

# Kelseya

Newsletter of the Montana Native Plant Society



*Kelseya uniflora*  
ill. by Bonnie Heidel

## Reflections on Developing an Urban Native Plant Garden

By Catherine Cain, Calypso Chapter

In the spring of 2013, the MNPS Calypso Chapter undertook a new project: to develop and maintain a native plant garden on the western median of Helena Avenue in downtown Dillon.

Since then, the 200-foot-long median has looked better and more beautiful every year as the native plants mature. There have been numerous challenges along the way: (1) the bed is only eight inches deep, with soil applied over asphalt; (2) the soil contains abundant seeds and roots of the garden's earlier perennials, like bachelor buttons, calendula, bergenia, gomphia, and others, necessitating constant weeding; (3) the city water system has required attention every year, and this summer it did not work for four weeks when the timer failed. This caused a number of plants to die, although many more survived; and (4) the extended hot, dry weather, shallow soil, and diesel exhaust have made a drip water system essential, particularly in these establishment years.

In this fourth year of the project, the Chapter has spent 77 volunteer hours hand weeding, replacing dead plants, and addressing the problem of invasive species, particularly alfalfa, dandelion, cheat grass, and quack grass. By now, mature native plants are beginning to reduce the weed infestations, but the invasive grasses remain problematic.

We do not use synthetic chemicals in the garden, but this year we decided

to undertake a small research project for controlling quack grass (*Agropyron repens*) by means other than hand weeding. We selected two nearly adjacent sections — one six feet long, the other 10 feet long — near the west end of the median, where much quack grass remained and few native plants were thriving. Karen Porter researched control methods and came up with an experimental control program using Horticultural Vinegar (acetic acid) procured from OSM, Inc., in Franklin, MA. The solution strength is 20% (compared with 3-4% strength of household vinegars). The product has a yucca extract added as a surfactant. To avoid infecting the few but desirable native plants in these two plots, the acetic acid was applied to the quack grass by hand. The first application killed much of the emergent grass but live rhizomes were still in the soil (quack grass is strongly rhizomatous). It is hard to say if they came from outside the experimental application area or were part of the plants killed on the surface. In any case, new grass growth occurred. Two weeks later we applied more of the vinegar solution to the experimental areas and we are waiting to see the results. The experiment will continue into the fall.

In Fall 2016, we trimmed all plants back except the rabbitbrush. Unfortunately,



Calypso Chapter member Karen Porter works on the median garden in Dillon. Photo by Catherine Cain.

this gave a winter appearance of “empty space” and people drove cars over the median (creative U-turns, perhaps?) and walked along the median. This year we will meet to trim the plants in early spring 2018, and hopefully folks will view the median as a “winter garden” and not as a concrete strip.

We now have a full succession of blooms providing changing colors and textures from April through October. The median garden has been an educational project and very positively received by the community. The Chapter plans to continue maintaining the garden and will doubtless learn more about providing a native plant garden in an urban downtown area. Stay tuned for updates on our efforts to control the quack grass! 



# Chapter Events

## Calypso Chapter

Info: Catherine Cain at 498-6198, [nativeplants@montana.com](mailto:nativeplants@montana.com).

## Clark Fork Chapter

Info: Anne Garde at 721-7627, [anniegarde@yahoo.com](mailto:anniegarde@yahoo.com).

**Thursday, October 12, 7:00 p.m.** “Hometown Habitat: Bringing Nature Home.” We will watch a 90-minute documentary that tells inspiring stories of community commitment to conservation landscaping and how humans and nature can co-exist with mutual benefits. All of us have the power to support habitat for wildlife and to bring natural beauty to our patch of the earth. Room L09, Gallagher Business Bldg., UM Campus.

**Thursday, November 9, 7:00 p.m.** “Uncommon Habitats, Rare Plants and Research Natural Areas.” Steve Shelly, U.S. Forest Service regional botanist, will tell us botanical stories from the Bitterroot and Lolo National Forests. Join MNPS members from the Bitterroot at the Lee Metcalf National Wildlife Refuge headquarters in Stevensville for this event. (Note different location.)

**Thursday, December 14, 6:30 p.m.** Our annual Christmas potluck will again be held in the Del Brown Room in Turner Hall on the UM Campus, northwest side of the Oval. With luck, parking will 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. Info: Peter at 728-8740 or Kelly at 258-5439.

**Monday, January 8, 7:00 p.m.** “Best Friends Forever: The Importance of the Mutualistic Relationship of Whitebark Pine and Clark's Nutcracker in an Uncertain Climate Future.” Come hear Forest Service ecologist Bob Keane talk about this interesting and important relationship between species. This will be a joint meeting with Montana Audubon, Room 123, Gallagher Business Bldg., UM Campus. (Note different day and location.)

## Eastern At-Large

Info: Jennifer Lyman at 426-1227, [jencylyman@gmail.com](mailto:jencylyman@gmail.com)

## Flathead Chapter

Info: Tara Carolin at 260-7533, [mnps.flathead@gmail.com](mailto:mnps.flathead@gmail.com).

**Wednesday, October 18, 5:30 p.m.** Potluck Dinner. Join us for our Fall kickoff event. We'll share adventures from the summer and start to plan events for the coming year. With no formal program, this evening gives us more time for catching up with old friends and getting to know others. Bring dishes, utensils, and some food to share. North Valley Community Hall (also North Valley Physical Therapy), 235 Nucleus Ave., Columbia Falls.

**Wednesday, November 15, 7 p.m.** “Montana's Pioneer Botanists: Exploring the Mountains and Prairies.” Co-editor, contributing author and graphic designer Rachel Potter will share choice vignettes from the book and talk about some interesting things that happened while creating this unique publication. Museum at Central School, 124 Second Ave. E., Kalispell.

**Wednesday, December 13, 5:30 p.m.** Annual Holiday Party. Join us for an evening of visiting and refreshments, followed by a potluck supper. Marilyn Reynolds and Bruce Harris are hosting the Chapter gathering this year. Bring a potluck dish, beverages, an inexpensive or recycled gift, and holiday cheer. 22 5th Ave. E., Kalispell. (Note date change to the second Wednesday this month.)

## Kelsey Chapter

Info: Bob Person at 443-4678, [thepersons@mcn.net](mailto:thepersons@mcn.net).

## Maka Flora Chapter

Info: Libby Knotts at 774-3778, [libbyknotts@gmail.com](mailto:libbyknotts@gmail.com).

## Valley of Flowers Chapter

Info: Jeff Copeland at 539-6029, [jouzelcopeland@gmail.com](mailto:jouzelcopeland@gmail.com).

## Western At-Large

Info: Jon Reny at 334-0459, [jreny@kvis.net](mailto:jreny@kvis.net).

### WELCOME NEW MEMBERS

*The Montana Native Plant Society welcomes the following new members:*

#### Calypso Chapter

Stella Scheel, Elyse Lewis and Susan Vuke

#### Clark Fork Chapter

Dean Graham, Dawn Loomis, Christine Migneault and Stephanie Asherin

#### Flathead Chapter

Laura Hamilton, Bridgette Bruno and Peter Smith

#### Kelsey Chapter

Chuck and Karen O'Donnell

#### Maka Flora Chapter

Laura Senior

#### Valley of Flowers Chapter

Deborah Sundahl and Eric Ziegler

# MNPS News

## ANNUAL MEETING ROUNDUP "On the Edge"

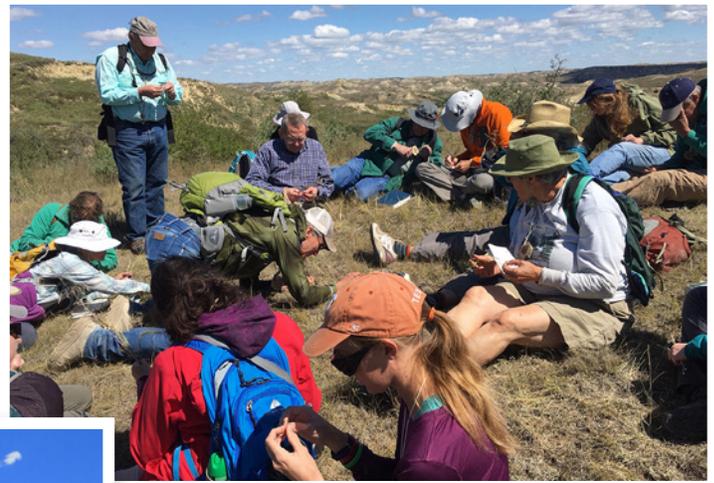
By Libby Knotts, Maka Flora Chapter

Nearly 100 people made their way to the eastern edge of Montana for the 2017 Annual Membership Meeting of the Montana Native Plant Society, hosted by the Maka Flora Chapter during the last weekend in June. The meeting facility was a Bible camp just south of Lambert in badlands cut by ancient paths of the Missouri River. The area afforded us opportunities to visit green ash draws, mixed-grass prairie, clay buttes, sandstone outcrops, and scattered riparian areas.

Participants welcomed Kelly Kindscher, ethnobotanist and professor of Environmental Studies at the University of Kansas, who gave a fascinating talk about his studies of medicinal and traditional plants native to our prairies. It's fair to say that his enthusiasm piqued everyone's curiosity, and a group furthered their understanding of these useful plants as they accompanied Dr. Kindscher on a Saturday field trip.

As he has at previous Annual Meetings, Matt Lavin of Montana State University shared his knowledge of grasses during a field trip workshop. Members appreciated Dr. Lavin's guidance and, as usual, he had everyone busy with their hand lenses!

Three other field trips took visitors to woody draws, riparian areas, and privately managed rangeland. American bittersweet (*Celastrus scandens*) was found in at least two wooded draws.



Above: Matt Lavin leads a grass identification workshop during the Annual Meeting.

Left: Kelly Kindscher teaches workshop participants about medicinal plants of the prairie. Photos by Libby Knotts.

This vine, while common farther east, is on the edge of its range in eastern Montana and is not well-documented in the state.

Wayne Phillips set up a great plant ID contest right at camp. Everyone enjoyed testing their knowledge. Thank you, Wayne! Other highlights were a nice walk to a nearby homestead cabin for the Friday social, good food prepared by the camp cooks, and productive membership and committee meetings

that included honoring Brain Martin with an award for his many years working to conserve ecosystems in eastern Montana (see story on page 7).

We beat the heat that would soon hit the plains, but we were not spared the effects of a drought that only got worse as the summer progressed. So while we had a hint of green from snowmelt and the prairie was beautiful during the meeting, we did not have a lot of plants in bloom. Disappointing — but not unprecedented for eastern Montana — and there was nothing to do but make the best of it, which everyone did.

Maka Flora would like to thank the field trips leaders: Kelly Kindscher, Matt Lavin, Peter Husby, Jon Siddoway, Peter Lesica, and Drake Barton. The Chapter also appreciates everyone who pitched in to help make the meeting a success, especially local landowners who generously opened their properties for our field trips.

## MNPS ELECTION RESULTS — Meet Your New Board Members

Thanks to Patrick Plantenberg, immediate past MNPS Secretary, for coordinating and communicating the 2017 Board elections. Here are the results:

In addition to former Vice-President Gretchen Rupp's election as President (page 5), incumbent co-Treasurers Shannon Kimball and Jenny Tollefson won another term. Shannon is the author of a plant identification app and two print field guides,

and is the curator/collections manager for the University of Montana Herbarium. Jenny works as stewardship manager for Five Valleys Land Trust and is the mother of two children. This is her 4th term in the Treasurer position.

Troy-based Pat McLeod was chosen to serve as the Western At-Large representative. Pat thinks being outside in a native plant environment is restorative. She

is looking forward to serving and sharing her enthusiasm and learning with others. Since retirement, Pat and husband, Charlie, enjoy summers at their home near Troy and winters in Mayhill, NM, where Pat quilts and Charlie enjoys his hobby of astronomy.

As Gretchen's move to President left a vacancy in the Vice-President position, the board exercised its authority to fill the void by choosing Ryan Quire of Bozeman.



# Cody Lakes

## 2017 “Exploding Car Battery” Hike

By Jon Reny, former Western At-Large Representative

The Cody Lake fen was the place to be this July for the annual “Exploding Car Battery” hike. Eleven plant enthusiasts enjoyed the walk, looking at the vegetation unique to this environment. Sundew is known to grow in fens and all of us were excited to locate this strange plant. Besides having Peter Lesica and his plant knowledge with us, we were joined by Joe Elliott, who shared his moss and lichen expertise. Plus, two folks were avid birders, so we had it all covered.

The morning of the hike was cool and threatening to be wet. Nevertheless, we convened at the River Bend Restaurant and Saloon, where they were holding their annual Highland Games event. We felt out of place with everyone around us in kilts and eating haggis, but we were welcomed anyway. The original plan was to visit the fen at Cody Lakes and then hike to the openings on Richards Mountain. But with yucky weather looming, we decided to play it by ear and keep our options open.

The group decided to first explore the fen, then have lunch and plan the rest of the day — hike to Richards or explore the other lakes (there are three in this chain). One of the first plants we found was an uncommon cotton grass — *Eriophorum viridicarinatum*. Another uncommon plant was the rush *Trichophorum cespitosum*. We found sphagnum moss in patches, but we didn’t see any sundew (*Drosera*). We did see five types of orchid, two louseworts (*Pedicularis*), and the Virginia grapefern.

During our lunch break we decided the hike to Richards Mountain would take too long, so we drove the half mile to Middle Cody Lake, botanize as we strolled to the lake itself, then came back and explored the rest of the fen. We saw many plants common to the mid-elevation slopes of western Montana. Still no sundew; however we did see sphagnum moss. Bog lemmings have been reported on these mats and we are pretty sure we saw their activity on this side of the fen. All in all, we identified 55 species in flower, representing 21 families.

### Mark Your Calendars

The Clark Fork Chapter of the Montana Native Plant Society is hosting the 2018 Annual Membership Meeting June 29-July 1 at the Cane Ridge West Conference Center, west of Lincoln. Details to appear in the winter issue of *Kelseya* and on our website.

### The Future of Native Plants 2018 Plant Conservation Conference

The Montana Native Plant Society, in conjunction with the U.S. Forest Service and the Montana Natural Heritage Program, will host the 10th Native Plant Conservation Conference in Helena on February 21-22, 2018. The first day of the meeting will be a symposium on Montana’s threatened plants, including the potential ESA listing of whitebark pine and the delisting of water howellia. Abstracts for the presentations and registration information will be available in January. We hope you’ll join us!

### MNPS SMALL GRANTS

## Program Going Strong After 20 Years

By Betty Kuropat, Flathead Chapter

2017 MARKS THE 30TH ANNIVERSARY OF MONTANA NATIVE PLANT SOCIETY and one early idea, the Small Grants Program, is going stronger than ever after 20 years.

The Small Grants program puts the mission of MNPS to preserve, conserve, and study Montana’s native plants and plant communities into practice. The program started in 1996 when Angela Evendon presented the idea to the Board of Directors. She drafted the Small Grants Policy and Guidelines and recruited a committee to review grant proposals. The first year we awarded two grants for a combined amount of \$500. One grant examined the rhizomes on blue



Searching for sundew on the Cody Lake fen hike. Photos by Jon Reny.



huckleberry, in hopes of contributing knowledge for propagation and cultivation. The other was a “low water demonstration garden.”

Each of the next six years we awarded up to three grants of \$500 apiece. As the program grew so did our budget, reflecting the increased cost of projects and helping us attract a larger pool of high quality proposals. In 2003, we increased the maximum grant amount to \$1,000. In 2015, we again modified the policy to increase the grant amount to \$1,500.

To date, we have awarded 42 grants totaling almost \$35,000. For the last five years, the average annual awards budget has been \$3,100, more than six times our starting amount. In 2017, we awarded four grants worth almost \$4,500.

Over the years, MNPS Small Grants projects have included research, education trunks, curriculums, native gardens, interpretive signs, posters, and brochures. We have supported 21 gardens – that’s an average of one per year, or half of the total projects. The Landscape Committee has been visiting these gardens to monitor and learn what are the greatest challenges to their longevity.

The program has had six committee chairs: Angela Evendon, Bonnie Heidel, Rachel Feigley, Catherine Jean, Linda Lyon, and Betty Kuropat. Committee members have come and gone, with a goal of maintaining at least three. Overall, 18 people have participated. The current roster includes Drake Barton, Rebecca Durham, Annie Garde, Leslie Eddington, and Jennifer Lyman. The committee reviews and ranks the proposals in February. They also recommend changes to the policy and guidelines and edit final reports for *Kelsey*. Thank you!

One requirement of receiving a grant is to write a report for the *Kelsey* newsletter. A list of awarded Small Grants, including the *Kelsey* issue that contains the report, is on our website under the State Society tab, Small Grants Program. *Kelsey* newsletters are archived under the Newsletter tab, so you can easily find and read about all the projects you have supported.

The Small Grants Program Policy and Call for Proposals are also under the Small Grants Program link. If you or someone you know is interesting in applying for a grant, look for the 2018 Call for Proposals in early November. If you are interested in serving on the committee, contact Betty Kuropat, [bkuropat@centurytel.net](mailto:bkuropat@centurytel.net).



## President’s Platform

I’m honored to be the new president of the Montana Native Plant Society; I hope I’ll do justice to the position and the organization during my tenure. I’m acutely aware that I have big shoes to fill – figuratively, of course – Kathy Settevendemie’s are petite. I suggest we view this time of leadership transition as an occasion to think about the fundamentals of MNPS as it enters its fourth decade. Where are we now, where do we want to be in five and ten years, and how might we get there?

I judge the current state of MNPS to be robust. Our finances are healthy and our membership numbers are steady. We put on dozens of field trips around the state each summer, and dozens more workshops and programs the rest of the year. Hundreds of people participate. The biannual Plant Conservation Conference that we sponsor sets the priorities and lays the groundwork for academic and agency plant science in Montana. Each MNPS Annual Membership Meeting seems to outdo the previous – in quality of field trips, the resourcefulness of the host Chapter, and the delight attendees clearly take in being part of the event. And all this is achieved at very nominal cost.

We face challenges to maintaining this agenda. Most MNPS members (including me) are in or fast approaching our “golden years.” Folks who have been among our organization’s leaders for many years may be ready to hand off responsibility, yet middle-aged people are otherwise occupied, and many young people seem to prefer interacting with illuminated screens rather than with humans or the natural world. Public-sector funding for conservation activities is declining, and some in power demonstrate outright hostility to the idea of conserving natural landscapes. These types of difficulties are not new, but they do feel particularly acute just now.

In the face of such challenges, I’m an optimist. I’ve been at MSU-Bozeman for more than 20 years and my impression is that field scientists have been figuring out how to do their work despite declining funding forever. As a teacher of undergraduate environmental science, I interact with many, many fresh-faced students who are passionate about conservation. They are smart and hard-working, they “get it” about threats to the natural world, and many are determined to make careers caring for it. We grayhairs – comfortable communicating with paper documents (gasp!) and sponsoring evening programs where we listen to lectures (horrors!) – just have to figure out how to engage these youngsters!

In future columns, I’ll explore specifics. For now, I ask YOU to think about particular activities MNPS should be engaging in more vigorously, or for the first time – activities that fit within our mission “...to preserve, conserve, and study Montana’s native plants and plant communities.” At the same time, ideas about how to bolster our membership would be very welcome to me and to the Board. Please be in touch with your Chapter representative about these.

Warmest regards,

– Gretchen Rupp



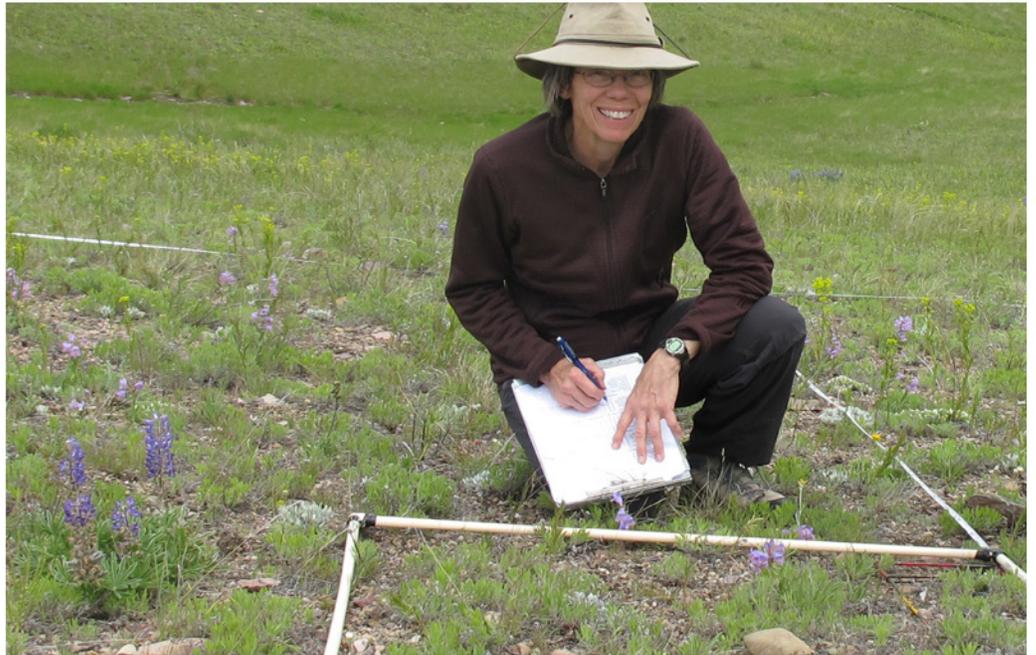
# Cushion Plants

## COMMUNITY STATUS REPORT

Submitted by Peter Lesica, Clark Fork Chapter

The ecological condition of native cushion plant communities can be affected by different management practices, and monitoring the abundance of weeds in these relatively rare habitats is necessary in order to assess the impact of management.

The Missoula Parks and Recreation Department and the MNPS Clark Fork Chapter established permanent plots in three cushion plant communities on exposed sites at the mouth of Hellgate Canyon in June, 2007 — two on Waterworks Hill and one on Mt. Jumbo. We measured the frequency of four perennial noxious weed species — leafy spurge (*Euphorbia esula*), Dalmatian toadflax (*Linaria dalmatica*), sulfur cinquefoil (*Potentilla recta*), spotted knapweed (*Centaurea maculosa*) — and seven perennial native species— bluebunch wheatgrass (*Agropyron spicatum*), Sandberg bluegrass (*Poa secunda*), Missoula phlox (*Phlox kelseyi* var. *missoulensis*), cushion wild buckwheat (*Eriogonum ovalifolium*), Alberta penstemon (*Penstemon albertinus*), woolly groundsel (*Senecio canus*), cushion pussytoes (*Antennaria dimorpha*) — in odd-numbered years through 2017. Each plot encompassed 100 evenly spaced but randomly selected microplots. The number of microplots in which a species was present or absent was statistically compared between years for each species in each macroplot.



MNPS members help monitor weed species in cushion plant communities for the Missoula Department of Parks and Recreation. Kathy Knudsen records presence or absence of different species. Giles Thelen and Mike Young prepare plots for monitoring. Photos by Peter Lesica.

Seven of the 10 monitored weed populations declined between 2007 and 2017. Most of the declining weed populations did so during the period between June, 2007 and June, 2009 with little change in population abundance between 2009 and 2017. Native species fared better than exotics over the course of the study; five populations (all forbs) declined, and the remaining seven were stable. All three populations of native perennial grasses were stable between 2007 and 2017. Two of the declining populations were douglasia, for which monitoring did not begin until 2013. The other three declining species all declined most precipitously between 2007 and 2009.

There are two possible non-exclusive and perhaps synergistic explanations and perhaps synergistic explanations for the significant declines in the 12 populations of indicator species between 2007 and 2017. Most of the declines occurred between the 2007 and 2009 recording periods. In 2007, a month after our first recording, Missoula experienced the hottest July on record. Seventy percent of exotic species declined while only 42% of the natives declined. Although the weeds are well adapted to the average Missoula climate on typical grassland soils, they may not be as well adapted as the native species to extreme drought events, especially on the stressful, exposed sites occupied by cushion plant communities.

A second explanation has to do with growth form. All of the declining indicators, both native and exotic, were broad-leaved species. Fifty-six percent and 70% of native and exotic forb populations, respectively, declined during the study. On the other hand, all three populations of grasses were stable over the same time period. These results suggest that broad-leaved plants may be more susceptible to exceptionally hot and dry conditions than grasses. Similar observations were made on Great Plains grasslands by John Weaver during the great drought of the 1930s. Our results suggest that weather may be as important as management in the behavior of weed infestation in this habitat. 

## A Lifetime of Achievement: Brian Martin Receives 2017 Award

By Peter Lesica, Clark Fork Chapter

**G**rasslands are one of the most endangered ecosystems on earth. The Great Plains of eastern Montana, western Dakotas and adjacent Canadian provinces provides some of the best and most contiguous examples of intact grassland in the world. Much of this intact prairie is found in eastern Montana, which is home to numerous endangered birds and mammals.

Although Montana has some of the best examples of semi-arid temperate prairie, these still continue to be threatened by sodbusting. Many people unfortunately find prairie environment uninviting — even threatening — making conservation in this part of the state an uphill battle. This is the battle that Brian Martin has engaged in for more than 25 years.

Brian is grassland conservation director for The Nature Conservancy in Montana. One of his first activities when he arrived in the state was to map vegetation throughout the Northern Great Plains and develop a conservation plan. This soon led to purchase of TNC's 60,000-acre Matador Ranch Preserve in north-central Montana and using the ranch's grasslands to leverage conservation actions on numerous adjacent private ranches. He has helped develop management plans and implement best grazing practices for many of these properties. Brian has secured conservation easements in the Bitter Creek area of Valley County, prairie pothole habitat in Sheridan County, and grasslands and woody draws in Carter County.

In addition to on-the-ground protection, Brian has supported research out of Montana State University and the University of Montana on conservation-oriented grassland ecology. He's also spent countless hours in meetings, helping guide federal and state policies toward prairie conservation. For example, he joined with the Montana Native Plant Society and Audubon to change the NRCS Conservation Reserve Program to discourage sodbusting. He has been part of Montana's sage grouse restoration committee for years, where he encouraged conservation as well as restoration of prairie habitat. There are few people who have done as much as Brian Martin to help conserve the biological diversity of Montana's mixed-grass prairie.



Brian and his wife, Kathy, have been members of MNPS since they moved to Montana.

*There are few people who have done as much as Brian Martin to help conserve the biological diversity of Montana's mixed-grass prairie.*



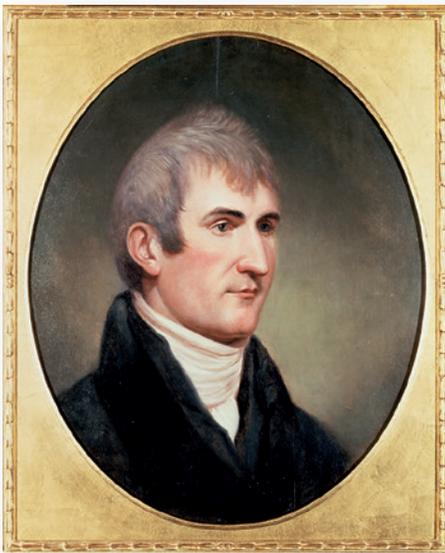
# New Books

## Stories of Discovery

Review by Patricia Holmgren

**H**ear ye, hear ye! Librarians, botanists, herbarium curators, historians, book aficionados! You are going to love “Montana’s Pioneer Botanists: Exploring the Mountains and Prairies,” (Montana Native Plant Society, 2017) a gold mine of information about botanical exploration in Montana, beginning with indigenous people and ending with Klaus Lackschewitz (1911-1995).

Editors Rachel Potter and Peter Lesica have produced a magnificent compendium of 31 historical essays written by 18 authors, many with a special connection to or knowledge of the botanist about whom they write. Historical and contemporary photos of the people and plants associated with them are skillfully interspersed within the essays, adding additional interest.

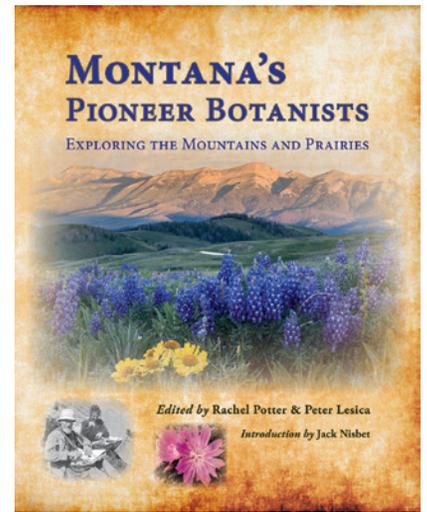


Above: Meriwether Lewis, the first person known to have made formal botanical collections in Montana. *Photo courtesy of Independence National Historic Park.*

Right: Photographer Edward Curtis documented Piegan women harvesting goldenrod plants in the early 20th Century. *Photo courtesy of the Library of Congress.*

Montana’s Pioneer Botanists is dedicated to Arthur Kruckeberg (1920-2016) and “Montana’s botanists of today and tomorrow.” The idea for a broader version of this topic began nearly 30 years ago, when Art envisioned a book of biographies about historical Northwest plant hunters. He and Rhoda Love began collecting essays for what was to be called “Plant Hunters of the Pacific Northwest.” Peter Lesica agreed to be part of the project by collecting essays about Montana’s botanists. The years rolled by without a sign of the book reaching fruition, which led Peter to move ahead with a state-specific version. He asked Rachel Potter to join him, and “Montana’s Pioneer Botanists” is the successful result of their collaborative effort.

This attractively designed book is organized into sections: The Circle of Seasons (Montana’s First Botanists [indigenous peoples]); Early 19th Century (Meriwether Lewis, Nathaniel J. Wyeth, Charles A. Geyer); Late 19th Century (David Lyall, Frank Tweedy, Sereno Watson, Hans Peter Gyllenbourg Koch, Robert Statham Williams, Francis Duncan Kelsey, Per Axel Rydberg); Early 20th Century (J. W. Blankinship, John Leiberger,



Pliny Hawkins, Morton J. Elrod, Marcus Jones, Gertrude P. Norton, Joseph Edward Kirkwood, Paul C. Standley, Wilhelm Suksdorf, C. Leo Hitchcock, National Youth Administration); and Mid-Late 20th Century (Wilfred W. White, Frank Hubert Rose, William Edwin Booth, Frederick Hermann, LeRoy H. Harvey, Marie Moorar, Wilfred B. Schofield, Wally Albert, Klaus Lackschewitz).

Although many of the above names are familiar, you will be amazed at how much you learn about each. Did you know that Nathaniel Wyeth invented a method for easily cutting ice into blocks when that was the only means of refrigeration? You will learn that Robert Statham Williams was always addressed by everyone as “Mr. Williams.” The formality was breached only by Elizabeth Britton, Williams’ colleague of 35 years at the New York Botanical Garden, who occasionally addressed him loudly as “you damned old fool,” and he, in retaliation, called her an “old hellcat!”

You will learn that, although George Engelmann in St. Louis had arranged and underwritten the initial expenses of one of Charles A. Geyer’s expeditions in return for receiving the materials collected, Geyer sent his collections to W. J. Hooker at Kew, causing Asa Gray to complain to Hooker about how “shabbily” Geyer had behaved. Robert Dorn tells us the William Edwin Booth read a newspaper and took a nap during part of Robert’s oral exam. This book is chock-full of interesting anecdotes.

# A Window onto Steppes

Review by Madeline Mazurski, Clark Fork Chapter

Readers should not overlook an overriding theme throughout: these early naturalists understood the importance of documenting their work by preparing plant collections, which today form a significant part of our nation's herbaria. Their herbarium specimens, often prepared under difficult conditions, provide baseline data for the descriptions and geographic distributions of species growing in Montana. These collections serve as voucher records for what grew where, and when it grew there.

Hearty congratulations to the editors and authors of "Montana's Pioneer Botanists" for preparing and presenting a fitting tribute to the early botanical explorers of the state.

Paperback versions of the book may be purchased from local Chapters of the Montana Native Plant Society for \$29.95, \$25 to MNPS members. Hardback versions are available to institutions for \$39.95 hardbacks for institutions.

*Dr. Holmgren is director emerita of New York Botanical Garden Herbarium, where she was manager for more than three decades. In retirement, she continues as coordinator and editor of Index Herbariorum and as co-director and author of the Intermountain Flora project. She obtained her Ph.D. at the University of Washington under the tutelage of C. Leo Hitchcock, who is featured in "Montana's Pioneer Botanists."*

For anyone who has ever had the pleasure of hearing a lecture by Panayoti Kelaidis of the Denver Botanic Garden, the themes of "Steppes: The Plants and Ecology of the World's Semi-Arid Regions," (Timber Press, 2015) will be familiar. In his talks, Kelaidis has excitedly presented the characteristic differences and similarities of the world's steppe regions and their floras. In his new book, the discussion continues as Kelaidis is joined by four colleagues from the Denver Botanic Gardens: Michael Bone, Dan Johnson, Mike Kintgen, and Larry G. Vickerman.

Steppe is defined as the area of transition between eastern maritime climates and more arid climates to the south and west. Although covering vast areas on four continents, steppes are some of the least-studied ecosystems on the planet. These regions have in common large mountain ranges to the west that block moisture; an overall semi-arid climate on a gradient from west to east, with warm summers and cold winters; and high average wind velocities. These factors have resulted in areas with similar land forms, general geomorphology, plant-animal interactions, and floral makeup. The common characteristics of these areas have resulted in floras that are currently being evaluated and selected for their horticultural fitness. The major steppe regions of the world are:

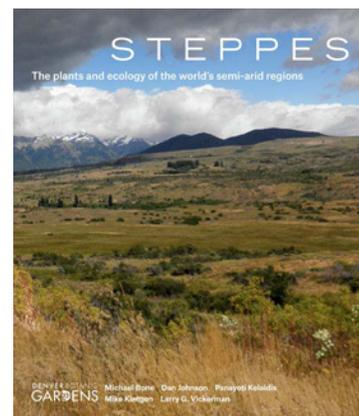
- the Central Asian Steppe, from the Caucasus Mountains in the west to the eastern edge of Mongolia and bordered on the north by the Siberian tundra and the south by the Gobi Desert and the Tibetan Plateau;
- the Central North American Steppe, covering the Great Plains area east of the Rocky Mountains;
- the Intermountain North American Steppe, covering the Great Basin, Colorado Plateau, and the Columbia Plateau;
- the Patagonian Steppe, running east along the spine of the Andes Mountains and continuing east to the South Atlantic Ocean; and,
- the South African Steppe at the southern tip of Africa.

Each of these steppe regions is treated with its own chapter, with descriptions of the area's extent, geology, geography and climate, and a detailed description of the plant families. This latter discussion is a main part of the chapter and covers the many common plant families and similar genera shared by the various steppe regions. Each chapter is written by one of the five authors, so there is some unevenness in tone and approach. Overall the authors reach a good balance between complex information and an understandable manner.

The plant photos and descriptions are captivating, but be forewarned that it's an armchair tour of the plants found during collecting trips made through the years by Denver Botanic Garden staff and not a complete listing of steppe plants. There is a horticultural bent to these plant trips, which were undertaken to collect plants to be evaluated for the landscape trade. The descriptions will make any gardener want to try them all and wonder when they will be available for purchase.

"Steppes" is a fascinating read for anyone interested in steppe regions and an overview of their floras, particularly those plants for the landscape trade. The authors' excitement about steppe regions shines throughout the book, resulting in a unique mix of scientific background about the areas coupled with a compelling wish-list of places to visit and plants to see in their native habitat—and possibly grow at home.

*Madeline Mazurski is a landscape designer and plant lover in Missoula, Montana*





## IN MEMORIAM

# Jerry DeSanto 1928-2017

[Reprinted from the Hungry Horse News, July 26, 2017.]

JEROME S. DESANTO, 89, died on July 6, 2017, at the Montana Veterans' Home in Columbia Falls.

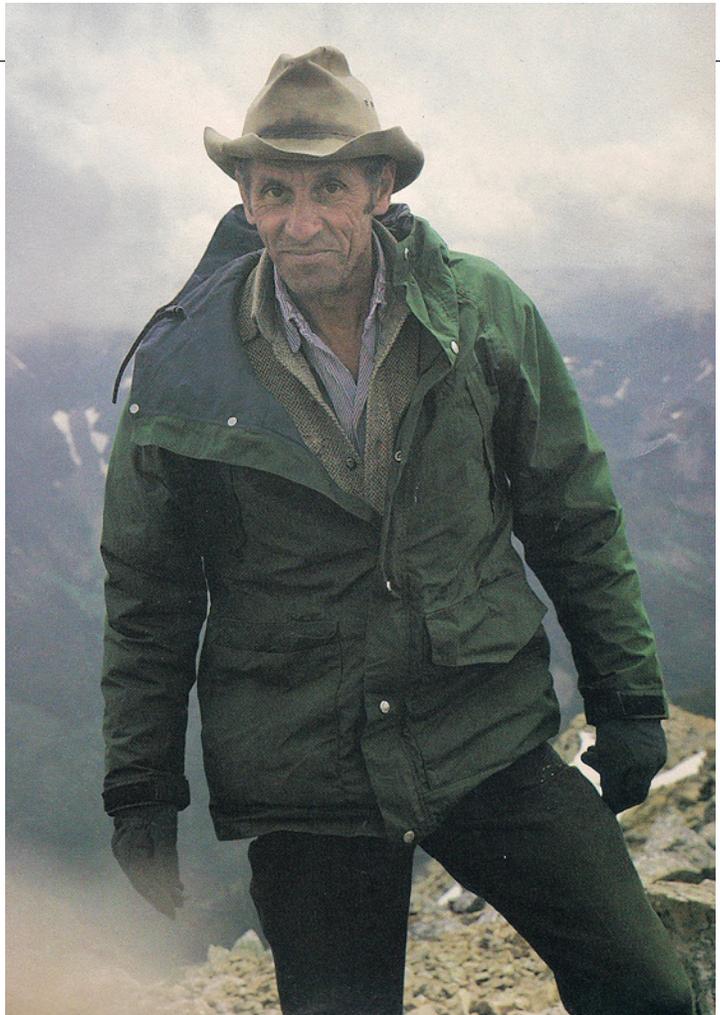
Jerry, as family and friends knew him, was born May 6, 1928, to Samuel and Cecelia (Foryziak) DeSanto in Duluth, Minnesota.

After an unsuccessful career at Duluth Central High School, Jerry enlisted in the U.S. Army Air Corps in 1946. He served with the occupation forces in Germany and earned his GED before he was honorably discharged in 1949. With the G.I. Bill he completed a bachelor's degree in history in 1956 and a master's degree in history in 1958 from the University of Colorado, Boulder. After further study toward a doctorate he left academia for a career in the outdoors, which he'd begun in his early teens as bull cook for a Minnesota logging camp.

Jerry worked summer jobs in Yellowstone National Park — from 1952 to 1960 as a road crewman and from 1961 to 1965 as a ranger-naturalist. He applied to and was accepted by the Park Service Ranger School in 1965. After completion he was assigned to Yellowstone and soon transferred to Glacier in May, 1966. He retired from Glacier in 1986.

Jerry was well known as a consummate park ranger during his career in the National Park Service. He was a tireless hiker, mountain climber, and explorer. Friends describe him as a "Renaissance man." He led many mountain rescue and recovery missions and survived a grizzly bear attack in 1983.

He loved wine, fine food, and literature. He was especially accomplished as a botanist and an author. His book "Bitterroot" is the definitive source of information on the Montana state flower. He was a frequent contributor to Montana Magazine of Western History and The Rock Garden Society Bulletin. His



Jerry DeSanto in his natural habitat. Photo by Bruce Weide.

many letters and writings are stored at the University of Montana Mansfield Library.

Jerry was preceded in death by his parents; an infant brother, Joseph; his elder brother, James Francis (Bud); his nephew David Perschau, and his niece Jane Hayes Broman. He is survived by Karen Feather, devoted companion; sisters Virginia (Ginny) Perschau of Carroll, Iowa; Barbara Hornick of Salisbury, North Carolina; Margaret (Peggy) Hayes of Duluth, Minnesota; nephews and nieces and their families. He was a fine and loving man and will be missed by all. 

## With Gratitude to Jerry DeSanto

By Rachel Potter, Flathead Chapter

**A**s a self-taught botanist driven by a love of place, Jerry's curiosity and enthusiasm for native plants were infectious. He is deeply missed by my family and many other Montana Native Plant Society members.

His knowledge lives on in his unpublished "Alpine Wildflowers of Glacier and Waterton Lakes National Parks," digitized by the Clark Fork and

Flathead Chapters of MNPS. It's also available online at <http://www.lib.umt.edu/asc/alpine-wildflowers/default.php>.

"Montana's Pioneer Botanists," newly published by MNPS, includes three essays by Jerry, one each on David Lyall, R.S. Williams, and Jerry's good friend Klaus Lackschewitz.

MNPS gave Jerry a Lifetime Achievement Award in 2009, which can

be found at <http://www.mtnativeplants.org/fileaccess/getfile/165.pdf>.

Jerry's family has suggested donations in his honor be made to the Montana Native Plant Society. May of his friends and family already donated generously last winter toward the publication of "Montana's Pioneer Botanists" and we are grateful for their support.

## MNPS Chapters and the Areas They Serve

**CALYPSO CHAPTER** - Beaverhead, Madison, Deer Lodge, and Silver Bow Counties; southwestern Montana

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**FLATHEAD CHAPTER** - Flathead and Lake Counties plus Glacier National Park

**KELSEY CHAPTER** - Lewis & Clark, Jefferson, and Broadwater Counties

**MAKA FLORA CHAPTER** - Richland, Roosevelt, McCone, Sheridan, and Daniels Counties

**VALLEY OF FLOWERS CHAPTER** - Gallatin, Park, and Sweet Grass Counties plus Yellowstone National Park

All MNPS chapters welcome members from areas other than those indicated. Alternatively, you may choose to be a member At-Large. We've listed counties just to give you some idea of what part of the state is served by each chapter. Watch for meeting announcements in your local newspaper. Ten paid members are required for a chapter to be eligible for acceptance in MNPS.

**Moving? Please notify us promptly of address changes at [mtnativeplantmembership@gmail.com](mailto:mtnativeplantmembership@gmail.com).**

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**Use this form to join MNPS only if you are a first-time member!**

To renew a membership, please wait for your yellow renewal card in the mail.

Membership in Montana Native Plant Society is on a calendar-year basis, March 1 through the end of February of the following year. New-member applications processed before the end of October each year will expire the following February; those processed after November 1 will expire in February of the year after. Membership renewal notices are mailed to each member in January. Please renew your membership before the summer issue of Kelsey so your name is not dropped from our mailing list. Your continued support is crucial to the conservation of native plants in Montana. **THANK YOU!**

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\*\*Additional donations may be specified for a particular project or the general fund

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## About Montana Native Plant Society

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 review, 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: carokurtz@gmail.com or mailed to *Kelsey* Editor, 645 Beverly Avenue, Missoula, MT, 59801.

Changes of address and inquiries about membership should be sent to MNPS Membership, 398 Jeffers Road, Ennis, MT 59729. Advertising space is available in each issue at \$5/column inch. Ads must be camera-ready and must meet the guidelines set by the Board of Directors for suitable subject matter; that is, be related in some way to native plants or the interests of MNPS members.

**The deadline for each issue is Fall–September 10; Winter–December 10; Spring–March 10; Field Trip Guide–April 10; Summer–June 10.** Please send web items to our webmaster concurrent with these dates.

If you want extra copies of *Kelsey* for friends or family, call the Newsletter Editor or email: carokurtz@gmail.com. No part of this publication may be reprinted without the consent of MNPS. Reprint requests should be directed to the Newsletter Editor.

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