

# Kelseya

Newsletter of the Montana Native Plant Society



*Kelseya uniflora*  
ill. by Bonnie Heidel

## Ferns & Forests: Montana Native Plant Society's 33rd Annual Meeting, 2022

*By Tara Carolin, Flathead Chapter*



*A rare photo of Matt Lavin behind the camera; capturing the floristic beauty of Scenery Mountain on an Annual Meeting field trip; led by Peter Lesica and Chris Reichert*

Meeting old friends and new and finding old plants and new were all highlights of our weekend at Timberlane Campground in the lush Kootenai Forest, just north of Libby in late June. We couldn't have ordered better weather, and the campground setting worked out perfectly fitting just over 100 of us in. There were plenty of native plants blooming right around the campground, and though we missed seeing Wayne Phillips, Andrew Smith set up the traditional plant identification challenge in his honor along the nearby creek. Andrea Pipp's citizen botany workshop and Maria Mantas' plant collecting workshop were both popular and well attended.

There were no less than a dozen field trips, so everyone was able to attend their first-choice field trip. We want to thank the many trip leaders who volunteered their time and expertise, with a special shout out to the local guides who assisted with each of the trips. We couldn't have pulled this off without the help of the local folks.

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## Chapter Events

### Calypso Chapter

Info: Catherine Cain at 406-498-6198; [nativeplants@montana.com](mailto:nativeplants@montana.com) or Karen Porter at 406-498-9728; [karenwporter44@gmail.com](mailto:karenwporter44@gmail.com).

### Clark Fork Chapter

Info: Teagan Hayes at 920-979-9009; [teagan.hayes@gmail.com](mailto:teagan.hayes@gmail.com) or Paul Buck at 970-901-2418; [paul7703@gmail.com](mailto:paul7703@gmail.com).

**Thursday, October 11, 7:00 p.m. Grow Native Plants from Seed for our Annual Plant Sale.** Join plant sale maven, Clare Beelman, to learn how to stratify, scarify and prep seeds for germination. Strategies for maximizing seedling survival and establishing healthy native plants will be covered. Contact Clare at [clare.beelman@gmail.com](mailto:clare.beelman@gmail.com) for more information. UM Campus, Natural Sciences Bldg., Room 207 (note different date and building).

**Tuesday, November 8, 7:00 p.m. Wildflower Art.** Stephanie Frostad, Kristi Hager, Kendahl Jan Jub, Rosella Mosteller and Nancy Seiler will show us their wildflower art and tell us stories about how they all came to be. Montana Natural History Center, 120 Hickory Street (note different date and location).

**Thursday, December 8, 6:30 p.m.** Our annual **Christmas potluck** will again be held in the Del Brown Room in Turner Hall on the UM Campus on the northwest side of the Oval. Parking will hopefully be available west of the Gallagher Bldg., in lots or on the streets off of Arthur and Connell. Bring plates, utensils and a dish to share. Alcoholic beverages are okay! Don't forget to bring a few of your favorite digital wildflower photos from the summer. Call Peter (728-8740) or Kelly (258-5439) if you have questions.

**Thursday, January 12, 7:00 p.m.** Successful weed management has to take the whole plant community into consideration. Weed District Manager **Bryce Christiaens** will inform us on **Ecologically-based Invasive Plant Management**, including our common invasive species and the variety of programs Missoula county Weed District uses to manage for healthy, desirable plant communities. Rm. L09 Gallagher Business Bldg., UM Campus.

### Eastern At-Large

Info: Kelsey Molloy at 406-654-4566; [kelseym88@gmail.com](mailto:kelseym88@gmail.com).

### Flathead Chapter

Info: Tara Carolin at 406-607-7670; [mnps.flathead@gmail.com](mailto:mnps.flathead@gmail.com).

The Flathead Chapter has yet to finalize plans for winter programs, so stay tuned for emails from [MNPS.Flathead@gmail.com](mailto:MNPS.Flathead@gmail.com) with announcements. Please put on your thinking cap for program ideas. We'll have a planning meeting in October, Date TBD. Many thanks to Hailey Moore and all the field trip leaders for offering such a great bunch of interesting trips!

### Kelsey Chapter

Info: Mark Majerus (president) or Jane Fournier (secretary) at [kelseychaptermnps@gmail.com](mailto:kelseychaptermnps@gmail.com).

### Maka Flora Chapter

Info: Fraser Watson at 703-509-0152 or [Dfw9sb@gmail.com](mailto:Dfw9sb@gmail.com).

### Valley of Flowers Chapter

Info: Contact Gretchen Rupp for program details or to be added to the Valley of Flowers Chapter "Friends" e-mail list, at 406-586-8363; [beesgrmt@gmail.com](mailto:beesgrmt@gmail.com).

For the fall and winter, the Valley of Flowers Chapter is planning two or three in-person evening presentations on the campus of MSU-Bozeman, a winter shrub identification walk, and a lichen identification workshop. If you are not a chapter member but would like to receive the monthly e-newsletter, contact Gretchen Rupp at [mnpsvof@gmail.com](mailto:mnpsvof@gmail.com).

### Western At-Large

Info: Kris Boyd at 406-295-9414; [boyd.kristina@yahoo.com](mailto:boyd.kristina@yahoo.com).

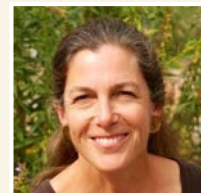
## Season Kickoff: 2022-2023 MNPS Presents!

We will begin our third **MNPS Presents!** season on October 5 with a program on Fall Landscaping Maintenance with Kathy Settevendemie. Join us online at 7 p.m. on October 5. Look for Zoom registration details in your inbox - or find them on our MNPS Facebook page. Monthly programs will generally be on the first Wednesday of the month, November through March. For details, contact: [bethmadden64@gmail.com](mailto:bethmadden64@gmail.com).

## MNPS Presents!

**Fall Landscaping  
Maintenance:  
How Much is Too Much?**

**with Kathy Settevendemie  
Blackfoot Native Plants Nursery**



**Wednesday,  
Oct. 5  
7p.m. on  
Zoom**



## MEMBERSHIP RENEWALS

*In January, you will receive a renewal reminder if your MNPS membership is due. If you do not receive a postcard or email asking you to renew, you can assume your fees are current through the following year. If you have any questions about your membership status please email us at [mtnativeplantmembership@gmail.com](mailto:mtnativeplantmembership@gmail.com). Thank you for your continued support of MNPS!*



The field trips were almost as diverse as the vegetation, ranging from bushwhacking through thick forest and mucking through wetlands to a driving tour around the Yaak Valley. Participants were introduced to upwards of 100 different plant species with the gorgeous Columbia lily (*Lilium columbianum*) generating a great deal of enthusiasm. Other highlights were the sundew (*Drosera anglica*), the single-flower broomrape (*Orobanche uniflora*), a variety of orchids, and numerous lichens identified by Toby Spribille.

On Saturday evening, we were treated to Jack Nisbet's masterful storytelling about the life of self-taught naturalist and botanist John Leiberg, husband of Dr. Carrie Leiberg, an early pioneer physician. He held us in rapt attention as he shared vignettes from his book, *The Dreamer and the Doctor*. A few raffle items were also distributed that evening including a Missouri River willow basket

crafted by long-time member Doug Smith and a quilt comprised of many t-shirts and a few bandanas from past annual meetings put together by Pat Jacquith and Betty Kuropat.

It was a delight to meet up with old friends and meet new ones, all with a shared love of Montana's native vegetation. So many people pitched in to help whenever and wherever needed, we can't possibly name them all. Much of the great food was provided by caterer, Gracious Table with a lot of work from the food committee. I do want to thank the other members of the planning team who all contributed to the meeting's success including Betty Kuropat, Jon Reny, Kris Boyd, Rachel Potter, Maria Mantas, Sonja Hartmann, Andrew Smith, Lynda Saul, Rebecca Lawrence, Dee Blank, and Laurie Kurth. And of course, everyone who attended contributed to the success of a memorable weekend. We are looking forward to next year, Calyspsos Chapter!



*Orobanche uniflora* is parasitic on the roots of other plants; photo by Tara Carolin



Jack Nisbet presenting to the group at Timberland Campground



Grouse Lake trip led by Jon Wagner and Drake Barton; from left to right: Chantelle Delay, Pete Husby, Jon Wagner, Drake Barton, Jim Hatley, Neal Montgomery, Jane Horton, Kelly Chadwick, Robin Taylor-Davenport, Denise Montgomery, Karen and Steve Joynt, Kathy Lloyd, Pat Jacquith





*Lilium columbianum*, a Montana Species of Concern, known only from Lincoln County



Vaia Errett, Beth Judy, Mark Majerus, Rachel Feigley and Pete Feigley on the Flower Creek Annual Meeting Field Trip

## Maka Flora Chapter Revived; Report from the Season

Summer 2022 has been action packed for Maka Flora! We organized four plant walks and gatherings throughout eastern Montana and western North Dakota. Naturalists and outdoor enthusiasts from as far away as Wyoming and Canada joined us to share knowledge and make connections. We met at Medicine Rocks State Park, Little Missouri National Grasslands, Medicine Lake National Wildlife Refuge, and a private ranch near Culbertson, MT on the Missouri River. Our gathering in the Little Missouri National Grasslands was featured in the local Sidney, MT newspaper generating renewed interest in the community. Unique habitats hosting rare plant species were explored on our plant walks including prairie sandstone outcroppings, sandhills, badlands, and riparian cottonwood galleries. Some of the more uncommon species we found included *Penstemon angustifolius*, *Phlox andicola*, and *Mirabilis*

*albida*. Also, as part of the Montana Natural Heritage Program's Citizen Botany Study, some of our chapter members conducted rare plant surveys for species that had not been documented in Montana for decades. The data collected will contribute to the conservation and management of the habitats supporting these species. We are hoping to keep up the momentum generated throughout the summer and to plan new events for the fall and into 2023!

Right: Maka Flora chapter president, Fraser Watson, and chapter members Robby Philips and Amy Williams finding something new on a plant walk in the Little Missouri National Grasslands, ND. Photo by Jaymi Mozeak.



## WELCOME NEW MEMBERS!

*The Montana Native Plant Society would like to welcome and thank new members from the following chapters:*

### Calypso Chapter

Kathryn Manz of Highline Adventures, Butte KOA

### Clark Fork Chapter

Craig Barfoot, Chris Collins, Liz Doroski, Kristin Freeman, Rai Combs, Randy and Gail Heaton, Laura Johnson, Caity Johnson, Justin Torbert, Ashley Kumburis-Mattson, Jen Marangelo, Jean Pocha, Maggie Smith, Jacquelin Tidwell

### Flathead Chapter

Betsy Bittman, Bruce Calder, Naomi Crandall, Reid Quig-Roy, Wendy Rihner

### Kelsey Chapter

David Boggs, Amy Grisak, Susan Mattson, Jan Wilson

### Maka Flora

Josh Campbell, Donna Maston, Jake Powell, Amy Williams, Robert Philips

### Valley of Flowers Chapter

Jessica Bodner, Karen May, Christie Quarles, Sydney Wallace

# 2022 MNPS Small Grant Applications Due January 31

By Betty Kuropat,  
Small Grants Committee Chair

**D**o you have a project involving native plants that could use a funding boost? The annual Montana Native Plant Society (MNPS) Small Grants competition is accepting proposals for projects or studies that:

- 1) stimulate research, conservation and educational activities that help foster an appreciation of Montana's native plants and plant communities; and 2) promote native plant conservation through better understanding of Montana's native flora and vegetation and factors affecting their survival.

Projects must pertain to Montana native plants and applicants must address specific criteria and formatting requirements. Proposals that meet the criteria will be considered for a grant up to \$1,500. We prefer proposals that demonstrate initiative and cooperation with others. Grant recipients will be required to submit a final report by January 2024.

Eligibility criteria, application instructions, and grant dollar limits will be posted by November 1, 2022 on the MNPS website, <https://www.mtnativeplants.org/small-grants-program/>, or contact Betty Kuropat, Small Grants Committee Chair at [blueirismt@gmail.com](mailto:blueirismt@gmail.com).

## Flathead Member Kathy Ross Receives Lifetime Conservation Achievement Recognition

**K**athy Ross has been a gem for native plants and bird conservation for many decades. This has not been lost on those who know her and have worked with her. Recently, she has been recognized for a lifetime of conservation by the Flathead Audubon Society. Her work as a landscaper and gardener has promoted conservation with her philosophy of "keeping it as native as possible". It is largely Kathy's vast volunteerism that prompted the award. She has chalked up many years of educational programs, presentations, citizen science, bird counts, and helping scientists and staff with plant and animal research for a myriad of organizations.

"Every single native plant planted can make a difference to insects that specialize on that plant and the birds whose survival depends on the insects, berries, and seeds they produce".

To read the full article from Flathead Audubon: <https://flatheadaudubon.org/conservation/kathy-ross-awarded-lifetime-conservation-achievement-recognition/>.



## Calypso Chapter Tackles Weeds at Pipestone Pass

**P**ipestone Pass was officially "adopted" by Calypso Chapter on July 11.

The chapter is now officially part of the Adopt A Trailhead Montana program (AATM), a volunteer program designed to help protect Montana's trails from additional spread of noxious weeds. Many people made it happen - by identifying weed species, pulling weeds, trucking bags off to be weighed, or just cheering everyone on. On July 11, two informational kiosks were posted, along with Butte Ranger District partners: Lucas Phillips and his summer crew. One kiosk is in the new, large parking area and one at the old, smaller trailhead site. The kiosks are made by the AATM program, with the specific pictured weeds chosen by the Calypso Chapter, who also supplied the mounting posts and cement. The Calypso Chapter also received its own "recognition" plaque attached below the sign. The installation and weed pull is a joint event, and the chapter would like to extend many thanks to all who helped. Calypso's ongoing commitment is to conduct at least two weed pulls each year on the site - so see you next year! - Karen Porter, Calypso Chapter



## HOT OFF THE PLANT PRESS!!!



Montana Native Plant Society t-shirts featuring Dee Blank's enchanting design "Ferns and Forests" from the 2022 state meeting are available to order on the MNPS website. Show you are a fan of native plants. Purchase shirts for yourself and/or gifts to share with friends and family.

These 100% certified organic cotton shirts are made by eConscious. This company practices environmentally sustainable and socially conscious methods, including verification of safe workplace standards for all its products.

Shirts are available in women's or unisex styles in long or short-sleeve and in different colors. The last day to place an order is October 21<sup>st</sup>. We encourage you to order early. Shirts will be mailed out by December 1<sup>st</sup>.

Prices include shipping, packaging, and a PayPal transaction charge. See all color/style options and order online at [mtnativeplants.org](https://mtnativeplants.org).





# Conservation Corner

By Elizabeth Bergstrom, Conservation Committee Chair

## Citizen Botany

Thank you to all Citizen Botany Program participants! A special thank you to program leads Andrea Pipp, State Natural Heritage Botanist, and her Assistant Kenda Herman. Despite the State Library flood this July, which temporarily shut down computers, Andrea and Kenda tried to reach out to more than 65 trainees across the state. Sixty-one rare plant locations have been reserved for site revisits. Nineteen site revisits have been accomplished. After flooding, the Montana Natural Heritage Program computer network had to be re-established, which presented a challenge to relay the appropriate information to each Citizen Botanist. Citizen Botany is a two-year pilot study. We anticipate many more site revisits will be completed with next field season as well as the recruitment and training of more volunteers. Thank you everyone for your participation.

## Recovering America's Wildlife Act of 2022 (RAWA)

RAWA is the most significant piece of legislation addressing species decline since the Endangered Species Act (ESA). Senate Bill 2372 provides funding for the conservation or restoration of wildlife and plants of greatest conservation need. Wildlife is inclusive of terrestrial, aquatic, marine and invertebrate species (including pollinators). The Act extends funding to the states for the purpose of avoiding the need to list species, or for recovering species currently listed as threatened or endangered species under ESA. Additional funds will be available to states that include plants

within their respective State Wildlife Action Plan (SWAP).

MNPS has sent three letters to the Director of Montana Fish, Wildlife and Parks to encourage the inclusion of plants of conservation concern with the SWAP. We have requested that Montana FWP incorporate the recent plant species list which has been developed for the Montana Native Plant Conservation Strategy. Portions of this strategy could easily be incorporated into the SWAP, including plant communities of conservation concern.

RAWA has been passed by the U.S. House of Representatives and is now in the Senate. Considering the current rates of species loss and decline, this important legislation is needed now. Funding the Act as initially presented is of the utmost importance. Additionally, rare plants and associated habitats must remain part of RAWA. The challenge to passing RAWA is, of course, establishing how it will be funded. The most efficient way to contact Senators Tester and Daines through e-mails can be found at [dnrc.mt.gov](mailto:dnrc.mt.gov) under Contact Your Representative in Washington. Please write to support RAWA.

## Important Plant Areas (IPAs)

MNPS received a request from Plantlife International, through Global IPA Network Coordinator Fiona Perez, located in the UK. Fiona had read through the MNPS website and found that we have designated IPAs within the state. To include our Montana IPAs in a global database, Peter Lessica, our Conservation Chair Emeritus provided the information requested. Thank you, Peter!



Pages from Kathy Settevendemie's botanical journals

# Modern Revival of Botanical Journaling

by Kathy Kathy Settevendemie, Clarkfork Chapter

For several centuries botanists have kept detailed journals of plant species that included diagrams, written descriptions, and detailed sketches. The key focus of their studies was the structure, numbers of parts and distinguishing characteristics of plants. Today we are seeing a resurgence of interest in journaling about nature that may influence future generations to pursue a love of the flora and fauna around us.

The frenzy of world exploration from the early 1600s through the 1800s brought with it the need for naturalists to measure, collect and dissect plants. Some explorations, as in the case of the voyage of the Beagle, included artists to create detailed illustrations of plants, usually in watercolor. Their work provided the world with information about plant structure, location, phenology, and habitats.

Some of the famous botanists who produced botanical journals include Carl Linnaeus (1707-1778), Meriwether Lewis and Lieutenant William Clark during their expedition of 1804-1806, and Charles Darwin (1809 - 1882). Their botanical journals became the basis of work by physicians, pharmacists and gardeners who wanted information about plant identification, characteristics, and classification.

The desire for increasingly accurate botanical information in medicine and gardening led to the proliferation of botanical illustration as a scientific art form. Botanical illustrators had significant artistic skill and deep knowledge of horticulture that enabled them

to produce beautiful illustrations depicting the form, color, and details of plants. Among the many famous botanical illustrators are Maria Sibyl Merian (1647-1717), Pierre-Joseph Redouté (1766-1854), Pierre Jean François Turpin (1775-1840), and Ernst Haeckel (1834-1919).

While the emergence of photographic technology greatly diminished the need for botanical illustrators, it remains an active field of study today.

Currently we are experiencing a resurgence in the popularity of journaling as nature aficionados explore, study, and record their observations. In the past, journals followed predetermined organizational strategies like the Grinnell system of field journaling, and while these are still in use, the current trend is for individuals to find their own journalistic style and methods of gathering data.

This has provided opportunities for botanists and community members at all skill levels to engage in exploration of flora and fauna. Worldwide groups of 'nature journalers' meet to examine and record their observations of plants, animals, insects, and the environment. The level of attention to detail needed for

accurate descriptions and drawings often leads to further research and discussion. Here in Montana, there are several groups in various regions including the Bitterroot Valley, Kalispell, and Missoula under the umbrella of Naturalists with Brushes. Perhaps this trend will inspire younger generations to explore botanizing and lead to a greater appreciation of our natural world.



*Common dandelion, Walther Otto Müller,  
public domain, via Wikimedia Commons*





# A Tribute to Steve Arno

By Bob Keane, Emeritus Research Ecologist,  
Missoula Fire Sciences Laboratory

Another brilliant light in the field of fire ecology has dimmed. Steve Arno, passed on in June 2022 at his home in Missoula. It is difficult to put into words the influence that Steve Arno had on my life and on whitebark pine ecology and management. But best of all, he was a genuine person that truly cared about you as an individual and the plight of whitebark pine. His wit, wisdom, and creativity will be missed as we mourn his passing.



Steve Arno

Steve's professional life story is epic because it was both deep and wide. Steve attended Olympic Junior College until 1963 when he transferred to the Forestry Department at Washington State University, graduating in 1965. In the summers of 1963-65 he was a ranger and naturalist at Sequoia/Kings Canyon and Olympic

National Parks. He earned his B.S. Degree in Forestry from the University of Washington in 1965, and his Ph.D. in Ecology from the University of Montana in 1970. He was a guiding force in the development of the Forest Habitat Type classification system for Montana. During his 25-year career with the U.S. Forest Service at the Missoula Fire Sciences Laboratory he conducted research in forest and fire ecology. The primary focus of his work was how the natural role of fire shaped and sustained the forests of Montana and the inland west. His pioneering research on fire history significantly advanced knowledge of the role of fire in the Northern Rockies and his work in restoring fire-adapted ecosystems remains incredibly important to this day. He is most known for his groundbreaking work in the restoration and management of the fire-dominated ecosystems of the northern U.S. Rocky Mountains, including larch, ponderosa pine, whitebark pine and Douglas-fir forests. Fire folks know that Steve did most of the original fire history work in the mountains of the U.S. Northern Rockies. Steve has authored more than 250 papers that span an incredibly diverse set of topics including fire ecology, forest dynamics, timberline ecology, and silviculture. Of these, he published over 100 peer-reviewed articles and 11 full length books. Steve has received countless awards and acknowledgments, reflecting his lifelong dedication, passion, and commitment to the forestry profession.

Steve is survived by his two sons Matthew (Melissa) and Nathan (Sara), four grandchildren, and four great-grandchildren. Despite the multiple awards and honors relating to his contributions to the forestry community, in the end he was most proud of his children and grandchildren.

# U.S. Tree Assessment

A new collaborative report warns that at least one in nine tree species in the U.S. are at risk of extinction. Trees face a host of threats including invasive species, deadly disease and climate change. The most comprehensive threat assessment ever collected on U.S. forests can be viewed at <https://nph.onlinelibrary.wiley.com/doi/10.1002/ppp3.10305>.

Several Montana tree species are at risk. Whitebark pine has been considered "warranted but precluded" for listing under the Endangered Species Act due to its decline from blister rust and mountain pine beetle. Green Ash, a vital species in eastern Montana, is potentially at risk. The emerald ash borer, which has not reached Montana, has devastated populations in other parts of the country.

## Pulling and Planting: A Long-Range Project of the Valley of Flowers

By Sharon Eversman, Valley of Flowers Chapter

In the 1980s, the City of Bozeman widened and paved Kagy Boulevard, a major road that runs east-west in southeast Bozeman. After road construction, the hillsides were casually seeded with grass, then ignored. The hillside soils are shallow, variable, and subject to erosion. The elevation is about 5,000 feet.

We have concentrated our efforts on two activities: pulling spotted knapweed (*Centaurea maculosa*) and planting native vegetation to establish native plants and stabilize the soil.

**Pulling.** In 1991, members of the MNPS, Bozeman (Valley of the Flowers) Chapter, pulled over 30 bags of spotted knapweed from the north hillside as an Earth Day project. Every year since, we have pulled knapweed on the north side.

**Planting.** In October 1991, we planted seed collected locally by MSU faculty and others: mostly penstemon (*Penstemon procerus*), yarrow (*Achillea millefolium*), blue flax (*Linum lewisii*), and arrowleaf balsamroot (*Balsamorhiza sagittata*). Junipers (*Juniperus horizontalis* and *J. communis*) were also planted. *J. scopulorum* appeared naturally.

In July 2019, both hillsides were sprayed with herbicides: Tordon and Platoon on the north side, and Platoon, Telar and Espionage on the south side. Most of the forbs, and some woody materials were killed. In trying to determine who sprayed it,



Bill Klenn sowing seed by hand  
on north side

we learned that the property belongs to the Montana, Department of Transportation (MDT).

MDT Statewide Integrated Roadside Vegetation Management Plan: 2018-2024, recommends exactly what we have been doing for over 30



years: pulling noxious weeds, planting native seeds, and recording what natives have been moving in naturally.

Before July 2019, penstemon formed an extensive purple carpet in the spring, and in June the hillsides were blue with blue flax.

*Lupinus sp.*, *Liatris punctata*, small burnet (*Sanguisorba minor*), and *Yucca glauca* moved in naturally.

Within 10-12 years after planting, arrowleaf balsamroot was flowering and starting to spread. In addition to the forbs, grasses – *Agropyron intermedium*, *Calamagrostis sp.*, as well as non-native smooth brome (*Bromus inermis*) – formed clumps on the hillsides. *Gaillardia aristata* and other late summer composites were becoming common in late summer on both slopes.



*Liatris punctata*

During the summer of 2020, we saw only surviving grasses and struggling *Yucca* on the north side, and grasses, junipers and spotted knapweed on the south side. During the summer of 2021, surviving *Liatris* was scattered on both hillsides and some small burnet. Some grasses and *Yucca* remained on the north hillside; lupine appeared on the south side.

In autumn of 2021, we determined that most of the residual toxins were gone. Seeds were collected locally by MNPS members, the Seed Lab at MSU, and the Gallatin Conservation District. Seeds planted on the north side of Kagy were either in seed balls placed in the soil, or seeds loosely broadcast by hand including Indian ricegrass (*Oryzopsis hymenoides*), western wheatgrass (*Agropyron smithii*) and bluebunch wheatgrass (*A.*

*spicatum*), as well as sixteen forb species. In the future we plan to plant on both sides.

In June 2022, we observed extensive growth of *Liatris*, a bit of blue flax, small burnet and sprigs of new grass growing on both hillsides. Lupine, non-native birdsfoot trefoil (*Lotus corniculatus*), and hairy golden aster were on the south side. In late summer, 2022, *L. punctata* was abundant on both sides of the hill, and *Helianthus annuus* and *Artemisia cana* populated the north side.

The grasses growing and producing seeds in 2022 were three species of *Agropyron*, *Calamagrostis sp.*, and sideoats grama (*Bouteloua curtipendula*). *Festuca idahoensis*, *Stipa sp.* as well as non-native smooth brome, and other grasses are at the edges of our seeding area. We are waiting for positive identification of the *Agropyrons* and other grasses.

In late May 2022, Tad Weaver broadcast four types of grass seeds on the south side: *Agropyron riparium*, *A. spicatum*, *F. idahoensis* and *A. smithii*.

Over the years, over 35 people (most of them have been MNPS members) have worked on the pulling and planting project. Thanks to all!



View of north side facing west, with grasses and *Helianthus annuus*



*Juniperus horizontalis* helping to stabilize soils on the south side

## President's Platform

Annual Meeting - Where did the summer go? It seems like just yesterday we were at the MNPS Annual Meeting in Libby. What a fun meeting hosted by the Flathead Chapter and Western-at-Large members. It was nice to see people in person for a change and not just talking heads on a zoom call, especially for me. Networking with our members has always been the highlight for me at these events. And I was impressed by the number of young members at the event! We need their youthful enthusiasm.

The Annual Meeting was a huge success with great speakers and wonderful field trips. If you have never attended an Annual Meeting, please plan on attending the 2023 event hosted by the Calypso Chapter in southwestern Montana.

Field Trips - I hope you had a chance to attend one of the many field trips hosted by MNPS this past summer. Members want more field trips and to see examples of native landscaping! If you didn't host a field trip this past season, plan on it for 2023. We just need people to organize the trips. You don't have to know all the plants that you will see – there will probably be several people on the trip that can help with plant identification.

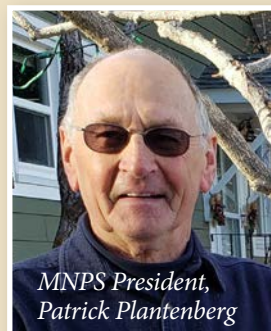
Pilot Citizen Botany Program – I am so glad that MNPS has helped fund this important program to have our Chapter members

help visit plant collection sites that have not been revisited for years. It is off to a great start with several sites revisited this past summer. Montana needs data on the status of our native plant populations and what a great way to do it. Thanks again to Andrea Pipp and Kenda Herman for leading the effort.

Educating our Members – Watch for the MNPS Winter Zoom Programs again hosted by Beth Madden and Andrew Smith. Please let us know what type of programs and speakers you would like us to organize for next fall and winter. MNPS will pay to get the speakers you want. What a great way to learn about native plants over winter!

MNPS Volunteers – Finally, I can't close without thanking the many volunteer members that run this 900+ member organization. The Board will be considering this fall whether to hire an executive assistant to help reduce the burden on some of these hard-working people.

Let us know what you want from your Society. Looking forward to meeting and working with all of you in person this year. Please call me anytime with questions or concerns 406-431-4615.



MNPS President,  
Patrick Plantenberg



# Botanists are disappearing – just when the world needs them most

By Sebastian Stroud, PhD Candidate in Ecology and Botany, University of Leeds, UK

Reprinted from *The Conversation*, July 13, 2022 with permission from the author (British spellings retained).

**C**an you recall any of the plants you saw today? Probably not. As a species, we are not programmed to recognise and register everything we see within our field of vision. This would be an overwhelming amount of information for our brains to process. You can however, with a little time and practise, be trained to read the plants around you: to recognise which species they belong to and their names, their relationships with other organisms and what they are telling you about the environment they live in. This is to develop what some call a natural literacy.

Most people suffer from what is commonly known as “plant blindness”, a term coined by US botanists Elisabeth Schussler and James Wandersee. They described it as “the inability to see or notice the plants in one’s own environment”. Unless taught, people don’t tend to see plants – despite the fact that at any given moment, there is likely to be a plant – or something made by plants – nearby.

In our latest study, my fellow researchers and I found that people are not only less aware of plants through a lack of exposure and a loss of knowledge, but demand for an education in botany and opportunities to study it in the UK have diminished too.

## The extinction of botanical education

Botany, once a compulsory component of many biology degrees and school programmes, is disappearing fast. It has been over a decade since a student was enrolled in a botany degree in the UK. We believe there has been a gradual erosion of knowledge about plants among biology graduates and the general public as a result.

We examined the number of UK students graduating across a variety of biological science programmes from 2007 to 2019 and found that students studying plant science were outnumbered almost one to 200 by those studying general biology. When we scrutinised the modules offered to students on plant science courses at UK universities, we



*The author at Glasgow botanic gardens, reprinted with permission. Photo by Annika Geijer-Simpson*

were surprised to find that only 14% focused solely on plants. Only 1% of modules in plant science and biological science programmes offered any form of training in identifying plant species.

Students are not introduced to the diversity of plant forms and functions at UK universities and are certainly not engaged with how fascinating and dynamic the floral world is. The result is a growing skills gap, with a looming shortage of professionals capable of effectively managing environmental projects. Well-meaning but careless management is not just ineffective, it can add to environmental degradation. For example, planting thirsty species of tree in the name of capturing carbon from the air can deprive precious bog plants of much needed water. Recklessly cutting and strimming grasslands can wipe out populations of rare orchids.

Harnessed properly, there is no doubt that plants and the services they provide can help solve looming climate and ecological crises. Restoring flood meadows and riverside habitats can reduce flooding from the extreme downpours which are likely to become more common in some areas as the Earth warms.

Less teaching about plants and the ensuing disconnection from the natural world will, if not reversed, have irreparable and disastrous consequences. How many generations of botanists remain before we no longer have the expertise to understand when ecosystems are on the brink of irreparable loss and damage?

The Scottish government has highlighted the lack of a skilled workforce to implement nature-based solutions and argues that “nature literacy” must become a core skill for various professionals, from planners, engineers, architects and educators to farmers, foresters and fishers.

The problem is vast. Various other studies have documented falling plant literacy worldwide. While other studies have identified that plant content is often neglected in textbooks and students who are unable to recognise even local plant species. Our study revealed that the UK curriculum neglects plant ecology and how to identify species, with most of this education taking place at a rudimentary level in primary schools.

## Reversing the decline in plant knowledge

Reviving botanical education is possible by presenting students and the public with evidence of how plants can combat the challenges of the 21st century. An invested and knowledgeable public is one well-equipped to demand environmental policy reform. Botanists can support this ambition, but ultimately, change needs to come from those who decide policy. This is why botanists must agitate to bring botany back into the classroom and beyond.

One thing we couldn’t fully convey in our paper is just how fascinating and exciting the plant kingdom is. In my experience as an educator, there is no student who cannot be reached. Stories about plants are woven into every society’s history, politics and culture. Plants are relevant to every person on the planet – most just don’t know it yet.



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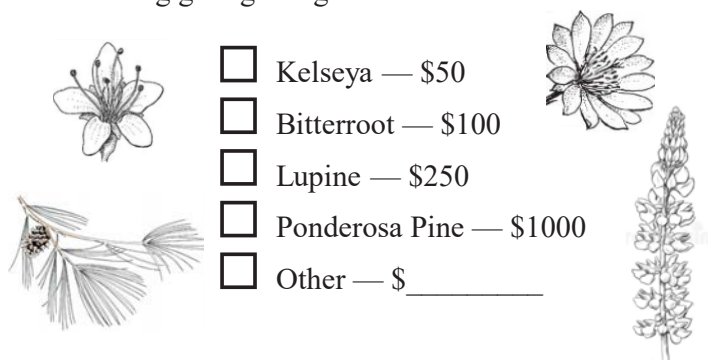
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The Montana Native Plant Society (MNPS) is a 501(c)(3) not-for-profit corporation chartered for the purpose of preserving, conserving, and studying the native plants and plant communities of Montana, and educating the public about the value of our native flora. Contributions to MNPS are tax deductible, and may be designated for a specific project or chapter, for the Small Grants Fund, or the general operating fund.

Your yearly membership fee includes a subscription to *Kelsey*, the quarterly newsletter of MNPS. We welcome your articles, field trip reports, book reviews, or anything that relates to native plants or the Society. Please include a line or two of "bio" information with each article. Drawings should be in black ink or a good quality photocopy. All items should be emailed to [scottguse@yahoo.com](mailto:scottguse@yahoo.com) and [jenhintzguse@gmail.com](mailto:jenhintzguse@gmail.com), or mailed to: Scott and Jennifer Guse, *Kelsey* Editors, 725 Twin Lakes Road, Whitefish, MT 59937.

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