria online database. Many of the records are over 100 years old, from the vicinity of Westport, and represent duplicate exsiccata collections from the same approximate location. Several collections are from inland locations. We assumed these inland collections to be incorrect identifications, because this taxon occurs only immediately adjacent to the coast. We examined ten coastal specimens and verified nine of them. One was misidentified.

This taxon needs further work and mapping of location data to determine the actual number of known sites.

Koerberia biformis

We confirmed a single specimen held at the University of Washington Herbarium, Burke Museum. This is the only Washington collection of this species that we are aware of.

Leptogium cyanescens

We examined 17 specimens. Eight of them were correctly identified. We annotated four specimens to *Scytinium tacomae*. Five specimens found at the Olympic National Park Herbarium are one or more undescribed species of *Scytinium*.

Peltigera hydrothyria (syn. *Hydrothyria venosa*, including *Peltigera hydrothyria* var. *gowardii* and *P. hydrothyria* var. *aquatica*)

We looked at 32 specimens. We verified and updated the names of 30 specimens. Varietal names could not be applied without DNA sequencing. We examined two specimens that were not lichens—one was a liverwort and one was a free-living cyanobacterium.

Peltigera lepidophora

We confirmed seven collections. One specimen was not found. Another specimen that we requested was not received.

Pseudocyphellaria hawaiiensis

We attempted to examine 79 specimens of *Pseudocyphellaria crocata* and *P. hawaiiensis*. Five specimens were requested but not available or not found. We determined a total of 14 specimens to be *P. hawaiiensis*. We annotated all examined specimens to the current scientific name, either *P. citrina* or *P. hawaiiensis*.

Solorina bispora

The specimen was confirmed by the collector, Curtis Björk. He revisited the location in 2013 and did not see the taxon at that time. He also reports that weeds are deteriorating the site.

Solorina spongiosa

We confirmed four specimens. One specimen was incorrectly identified. One specimen was unavailable (it was on loan with another researcher).

Thelomma mammosum

We verified all seven known collections from Washington.

Tholurna dissimilis

We confirmed all 14 specimens held at the University of Washington Herbarium, Burke Museum.

Tingiopsidium isidiatum (syn. *Vestergrenopsis isidiata*)

We verified four specimens. We annotated six specimens to *Tingiopsidium sonomense*. Two specimens were poorly developed and could not be determined.

Usnea subgracilis (syn. *Usnea hesperina*)

We verified one specimen. Two were misidentified. We were unable to obtain three specimens: two specimens were on loan with other researchers, and one was not found.

Discussion

We corrected the identifications for about 45% of the 250 target specimens. Many of these were historical collections, or were taxa in recent taxonomic transition, or had unlikely identifications. About two thirds of the corrections (75 out of 114) were straightforward name changes. For example, we revised most of the specimens of *Pseudocyphellaria crocata* to the locally common species, *Pseudocyphellaria citrina*, following Lücking et al. (2017).

These data are immensely helpful in assessing the rarity of this study's target taxa. In particular, verifying the historical specimens gives us necessary documentation of a taxon's occurrence in Washington. Eliminating the misidentified specimens and updating scientific names helps us clarify which taxa are truly rare.

None of this work would be possible without the many institutions that hold these collections and their expert staff.

We shared the details of our results with WNHP. We hope this work will be used to inform the next round of updates for the Washington list of lichens of conservation concern.

However, considerable work remains:

We recommend a review of additional herbarium specimens, targeting lichen taxa not treated here.

Accurate mapping is needed to determine the actual number of occurrences for some taxa. Online databases, such as the Consortium of Lichen Herbaria or the Consortium of Pacific Northwest Herbaria, may contain many historical records for a species. In some cases, these records represent multiple collections from one or just a few locations, while the number of verified, unique sites remains quite low.

Field visits are needed for the lichens of immediate conservation concern in Washington. As essential as herbarium specimens are, they do not tell us about the current size, vigor, and trend of lichen populations.

For more information about lichens in the Pacific Northwest, visit Northwest Lichenologists at <northwest-lichenologists.wildapricot.org>.

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- David Giblin, Collections Manager, University of Washington Herbarium, Burke Museum (WTU)
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- Scot Loring
- Troy McMullin, Canadian Museum of Nature (CANL)
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- University of Colorado Museum of Natural History (COLO)
- University of Michigan, Ann Arbor (MICH)
- University of Minnesota, St. Paul (MIN)
- University of Wisconsin, Madison (WIS)

Literature Cited

- Lücking, R., B. Moncada, B. McCune, E. Farkas, B. Goffinet, and D. Parker, et al. 2017. *Pseudocyphellaria crocata* (Ascomycota: Lobariaceae) in the Americas is revealed to be thirteen species, and none of them is *P. crocata*. *Bryologist* 120(4): 441–500.
- McCune, B. 2017. *Microlichens of the Pacific Northwest*. Volume 2: Keys to the Species. Wild Blueberry Media, Corvallis, Oregon.
- McCune, B., and L. Geiser. 2023. *Macrolichens of the Pacific Northwest, Third Edition*. Oregon State University, Corvallis.

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Sowing the Seed: Distributing Palouse Prairie Backyard Restoration Guide

by Elizabeth Sebo, Education and Outreach Coordinator, Palouse Conservation District

As one of the most endangered ecosystems in the United States, the Palouse Prairie is a prominent conservation focus in the Palouse region of southeastern Washington. What is the Palouse Prairie, why is it important, and how do we restore it in our backyards? When should we plant, and should we use seeds or plugs? How do we control tansy, bindweed, and other weeds common to our area? Can we do it with or without herbicides? These topics (and more!) are discussed in the new *Backyard Restoration on the Palouse: A Guide to Restoring Native Palouse Prairie in Your Yard* booklet developed by the Palouse Conservation District (Palouse CD) through a WNPS education grant. Palouse CD Washington Service Corps Member Ivy Woltering collaborated with local Palouse Prairie experts from regional non-profits, universities, and local, state, and federal agencies to compile up-to-date information on Palouse Prairie restoration. This document answers many questions that community members may ask as they seek to restore the prairie on their properties. Palouse CD also developed a corresponding pamphlet to provide concise, digestible information on the Palouse Prairie and the importance of backyard restoration.

BACKYARD RESTORATION ON THE PALOUSE

A Guide to Restoring Native Palouse Prairie in Your Yard



Front cover of *Backyard Restoration on the Palouse*.

Comparing Establishment Success of Direct Seeding and Plug Planting Following Solarization

by The Phoenix Conservancy

Project Status and Progress

The Phoenix Conservancy is honored to have been entrusted with a Conservation Committee grant from the Washington Native Plant Society in 2022, with an extension to complete the work from spring 2023 through early 2024, in accordance with ideal phenological timing. This project, conducted at Conservation Park in Pullman, encountered substantial difficulties; nonetheless, we obtained several useful insights that we feel made the project successful. Despite deviations from the original plan, the rough framework of the original project was successfully completed.

As our underlying interest is to continually optimize restoration of the Palouse Prairie, this pilot project provided extremely valuable insights for our ongoing work. Specifically, a much more in-depth and comprehensive study was scheduled to begin June 2024 using the results of this experiment as a valuable starting point to clarify efficacy of multiple, simultaneous invasive species control mechanisms (hand-pulling, solarization, and selective herbicide treatments) and to study microbial community impacts and native plant community establishment.

Adjustments to Original Project Plan

Following disruption of the larger-scale contiguous solarization plot in fall–winter 2022 (original proposal was for a solarized area of approximately 6,300 sf), the proposed 15 feet x 6 feet experimental solarization and adjacent control plots were re-established in less visible locations in late spring 2023.

Due to this disruption, plug planting could not be completed on the original timeline without potentially creating highly skewed results. Originally, plug planting and the sowing of a native seed mixture were to occur simultaneously in fall 2023, following solarization from fall 2022–summer 2023. Being forced to re-establish the plots in late spring 2023 made fall planting and sowing impractical, as the solarization treatment would not have been in place long enough to have any observable effect. Many of the invasive species targeted were already dormant for the season. To maintain some establishment potential for native plant communities, native seed purchased for the project were sown in early spring 2024 as soon as the solarization plots were removed.

Collectively, these adjustments to the original plan altered the potential informative scope of the project. We were not able to determine the overall efficacy of seeding vs. plug plantation following solarization. Instead, we focused on a more general comparison of efficacy of summer-through-spring solarization



Recommended Species page from *Backyard Restoration on the Palouse*.

Palouse CD debuted both publications at the National Lentil Festival in Pullman in August 2023, where we interacted with hundreds of community members at our booth. Since then, both the Backyard Restoration Guide and pamphlet have featured prominently at other community events. Thanks to the WNPS grant, 200 hard copies of the backyard restoration guide are now available to our community, and it is also available on the Palouse CD website. www.palousecd.org/

We are grateful for the opportunity to share information about the restoration of this vital native habitat with those in our community. Thank you to WNPS for supporting these local educational efforts and thank you to the many partners who provided guidance and edits as we developed these documents.



Palouse prairie remnant wildflowers at Whelan Cemetery near Pullman. PHOTO: MARK TURNER

Elizabeth is the Education and Outreach Coordinator for Palouse Conservation District in Pullman, WA.





Photos of treatment plots following solarization for A) *Lepidium draba*; B) *Chondrilla juncea*; C) *Bromus inermis*; and D) *Taeniatherum caput-medusae*. PHOTOS: THE PHOENIX CONSERVANCY

on five prominent invasive species in Conservation Park: rush skeletonweed (*Chondrilla juncea*), common hound's-tongue (*Cynoglossum officinale*), whitetop (*Lepidium draba*), medusa-head (*Taeniatherum caput-medusae*), and smooth brome (*Bromus inermis*). High-density patches (greater than 80% total coverage) of these species were located within Conservation Park, and solarization treatment and adjacent control plots were established at these locations.

Key Results

Overall, we found that summer-through-spring solarization had the most pronounced effects on *B. inermis* and *C. juncea*, reducing coverage by an estimated 50% and 40% relative to adjacent untreated plots, respectively. We attribute this effect largely to the late-season phenology of these two species; their major period of active growth occurred throughout the solarization period, increasing likely treatment impacts. Given that the high-density occurrence of these species also coincided with more exposed, dry areas of the park, it is also possible that the effects of solarization were amplified in such conditions.

Summer-through-spring solarization reduced coverage of *L. draba* or *T. caput-medusae* in the treatment plots. Indeed, the treatment plots increased in coverage and density. This observation is consistent with clear plastic solarization forcing a local greenhouse-like effect on species that bloom and seed early in the growing season. This is the specific intention of using clear plastic rather than black plastic; the goal is to force maximal seed germination and plant growth under the plastic early in the season and then induce plant death from excessive heat under the plastic later in the season. We thus interpret the observed increased growth of these early-season species under the solarization plastic as an indication that the process was working as predicted, and it reinforces the idea that spring removal of solarization plastic is likely to render the treatment ineffective at best or increase invasive plant coverage at worst.

Results of summer-through-spring solarization for *C. officinale* were unclear, with no clear change in coverage detected. The plot dedicated to this species was also disturbed mid-treatment (plastic tore loose from restraints during a windy

storm), which may have been a contributing factor. Given that *C. officinale* is a biennial species, the solarization window may have been too late to generate noticeable effects before the onset of dormancy for first year rosettes.

Obstacles Encountered

We faced two major challenges during the grant period, both of which were unanticipated at the time of grant submission. The first was substantial turnover within our organization, especially in roles related to our Palouse Prairie Project. While we are very proud to have survived such difficult times as an organization, this turnover strongly impacted our ability to implement this project in accordance with the original proposal.

The second unanticipated major challenge to the work was vandalism by park users. Originally, a large area was covered with solarization plastic, but it was deliberately removed more than once by unknown persons. We adapted our approach, but even then, our project continued to experience disruptions from missing markers or disturbed experimental plots. Small interpretive signs put in place to explain the experiment were generally ineffective (these signs were also removed or destroyed). While Pullman itself is overall a very safe environment, the location of Conservation Park as a high-traffic public use area near Pullman High School and a large residential area possibly increased the incidence of unanticipated vandalism throughout the experiment.

Lessons Learned and Future Directions

Overall, our central takeaways from the work can be roughly summarized as:

- Solarization with clear plastic shows promise as a useful non-chemical tool for removing problematic invasive species.
- To be effective, the plastic should remain in place for one full year at least to maximize the effectiveness for a diverse range of invasive species.
- Given issues with vandalism and disruption, use of large-scale solarization may be restricted to non-public areas, or areas that can otherwise be protected from being disrupted.

- Premature removal of solarization may help early-season invasive species.
- In cases where larger scale solarization may not be feasible, plots of the size used in this study are enough to see effects.

While the current project suffered setbacks, we still obtained useful information to direct future efforts. Following up from this experiment and using the same materials, a much more detailed, large-scale experiment is underway this summer, which will provide much more extensive data. The site for this large experiment is less frequented by the public, greatly reducing the likelihood of vandalism and full project failure. Building from the foundational work in this experiment, the larger experiment will examine more variables, including microbial communities and responses to mixed and multiple treatments for invasive species removal.

In Conservation Park, we are happy to say that this experiment increased the amount of interest which the public has shown in native plant restoration in the area. The treatment plots have been heavily seeded with native species, providing a valuable starting point to build from as we move forward with restoration, and we intend to use longer-term solarization to create similar population clusters of native plants as our capacity increases.

Finally, though it is not a direct result of the current work, a previous grant from WNPS allowed us to trial goat grazing as a method for controlling invasive species in the park. We are very pleased to report that bringing goats to the park has become an annual event that the public greatly enjoys and has led to a noticeable decline in whitetop throughout the park. In 2024, we will bring the goats back for a longer period in addition to solarization, creating a strong possibility for substantial progress in the park this year. We are enormously grateful for the opportunities that the Washington Native Plant Society has provided our small, rapidly growing organization, and we look forward to continuing to share updates on the projects supported by WNPS for years to come.

The Phoenix Conservancy's mission is to restore endangered ecosystems globally for the communities that depend on them and the conservation of biodiversity. We seek out the most critically-endangered ecosystems (10% or less intact) on a Local (Palouse prairie), National (Great Plains prairie), and Global (Madagascar rainforest) scale, where we use ecosystem restoration to combat biodiversity loss; climate change and resulting insecurity, desertification, and erosion; and poverty, malnutrition, poor quality of life, and loss of economic empowerment.



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Making a gift through your estate is a powerful way to express your values, care for the earth, and ensure a lasting impact. “One generation plants the trees, another gets the shade.” —Chinese Proverb

Here are examples of how to make a planned gift:

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- Make the Washington Native Plant Society a beneficiary to your IRA or life insurance policy.
- Name the Washington Native Plant Society as the beneficiary of a charitable remainder trust.

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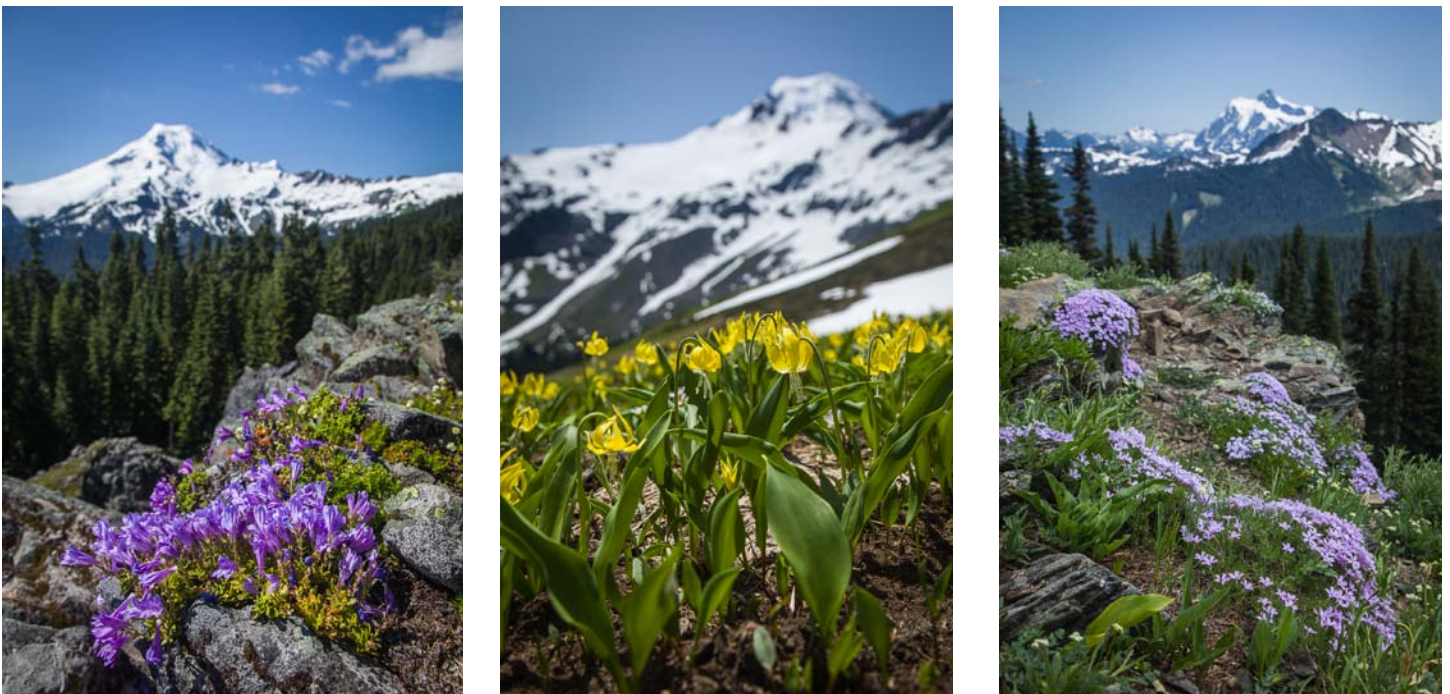
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Subalpine Summer in the North Cascades

Photography and text by Mark Turner



The road to **Harts Pass** and **Slate Peak** is the highest one can drive in the North Cascades, reaching nearly 7,400 feet. Along the way up you'll travel back in time from summer to early spring. I most recently visited on July 2 and the snow had just melted at the highest elevations. You'll find lots of floral diversity right along the road, including in the ditches if you time it right. Here, from left to right, Columbia lewisia (*Lewisia columbiana*) with mountain sandwort (*Eremogone capillaris*), snowpatch buttercups (*Ranunculus eschscholtzii*), American globeflower (*Trollius albiflorus*), and white marsh-marigold, aka elk slip (*Caltha leptosepala*).



Cougar Divide leads south from the end of the Wells Creek Road toward Mt. Baker, gaining a bit over 1,000 feet in about four miles to the base of Chowder Ridge at 5,800 feet. It's not an officially maintained trail, but rather a good boot track used mostly by bear hunters or scramblers headed for Hadley Peak. Higher up, Chowder Ridge (which often requires an ice axe to access) is home to cool alpine plants in the Ronald J. Taylor Research Natural Area. You'll likely need your bug repellent and head net as the route is notorious for thick swarms of mosquitos and flies, particularly in the mountain hemlock forest on the ridge. Pictured here are some of the early blooming flowers found on July 11. Left to right, Davidson's penstemon (*Penstemon davidsonii*) with Mt. Baker, glacier-lilies (*Erythronium grandiflorum*) with Mt. Baker, and spreading phlox (*Phlox diffusa*) with Mt. Shuksan on the distant skyline. By August 2 all of these had finished blooming.



Bagley Lakes, at Heather Meadows near the end of Mt. Baker Highway, has popular and easy trails through a subalpine habitats. For those of us who live in Bellingham, it's the place we take our out-of-town guests to see the mountains and the flowers. At about 4,200 feet, it's one of the starting points for the Chain Lakes loop up over Herman's Saddle, down to Hayes, Iceberg, and Mazama Lakes and then back up to Artist Point at about 5,100 feet, with lots of flowers all along the way. Pictured here, left to right, are mountain arnica (*Arnica latifolia*) at the base of a young mountain hemlock (*Tsuga mertensiana*), the carniverous common butterwort (*Pinguicula vulgaris*), copperbush (*Elliottia pyroliflora*), and elephant's head lousewort (*Pedicularis groenlandica*), all blooming on July 22.



Excelsior Pass, at about 5,400 feet on High Divide, can be reached via the Damfino Lakes trail, gaining about 1,500 feet in a little under 3 miles, or switchbacking up 3,600 feet in about 4 miles from Mt. Baker Highway. Either way, you'll find lots of flowers. The Damfino route can be buggy, but gets you to the flowers faster and is generally preferred. Above, left to right, white small-flowered paintbrush (*Castilleja parviflora* var. *albida*) with fan-leaf cinquefoil (*Potentilla flabellifolia*), Parry's catchfly (*Silene parryi*), yellow mountain-heather (*Phyllodoce glanduliflora*), and sulfur buckwheat (*Eriogonum umbellatum*), Parry's catchfly, and lanceleaf stonecrop (*Sedum lanceolatum*) on the subalpine scree just below the top of Excelsior Peak. At right, small-flowered penstemon (*Penstemon procerus*) and green corn-lily foliage (*Veratrum viride*). All were photographed on July 22.

Other favorite floriferous trails taking off from Mt. Baker Highway include Goat Mountain, Yellow Aster Butte, Church Mountain, Hannegan Pass, Heliotrope Ridge, and Skyline Divide (currently inaccessible due to a road washout).



YOUTH ECOLOGY EDUCATION THROUGH RESTORATION

2023-24 SCHOOL YEAR PROGRAM STATISTICS | SCHOOLS SERVED BY THE RCO OUTDOOR LEARNING GRANT



"IT'S SO GREAT TO HAVE A HIGH QUALITY PROVIDED CURRICULUM. I'M REALLY EXCITED ABOUT YEER." -PARTICIPATING QS TEACHER

6
SCHOOLS
SERVED

"I LIKE LEARNING ABOUT THE NATIVE PLANTS; MY BRAIN IS GOOD AT THIS." -PARTICIPATING PES STUDENT

764
PARTICIPATING
STUDENTS

8,800
SQ FEET OF
TOTAL PROJECT
AREA

PARTICIPATING SCHOOLS

WAHLUKE JR HIGH SCHOOL
RAY REYNOLDS MIDDLE SCHOOL
PATERSON ELEMENTARY SCHOOL

ROSE HILL MIDDLE SCHOOL
GRIFFIN MIDDLE SCHOOL
QUILCENE SCHOOL

38
TOTAL OUTDOOR
LEARNING
HOURS

1,538
PLANTS
PLANTED

"IT'S GREAT TO PROVIDE THESE KIDS OUTDOOR OPPORTUNITIES; THANK YOU FOR PROVIDING THIS PROGRAM." -PARTICIPATING RRMS TEACHER

313.75
TOTAL HOURS
OF CLASSROOM
LEARNING

"CAN WE SKIP THE REST OF OUR CLASSES TODAY AND PLANT ALL DAY? I LOVE PLANTING!" -PARTICIPATING RHMS STUDENT



Washington Office of Superintendent of
PUBLIC INSTRUCTION



Washington Native
Plant Society

2024 WNPS Arthur R. Kruckeberg Fellow Awards

The WNPS Arthur R. Kruckeberg Fellow award is presented every three years to members of the Society who have shown outstanding dedication to the mission of WNPS. WNPS Fellows are chosen based on one or more of the following criteria:

- Effecting a significant and lasting change in the organization.
- An extraordinary contribution of volunteer time dedicated to WNPS.
- An outstanding act and/or driving force on behalf of the conservation, education, research or advocacy of Washington's native flora.
- Longevity of contribution at the state or chapter level.

Join us in celebrating the following four new WNPS Arthur R. Kruckeberg Fellows.

Jerry Benson

Jerry Benson was nominated by Chris Sheridan, BLM Ecologist; Mel Asher, Native Plant Nursery Owner; Katie Fitch, Restoration Ecologist; Kelly Evans, USFS Natural Resource Specialist; Kurt Merg, WDFW Shrub Steppe Restoration Coordinator; and Vicky Erickson, USFS Regional Geneticist and Native Plant Program Manager.



PHOTOGRAPHER UNKNOWN

Jerry Benson's nominees noted his lifelong role as a driving force in conservation, education, research, and advocacy of Washington's native flora. As the owner and operator of BFI Native Seeds in Moses Lake, WA, Jerry continues to inspire as shown in the following statements that accompanied his nomination.

"[Jerry has] demonstrated passion, professionalism, technical know-how, and dedication to the art of native seed growing."

"Extremely knowledgeable and gracious to share his knowledge. The go-to person for native plant restoration projects in Washington for over 30 years."

"A tireless advocate! He is a gem as a mentor and weaves humor to lighten up the tasks ahead."

"His contribution to the advancement of using genetically appropriate native plant material in restoration is history in the making."

"In the 1990's Jerry assembled, trained, and equipped a group of wildlife area managers at WDFW to restore upland habitats mostly in public land. He retired from WDFW to start a seed business and supply restoration practitioners with

the truly native seed needed to improve restoration of native habitats in Washington".

On acceptance of his award, Jerry shared his relationship with his mentor, William Barker, also a WNPS Fellow. Jerry is very honored to join him as a WNPS Arthur R. Kruckeberg Fellow.

Sarah Gage

Sarah Gage was nominated by Walter Fertig, Clay Antieau, Sharon Rodman, Fred Weinmann, and Don Schaechtel. Sarah has been active in WNPS since 1988 and significantly contributed to the conservation of plant species and biodiversity in Washington. Sarah served as WNPS President from 1995–1996 and later served as the chair of the fundraising committee. As President, she was a key player in WNPS hiring its first staff member, Catherine Hovanic. She has since been a valuable member of the Communications, Editorial, Fundraising, and Financial Advisory Committees.



PHOTO: SHELLEY

Professionally, Sarah was the Collections Manager of the University of Washington Herbarium from 1988 to 2001. During this time, she actively encouraged volunteers, students, and herbarium users to pursue botanical activities and careers. Sarah and Sharon Rodman collected plants all over the state in 1992–1993, a project that resulted in their co-authored work, *A Centenary Survey of Plant Life in Washington State: Retracing the 1892 Collecting Trips of Louis F. Henderson* (Volume 8 of the *Douglasia Occasional Papers* series).

Sarah was the Chief U. S. Botanist for the International Kuril Island Project from 1995–2000. This project documented the flora and fauna of the Kuril Islands, which stretch from Japan's northernmost island to the south tip of Russia's Kamchatka Peninsula. Sarah also knows a thing or two about slime molds, having worked in Dr. O'Neil Ray Collins' slime mold lab at UC Berkeley in the late 1970s.

From 2005 to 2019, Sarah worked on biodiversity conservation and salmon recovery at the Washington State Recreation and Conservation Office in Olympia. She provided input to the Natural Heritage Advisory Council, the Washington Invasive Species Council, the Salmon Recovery Funding Board, the Recreation and Conservation Funding Board, and many other state and local entities.

Sarah left the UW Herbarium in 2001 to turn her attentions to writing and earned an M.F.A. in Creative Non-Fiction at the University of Arizona. Since 2012, she has applied her skills for WNPS with the Botanical Rambles Blog. Botanical Rambles has been a mainstay of WNPS online communications. Sarah

writes many of the blogs herself and recruits others to contribute their knowledge and stories. (She is a great editor.) Botanical Rambles has reached thousands of plant enthusiasts across the state and region and made her the voice of WNPS.

Sarah has also written many of the WNPS fall and spring fundraising letters, which have been well-received by members and have proven successful. She also lends her fundraising expertise when WNPS seeks grants and writes articles about giving to WNPS. Without a doubt, Sarah has made lasting and significant contributions to WNPS and far-reaching impacts on biodiversity conservation in the state. On accepting her award, she shared stories of her time at WNPS and encouraged others to join and support the organization.

Don Schaechtel

Don Schaechtel was nominated by Joan Frazee and the Wenatchee Valley Chapter eleven-member board. Don meets all four Fellow criteria for his contributions at both the state and chapter level.

Don's long list of accomplishments and service to WNPS include:

- WNPS Wenatchee Valley Chapter Chair
- WNPS Secretary 2014–2016
- Study Weekend Event Director 2016
- Leavenworth area Field Trip Leader
- WNPS President of the Board 2017–2018
- WNPS Treasurer 2019–2022
- WNPS Fundraising Chair 2021 to current
- Community builder and leadership support



PHOTO: ANN SCHAECHTEL

Don has contributed significantly to WNPS and to educating others on and advocating for Washington's native flora. Joan Frazee, Wenatchee Valley Chapter Chair, captures Don's contributions to the community, "An amateur botanist, his knowledge is impressive, his enthusiasm contagious. He can engage people of varied botanical skill levels and offers an annual introductory course to lichens as well as an annual introductory grass class. With his enthusiasm and knowledge, he makes complex subject material approachable to the amateur. In addition, he has transformed his property off Icicle Road into a haven for native plants. And enthusiastically invited me to dig up a number of sedge plants to add to my own fledgling native plant garden."

Fayla Schwartz

Fayla Schwartz is one of the longest standing members on the WNPS Board of Directors. Her service in an active board position dates to the prior century. Nominated by Denise

Mahnke and Gail Sklar, her dedication to WNPS is noteworthy.

Her early research in and dissertation of *Zigadenus* (now, *Anticlea*) led to a treatment of the genus in the *Flora of North America* in 1994. Professionally, Fayla taught biology and botany at Everett Community College for 25 years.



PHOTO: ALLEGRA KLIEN

Fayla began her WNPS service as the Education Committee Chair in 1995 and remained in that position until 2018. She retired from the Committee to serve as the Olympic Chapter Chair and continues to serve. As the Grant Committee Chair, she has facilitated more than 450 education grants, providing financial support to projects across Western Washington.

In 2020, when WNPS was interested in the Youth Ecology Education through Restoration program (YEER), Fayla stepped up to lead the ad hoc board advisory committee to support the program. With Fayla's knowledge of the education system around Washington, she recruited a statewide team of knowledgeable teachers and professors in environmental education to support the pilot program.

Currently, Fayla continues to lead the Olympic Chapter. During the pandemic, she encouraged the chapter to remain active with field trips and activities. Under her leadership and dedication, the chapter hosted the Study Weekend in 2024, which was described by attendees as one of the best. Two years of planning by the Olympic Chapter resulted in a well thought out event with plenty of field trips, workshops, and opportunities to engage with Washington's flora.

WNPS 2024 Annual Awards

WNPS Mentzelia Award: Tina Miller

This award is presented annually to WNPS member(s) who have made a significant contribution to native plant conservation, research, or education in Washington. This year's Mentzelia Award winner is Tina Miller.

Tina Miller was nominated by Don Schaechtel and Janneke Petersen for her work with the Youth Ecology Education through Restoration (YEER) program. This WNPS program engages middle school science teachers and students in the restoration of native plant communities in their own schoolyards (or nearby preserves) as a part of a rigorous science



PHOTO: MARK TURNER

curriculum and in partnership with volunteer Stewards. Tina's involvement with YEER began as a volunteer Steward for Rose Hill Middle School in Redmond. She worked to plan and implement the first restoration site in 2021, which included removing Himalayan blackberry (*Rubus bifrons*) and planting 610 native plants with students. Tina recently retired from over 30 years as the King County Volunteer and Restoration Coordinator. She brings deep and practical knowledge of native plant restoration to Rose Hill Middle School and the whole YEER program. She is also generous in sharing her knowledge.

In 2022, Tina became YEER Advisory Committee Chair and is instrumental in the development and success of the YEER program. She is consistently willing to roll up her sleeves and do the necessary and substantial administrative work involved in the functioning of YEER. She is thoughtful, practical, and knowledgeable in both native plant stewardship and program management, and simply put, she gets stuff done.

In addition to Tina's work with YEER, she recently proposed Stewardship programs, funded by the Washington DNR's urban forestry grant program, with the Cities of Spokane and Federal Way. She planned projects with the cities and developed budgets for submitting the grant application. The Northeast Chapter has been interested in having a Stewardship program in their area, so this would be a boost to their chapter's revitalization efforts.

WNPS Outstanding Partner Award: City of Bellingham

This award is presented to an agency, organization, or individual, which has made significant contributions to native plant conservation, research, or education in Washington.



The City of Bellingham, nominated by Allan Richardson and T. Abe Lloyd, is the winner of the 2024 Outstanding Partner Award. The City of Bellingham and the WNPS Koma Kulshan Chapter have cooperated for many years on projects that have significantly impacted native plant conservation and education in their region, culminating with the native plant stewardship classes held in 2017, 2019, 2021, and 2023.

The City of Bellingham, and especially the Parks Volunteer Program, are an outstanding partner in educational and stewardship efforts on behalf of native plants. The city has recently supported native plant stewardship classes. The Parks Volunteer Coordinators Rae Edwards, then Amy Brown, and now Ryan Robie, have been exceptionally supportive of WNPS projects in the City of Bellingham. Amy put a huge amount of time and effort into leading the city side of the stewardship classes in 2019 and 2021, and Ryan continues the collaboration. The Public Works Department, under the leadership of Analiese



T. Abe Lloyd teaches 2023 Stewards. PHOTO: SKY BRESSETTE

Burns, Habitat Restoration Manager, has provided important financial and other support for the stewardship classes.

WNPS also partners with the City of Bellingham on the *Native Plants for Native Pollinators* brochure and poster. These were developed by the WNPS Koma Kulshan Chapter Conservation Committee, led by Jim Davis and supported by Clare Fogelson, City of Bellingham Public Works Department. These materials are now available at plant nurseries throughout the county and at public events such as work parties and plant sales. An electronic version is available on the City of Bellingham's Bee City USA webpage.



Bellingham Native Plant Steward class of 2021. PHOTO: AMY BROWN

In 2010, the WNPS Koma Kulshan Chapter joined the Nooksack Salmon Enhancement Association (NSEA) and City of Bellingham City Parks to enhance the Native Plant Trail in Maritime Heritage Park, which is along Whatcom Creek. Together they created new signs, which now include native language names and ethnobotany notes. Beginning in 2022, the chapter and the city, with newly trained native plant stewards, added more plants and worked at restoring the surrounding habitat, in anticipation of adding 27 new signs slated for installation this year.



Botany Washington 2024 – Early Spring in the Columbia Gorge

Special thanks to the ongoing partnership with the University of Washington, Burke Museum for Botany Washington #24, hosted in the Columbia Gorge, a celebration in the Granges in Rockford, OR and White Salmon, WA.



A full day of grass identification with Clay Antieau. PHOTO: EMIL DOYLE



Big-head clover (*Trifolium macrocephalum*). PHOTO: DENISE MAHNKE



More colors on the slopes of the Columbia Hills with lupines and biscuitroots. PHOTO: DENISE MAHNKE



Brown's peony (*Paeonia brownii*). PHOTO: JANKA HOBBS



Big and very orange *Castilleja*. PHOTO: DENISE MAHNKE



Future natural areas manager enjoying study at Columbia Hills.
PHOTO: DENISE MAHNKE



Sunday with Kim Gilmer at Columbia Hills Natural Area. PHOTO: DENISE MAHNKE



Botanizing beside a waterfall on the Panakanic Prairie. PHOTO: JANKA HOBBS



Out in the balsam enjoying the view along the Weldon Wagon Trail with DNR SW Washington Natural Areas Manager Carlo Abbruzzese. PHOTOGRAPHER UNKNOWN



Botany Washington 2024—Rockford Grange, Oregon. PHOTO: JOHN HASKINS



Study Weekend 2024 – Exploring Sea to Summit on the Olympic Peninsula

Hosted by the Olympic Chapter in the Jamestown S’Klallam Tribal home of Blyn, WA.



Field trip participants on a gravel bar along the restored Elwa River.
PHOTO: DIXIE LLEWELYN



Clay Aniteau by the sea at Fort Flagler. PHOTOGRAPHER UNKNOWN



From fungi to old growth with Andy McKinnon. PHOTO: ANDY MCKINNON



Blue Mountain in the sleeting snow. PHOTOGRAPHER UNKNOWN



Mark Turner's photography class at Sequim Bay State Park.
PHOTOGRAPHER UNKNOWN



Nam Sui shares north Puget Sound Seaweeds. PHOTO: ALAINA KOWITZ



Candystick (*Allotropa virgata*). PHOTO: ALAINA KOWITZ



Alpine ethnobotany with Abe Lloyd. PHOTOGRAPHER UNKNOWN



Enjoying diversity on Mt. Townsend. PHOTO: ABE LLOYD



Regina Johnson on the Duckabush River Trail. PHOTOGRAPHER UNKNOWN



WNPS President Gail Sklar addresses Washington Native Plant Society Awards Banquet at the 7 Cedars Hotel in Blyn, WA. PHOTO: MARK TURNER



The meaning of lowland Beargrass with David Peter. PHOTO: JIM MESSMER



Study Weekend T-shirt design by Dixie Llewellyn.

2024 Nominees for the WNPS Board of Directors

All WNPS Members are eligible to vote for the new or returning Directors on the WNPS Board of Directors. Your vote is welcome and encouraged in the electronic ballot: <https://www.surveymonkey.com/r/MJWJH9T>.

For a print copy of the ballot email info@wnps.org or call 206-527-3210 and the office will mail you a copy. The election period will close on October 5, 2024.

Margaret Toth

Margaret Toth has served as the WNPS Treasurer for the past three years. She has been working to update and improve spreadsheets and other communications so they are easier for members to understand, as well as participating in improvements to the society. This will be her second term on the WNPS Board.



Margaret brings valuable business experience to WNPS. She was a Program Manager at several NASA facilities and eventually became the Vice President overseeing five business and scientific and engineering contracts in California, Ohio, and West Virginia. For 15 years, she was an Office Manager and Controller for a publicly traded retail auto company. She spent many of these years training others and traveling around the United States to assist in new acquisitions or finalizing divestitures. Since her retirement in 2018, Margaret has been consulting for former employers and currently works “very part-time” for a dealership in California.

Her hobbies include gardening, genealogy, and reading. Margaret is a member of the Salal Chapter.

Erik Ertsgaard

Erik Ertsgaard is an early career plant researcher who has a deep appreciation for conserving native plants in our landscape.



A recent graduate of the University of Washington, Erik is excited to connect with the younger members of WNPS and amplify their perspectives to the board. He also brings a background in field botany, plant ecology, and community organizing; he is currently working with UW Botanic Garden’s Rare Care Program and Mount Rainier National Park to survey rare and sensitive plants in the park’s boundaries. Erik is a member of the Central Puget Sound Chapter.



Robert Steelquist

Robert Steelquist brings 40 years of experience in program planning, management, and evaluation in public sector organizations: Washington Department of Wildlife, Puget Sound Water Quality Authority, and NOAA’s Office of National Marine Sanctuaries. And, for ten years since retirement, he’s been working with organizations on strategic planning, communications planning, and development.



He has authored sections of two major NEPA EIS documents and management plans: the Puget Sound Estuary Management Plan and Revised Management Plan for Olympic Coast National Marine Sanctuary. In his role as a consultant, he has facilitated strategic planning for Ebey’s Landing National Historic Reserve, The Makah Museum, and The Wisconsin Maritime Museum. He currently chairs a strategic planning working group for The Dungeness River Nature Center, working closely with a paid consultant. He is active in the Olympic Peninsula Chapter and led hikes at the recent Study Weekend.



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Washington Native Plant Society State Board Directory

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(Director's term follows name)

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Monument plant (*Frasera speciosa*)
along Lower Basket Mountain Road in
Umatilla County, Oregon.
PHOTO: MARK TURNER

