

Kelseya

Newsletter of the Montana Native Plant Society

www.umt.edu/mnps/

Riparian Forests of The Upper Missouri Wild and Scenic River

by Greg Kudray, Senior Ecologist MTNHP

Montana Natural Heritage Program (MTNHP) ecologists and zoologists have just completed a two-year study on the Upper Missouri Wild and Scenic River. Unlike the rest of the Missouri and most other large western rivers, this 150-mile stretch is free from dams and retains a more natural hydrologic regime with the sizable floods so important to maintaining a riparian ecosystem. The gallery forests of plains cottonwood (*Populus deltoides*) along the river can only successfully establish when floods deposit sediments high enough above the river level to isolate cottonwood regeneration from the destruction of ice movement.

These riparian forests offer virtually the only forest environment in the prairie landscape and provide the richest wildlife habitat in the region. A high percentage of animal species in arid regions like central Montana need riparian habitats for part of their life cycle and riparian areas may comprise the only suitable habitat for some amphibians and invertebrates. The highest densities of nesting breeding birds found in North America have been reported in cottonwood riparian forests. Three amphibian species, two reptile species, and eight bird species on the Montana Animal Species of Concern list are closely associated with riparian habitats in prairie regions, and at least three additional reptile species,

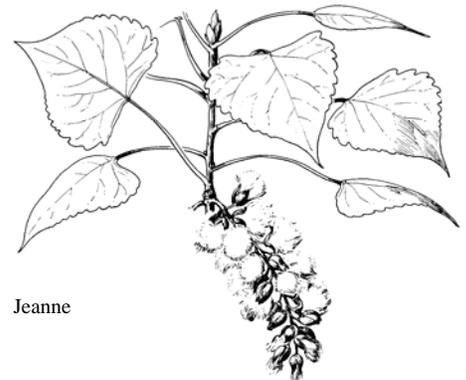
11 bird species and ten mammal species on the Species of Concern list regularly use riparian cottonwood habitats.

Since riparian areas are the most productive and possibly the most sensitive of North American habitats, it has been proposed that they be viewed as an endangered habitat, especially appropriate in our case since cottonwood forests have been in decline throughout the west and in the Wild and Scenic River corridor.

The causes of cottonwood forest decline are many: altered hydrology is the most basic, but improper grazing and nonnative plant invasion are more important in our study area. The Bureau of Land Management (BLM) has started to alter grazing regimes along the corridor but many species of nonnative plants are well established; we recorded 39 species of nonnatives and 5 category 1 noxious weeds on 154 plots. No plot had less than 5% of its total herbaceous cover as exotic species, 36% of plots

had over 95% cover in exotics, and 5% of the plots had only nonnatives in the herb layer! Nonnative smooth brome (*Bromus inermis*), which is not categorized as a noxious weed in Montana, was the typical dominant under the cottonwood canopy with suffocating effects on native species. As exotic cover went up, native species richness declined.

While 38 of the 39 nonnative spe-



Jeanne

Plains Cottonwood (*Populus deltoides*)

cies were herbs, the one woody nonnative, Russian olive, may pose the greatest threat and offer the most potential for management. Russian olive has invaded many western riparian areas and can totally dominate as a dense monoculture. While a few species may benefit (which provides the motivation for continued domestic planting in some areas), research is clear that habitat is degraded for many native birds and probably also bats, several of which are Species of Concern. The impact seems to be most direct on insectivores and cavity-dependent species. Russian olive hosts fewer insects than natives and lacks the cavities found in older cottonwoods.

The Wild and Scenic Missouri River

(Continued on page 6)

Call for MNPS Board of Directors' Nominations

The following positions are up for election: President, Treasurer and Western Director At-large. If you would like to nominate someone for any of these positions, please contact Linda Iverson at 932-5840. The deadline for nominations is February 15 and the ballot will be included in the spring *Kelseya*.



President's Platform

Betty Kuropat



Plants are dormant this time of year. I think they have the right idea—hunker down, conserve energy, and get ready to burst out in the spring. But that's not how we humans do it, even botanists. We keep on working, or studying, or doing whatever we do right through winter. For those of us who insist on identifying all the plants we encounter, there are winter field guides for shrubs and trees. When we'd rather stay inside and warm, there are herbariums we can visit. And how about those pressed plants we collected last summer and haven't looked at since? There are plenty of field guides to page through trying to remember what we've seen or hope to see. On a really dark night, I know some of us have been known to page through a "flora", checking off or listing every species we've seen—our life list. Some people write poems.

The MNPS Board of Directors doesn't go dormant either. We had our fall board meeting on October 16, in Helena. We welcomed several new chapter representatives and officers: Dave Hanna—Vice-president, Connie Jacobs—Eastern At-large, Shannon Kimball—Flathead Chapter, Monica Pokorny—Valley of Flowers Chapter, and Sheila Thompson—Calypso Chapter. As usual, I was impressed with all the activities each chapter and committee is involved with. I was

really impressed to hear that we have over 600 members and 146 of you attended the annual meeting in Red Lodge last July.

Some other highlights from the board:

- Be sure to mark you calendars for the 2005 annual meeting. It will be June 17-19 in far eastern Montana, hosted by the Maka Flora Chapter (see page 5).
- The fall meeting is when we evaluate funding requests and approve a tentative budget for the coming year (2005). We had few proposals this year. Over the last few years we have funded up to \$4000 a year for chapter and committee projects. Madeline (treasurer) showed us a trend of losses over the last 4 years. That made us scrutinize the requests, as well as operating expenses. We still included almost \$4000 for projects. We have \$16,000 in assets and these projects are how we accomplish our mission.
- The Small Grants Committee was given approval to award up to \$1500 in 2005. Be sure to look at the request for proposals (see insert) and get it to anyone who might qualify.
- Unfortunately, but true, we appointed a committee to explore liability insurance. We are in-

creasingly being asked to provide insurance for our annual meetings. We bought a policy last summer to cover MNPS and the Girl Scout camp. Now we are looking into annual coverage for all events.

- Several chapters have prepared a "landscaping with natives" brochure or packet of information for their locale. Several others are working on one. They are available at our website: <http://www.umt.edu/mnps>. Along with that, the Landscape Committee wants to post photos and descriptions of some native gardens or landscapes. If you have any pictures or ideas, please contact your representative, or Linda Iverson, Landscape Committee chair.
- Every year, three positions on the board are up for election. This year they are President, Treasurer, and Western At-large Representative. If you have any interest in serving in these positions or want to nominate someone, please do. Contact anyone on the nominating committee: Peter Lesica, Patrick Plantenberg, or Linda Iverson (see page 1).

The next MNPS Board of Directors' meeting is scheduled for March 5 in Helena. All members are welcome. No dormancy for botanists!

Betty can be reached at 2688 Witty Ln. Columbia Falls, MT 59912 406-892-0129 e-mail: kuropat@bigsky.net

WELCOME new members!

The Montana Native Plant Society extends a warm welcome to the following new members:

Artemisia Chapter: Annette Zimmerman; **Calypso Chapter:** Jeanette Barnes; **Clark Fork Chapter:** John & Ann Marie Carbin, Amy Edwards, Nancy Heil, Kay Hoag, Lisa Mills, Miriam Morgan, Wendy Ninteman, Marieke Rack, Nan Rohan; **Flathead Chapter:** Wayne Sand, Cathy Schloeder, Margaret Winter-Sydnor, Cheryl Wright; **Kelsey Chapter:** Joy Lewis, Bruce & Sue Newell; **Valley of Flowers Chapter:** Christine Steeb Gauss, Sarah Mayer, and Richard McEldowney.

Your participation and support are important to us!

Please contact your chapter representative with any ideas or suggestions you may have. You will find them listed on the last page of this newsletter.

Memberships Due

It's that time again! Your membership in MNPS will expire the end of February. Watch your mailbox in January for a renewal reminder and send your membership in. Montana's native plants are counting on you for support in the coming year.

MNPS Chapter Conservation Liaisons Established

In the spirit of "thinking globally and acting locally," at the annual meeting this summer the MNPS Conservation Committee decided to recruit chapter conservation liaisons. These chapter conservation people will respond to local issues relevant to native plant conservation, such as National Forest management plans, weed management plans, etc. They will be assisted by the state conservation chairperson in preparing comments and letters that will go out on MNPS letterhead. Right now forest plans are in the offing. It is important to make our voice heard (see *Kelsey* Vol.17 No.1). Here are your conservation representatives; give them a call and let them know you can help. And if your chapter isn't listed here and you would like to help with conservation efforts in your local area, give your chapter representative or me a call.

Peter Lesica

The Native Plant Conservation Campaign (NPCC) has new addresses

Web: www.plantsocieties.org
E-mail: emilyR@plantsocieties.org
Mail: PMB 151 (not p.o.b)
1459 18th St.
San Francisco, CA 94107
Phone: 415-970-0394

The mission of the NPCC is to promote appreciation and conservation of native plant species and communities through collaboration, education, law, policy, land use and management.

Loss to Botanical Community

The Wyoming Native Plant Society reports that Stuart Markow died recently in Laramie, WY. Stuart was a dedicated and skilled field botanist who did botanical survey work on the Lewis & Clark and Flathead National Forests in Montana in the 1990's, as well as work in Wyoming and the region. Recollections and stories should be sent to: Rocky Mountain Herbarium, Dept. of Botany, 1000 E. University Ave., Laramie, WY 82073.

Chapter Conservation Liaisons

Calypso	Sheila Thompson	846-1855
Clark Fork	Marirose Kuhlman	239-5039
Flathead	Melissa Waggy	257-9051
Kelsey	Pete Strazdas	442-3888
Valley of Flowers	Cathy Weeden	582-1014

Weed Watch List

The Montana Noxious Weed List Advisory Committee met in Helena in early December. Marijka Wessner attended the meeting, representing MNPS in Marilyn Marler's absence (how can a weed meeting compete with Japan and Thailand?).

The committee voted to recommend a change to the Administrative Rules of Montana pertaining to weed categories. A new Category 4 Watch List would be added to the three weed categories already designated in the rules. The purpose of the Watch List for newly invading weed species is to allow the gathering of more information and monitoring for occurrence and spread. Information collected may be used to justify future inclusion in Categories 1, 2 or 3. The same criteria used to place species on the existing list would be used to designate a watch species. One advantage of having a legally designated category for watch species is it gives the Department of Agriculture the authority to regulate the sale and transport of species suspected of being invasive in the state.

One such species is Japanese knotweed (*Polygonum cuspidatum*). The committee reviewed a petition to place the knotweed complex, also including giant knotweed (*Polygonum sachalinense*) and Himalayan knot-

weed (*Polygonum polystachyum*) on the state noxious weed list. The petition, submitted by Marijka Wessner of the Missoula County Weed District, pointed out the invasive quality of these plants in Greenough Park and other areas near Missoula and the plants' ability to spread vegetatively. Several states, including California, Oregon and Washington have added Japanese knotweed to their noxious weed lists. Japanese knotweed was introduced into the United States as an ornamental and continues to be

sold for landscaping purposes. Adding the knotweed complex to the Watch List will allow a moratorium on sale and transport of the shrubs while the plant's distribution and status are reviewed. The committee is doing more research on the knotweed complex in the state and is expected to make a recommendation in April. All in all, a Watch List sounds like a good idea. It is much better to deal with a potential problem when it is first noticed, instead of waiting for a full-blown invasion.

Kathy Lloyd



Jeanne Janish

Idaho Rare Plant Conference

The 21st Annual Idaho Rare Plant Conference is scheduled for February 15-16 in Boise, Idaho. Registration is due by January 31. Log onto the website: www.idahonativeplants.org for additional information and a schedule of events.

PUBLICATIONS

Available from MNPS

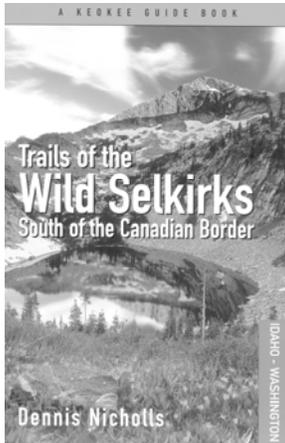
The third edition of the *Source Guide for Native Plants of Montana* is now available. The cost is \$6.00. Send a check made out to MNPS to: MNPS Publications, 1270 Lower Sweet Grass Road, Big Timber, Montana 59011. The cost will cover postage. The guide lists 55 sources for over 500 species of trees, shrubs, forbs and grasses. This edition has e-mail and website addresses for many sources and a handy common name index. The guide is a must for home landscapers, native plant gardeners and those involved in restoration projects. The *Source Guide* will include an insert with recent updates for each source. Contact information for several new sources is included but their plants are not listed. If you already purchased a Guide, you can find the update on the website or send a SASE to MNPS Publications (see address above).

Available free from MNPS Publications: MNPS membership brochures, *Plant Collection Guidelines for Teachers* brochures, and *Echinacea Cultivation Information*. Also available are additional copies of *Plants Collected in Montana During the Lewis & Clark Expedition*.

Trails of the Wild Selkirks South of the Canadian Border

by Dennis Nicholls
published by Kookee Books

The Montana Native Plant Society is lucky to have members who are actively engaged in the business of promoting native flora and landscapes. Past issues of *Kelsey* have highlighted members who have accomplished an astonishing array of projects ranging from writing books and articles to photographing Montana's native plants and habitats. Our Western Montana Representative and past editor of *Kelsey* Dennis Nicholls, well known in MNPS for his great sense of humor and relaxed, fireside writing style, has published his second book. Dennis, who authored the first-ever hiking guidebook for the Cabinet Mountains, *Trails of the Wild Cabinets*, has now written the most complete book ever on the Selkirk



Mountains, *Trails of the Wild Selkirks: South of the Canadian Border*.

During seven months in 2003, Dennis hiked nearly 1,300 miles of trails in the Selkirks to research his newest guidebook, which is why he wasn't home to answer panicky phone calls or e-mails. It was time well spent and Dennis has not only produced what one reviewer called "the most thorough hiking guide available for our region, bar none," he is in great shape! As Dennis was recently heard to say, "I would rather hike than make money." Well, hopefully, both can happen.

The Selkirks are familiar to many Inland Northwest residents, but it's the one-third of the range that lays in the United States that is the focus of Dennis's new book. Straddling the Washington-Idaho state line, the Selkirks comprise a landscape of spectacular peaks, glacial lakes, dark coniferous forests and grassy hills thick with ponderosa pine, all the way from Mount Spokane to Snowy Top. South of the Canadian border are three million acres of national forests, wildlife refuges, state lands, corporate timberlands, Indian reservations and private holdings—all girded with an extensive trail system.

Designed to be a guide for hikers of all abilities and identifying trails suitable for mountain bikers, *Trails of*

the Wild Selkirks has detailed descriptions for more than 170 trails, numerous maps, photos and a features chart to help readers find trails with points of interest such as lakes, waterfalls, old-growth forest, look-outs and peaks.

The book is organized into three sections to help readers locate the dozens of trails covered. Finally, there are ten appendices offering information on family fun hikes, trails suitable for those with handicaps, recreational contacts, milepost readings, indices by trail number and name, and more, making the guide especially user friendly.

Dennis also provides an absorbing history for the range, along with several essays in his easy-reading style drawn from his own adventures wandering the Selkirks. In the introduction, he writes, "I hope all those reading this book share in the thrills, the adventures and the simple satisfaction of exploring one of the

(Continued on page 10)

Please send a SASE to the address above to receive any of these publications.

Available from the Flathead Chapter: a packet of information about gardening with Flathead Valley native plants. The packet can be mailed to you for \$3.50. Contact Tara Carolin at P.O. Box 382, West Glacier, MT 59936, call 406-888-7919 or e-mail: vance.tara@centurytel.net

Available from the Kelsey Chapter: a packet of information on landscaping with natives in the Helena area. The packet will be mailed to you for \$3.50. Contact Kathy at 449-6586 or e-mail: drakekath64@msn.com to order.

Visit the MNPS website at www.umt.edu/mnps to download in pdf format *Weeds Listed as Noxious by Montana Counties*, a list of weeds that are targeted by each county; *Guidelines for Selecting Horticultural Plant Material for Montana*, voluntary guidelines by MNPS and the Montana Nursery and Landscape Association; and *Lewis & Clark Plants Collected Elsewhere That Occur in Montana*, an inclusive list of Lewis & Clark plants found in the state.

"Ultraight Wildflower Guide
to the Central **Montana**
Rocky Mountains" 665 photos
333 species, Only 1.5 oz, Waterproof, 3" x 5"
\$21.95 Diamond Springs Press
Postpaid 8085 Diamond Springs Dr.
Helena, MT 59602-9312

The Beartooths Revisited

The MNPS held their 17th annual meeting during those long, warm days last July. On July 9-11 MNPS members and friends gathered at the Timbercrest Girl Scout Camp outside of Red Lodge. The meeting was the largest yet with 141 adults and 5 children registering. The majority of the populace were Bozeman area residents, followed by Helena area residents. Fifteen people from out-of-state attended, some of who learned about the meeting from our web site. The event reminded me of a big wedding—filled with people you're excited to see, but suddenly it's time to depart and you hardly said hello to everyone.

The event raised approximately \$2000 through the silent auction and the sale of t-shirts, books, and plants. Thanks to the multitudes that contributed their time, expertise, silent auction items, books, plants, food, and energy. Some highlights that I heard about were the Mary's Lake "marathon hike" during which Erwin Everett kept 15 plant lovers marching over 12 miles and a gain of 2000 feet on a quest for more knowledge. We had to hold the

hordes back as Peter Lesica's Line Creek Plateau field trip was booked to capacity soon after the gates opened. All participants seemed well pleased upon their return. Many people said they enjoyed learning how to evaluate range health with Wayne Burleson while others joined Jeanne Chambers and learned about the dynamics of several high elevation plant communities. I joined Matt Lavin's group sauntering along a high ridge on the Beartooth Plateau, bending low to examine minuscule alpine plants. The wind gave us a clue as to why all the plants had evolved to be so tiny. The participants of the Bridger Plant Materials Center tour on Sunday were fascinated by the cultural methods used in the seed production of native plants.

Lastly, an idea that arose from the Artemisia Chapter's post-annual meeting debriefing is to start a new tradition of collecting the plant species list kept by someone on each of the field trips and publishing them in the following fall issue of the *Kel-seya*. The Artemisia Chapter would also like to apologize for the bad coffee at the annual meeting and thank everyone for coming!

Leslie Marty

Transitions at the Natural Heritage Program

Marc Jones, an ecologist at the Montana Natural Heritage Program has recently resigned and moved to Kamloops, British Columbia where his wife Lyn Baldwin has accepted a position at Thompson Rivers University (formerly the University College of the Caribou). Lyn will be teaching vascular and non-vascular plant classes and beginning a research program. For now Marc will be enjoying the company of their two-year old daughter Maggie and may continue to work on completing a Heritage project on wetland assessment techniques. Marc and Lyn were great friends to many and made numerous contributions to a greater understanding of Montana ecosystems.

The Montana Natural Heritage Program has posted an opening for an ecologist. The position description and application information can be found at: www.mtnhp.org.

Greg Kudray

Badlands II 2005 MNPS Annual Meeting

The Maka Flora Chapter will host the 2005 Montana Native Plant Society Annual Meeting June 17-19, 2005 at the Richardson Coulee Ranch in the Big Muddy Valley west of Antelope, Montana. The theme is *Badlands II* and will focus on the diverse prairie ecosystems of northeast Montana. Field trips will include the Comertown Prairie Potholes, Medicine Lake Sandhills, Richardson Coulee/Hedges Grove, Eagle Creek, and Saskatchewan's Coteau Prairie and archeological sites. The setting will be rustic, with tent, tipi, and RV camping on site, and other accommodations in Plentywood (10 miles) and Medicine Lake (12 miles). Meals will include a potluck dinner on Friday night, two continental breakfasts, and a catered meal on Saturday night. Award-winning Saskatchewan author Candace Savage will address the group Saturday night, sharing insight from her latest book, *Prairie: A Natural History*.

We encourage you to take advantage of this opportunity to explore this remote corner of Montana. Before or after the meeting, take in Fort Union National Historic Site and the new Missouri-Yellowstone Confluence Interpretive Center, Canada's Grasslands National Park, Medicine Lake and Charles M. Russell National Wildlife Refuges, the dinosaur field stations in Fort Peck and Malta, or canoe the Yellowstone or Missouri rivers.

Beth Madden

MNPS Award Nominations Due

The Montana Native Plant Society presents two awards. The **Outstanding Service Award** is given no more than once a year to a member of MNPS for service to the Society. The award consists of a certificate accompanied by an individualized gift. The **Special Achievement Award** may be awarded to anyone, member or not, whose work has contributed to the mission and goals of MNPS. The award consists of a certificate and possibly a small gift. The awards will be presented at the annual meeting of the Society. Any member may make a nomination and now is the time. The awards committee must receive nominations no later than April 1. Send your nominations to committee members Marilyn Marler at 1750 S. 8th St. West, Missoula, MT 59801 (marler@bigsky.net) or to Madeline Mazurski at 5090 Elk Ridge Drive, Missoula, MT 59802 (mmazurski@montana.com). All nominations should include a written statement about the nominee's contribution to MNPS and relate why the nominee should receive an award.



Robin

Russian Olive (*Elaeagnus angustifolia*)

can be viewed as two halves. The western half has much more private land, with the potential for domestic plantings of Russian olive to serve as the necessary seed source for a riparian infestation. The eastern half is mostly BLM managed, isolated from seed sources, and presently free from Russian olive. All of the 15 plots with Russian olive were in the western half and at low cover values, presenting an opportunity to control this ecologically devastating invasive. Since few stretches of large western rivers still maintain enough natural hydrology to regenerate cottonwood forests, and have the combination of public ownership and seed-source isolation necessary to exclude Russian olive, the Upper Missouri Wild and Scenic River may represent an almost unique opportunity to retain these magnificent cottonwood gallery forests.

The complete report on this project will be available soon from the Montana Natural Heritage Program website: www.mtnhp.org. The report also includes information on the amphibian, reptile, bat, and small mammal species found, four of which (one in each group) are on the Montana Animal Species of Concern list. There is also additional information on many other aspects of the Wild and Scenic River corridor ecology.

Rep Rap with Dennis Nicholls Western Representative

A day in late November—why, it was Thanksgiving Day, in fact—was so beautiful and mild here in the lower Clark Fork Valley, I went for a walk down by the river. I was having dinner that afternoon with some friends whose family homesteaded at the mouth of Blue Creek only a mile east of the Idaho border, and as the meal was being prepared, I headed off into their woods to see what I could see.

There was no snow—a rarity this time of the year in one of the wettest and snowiest places in Montana—and the sun was shining between big puffy clouds that billowed across the autumn sky. My feet carried me down a steep slope to a level point of land where Blue Creek empties into the Clark Fork within site of Cabinet Gorge Dam. And there at my feet, smiling up at me like I was a long lost friend, was a mass of white and yellow blossoms.

I knelt and looked closer at a plant I was not familiar with and marveled at the gaggle of flowers that had bloomed on this late fall day. I can't remember seeing flowers this late in the year. Usually we are under a foot or more of snow in this valley by now.

Not having a field guide with me—and who in their right mind would be carrying a wildflower field guide with them in late November anyway?—I studied the characteristics of the plant so I could try and look it up when I got home.

But of course I forgot.

That is, until I was in Helena recently for the Montana Wilderness Association's annual convention where I spoke with Drake Barton about the oddity of seeing flowers so late in the year. He proceeded to tell me of blossoms he and Kathy have seen this fall as well, including a rather confused pasqueflower (*Anemone patens*) that was blooming only a week or two before I discovered the Blue Creek mystery plant.

We discussed my rare find, but he was not quite able to discern what it might be from my description. "It had little green leaves and white and

yellow flowers." Hmm, go figure.

Well, at least I knew which family it was in—the Asteraceae—and when I returned home I began the daunting task of keying it out in Hitchcock and Cronquist, the bible of plant taxonomy for the Northwest. And guess what Drake? I may have determined my mystery plant's identity. And unfortunately, it is nothing terribly exciting.

Conyza canadensis. Horseweed. A weedy native.

But you know what, it actually was terribly exciting, because how often do any of us get to see flowers blooming in the wild near the end of November? Even if it might be considered a weed, I was thankful that Thanksgiving afternoon to gaze upon blooms amidst the gloom of a near-winter's day.

So keep your eyes open. We often compare notes on what flowers we first see blooming in the spring, but keep an eye out for those hardy late-bloomers as well.

Happy Holidays to you all. May peace and joy fill your homes every day.



Jack Ru-

Horseweed (*Conyza canadensis*)
A possible late-bloomer?

Big Sky ketches

Reflections on Bitterroot

by Jim Habeck

Editors'note: Many chapters have taken the opportunity to view the new film by Steve Slocomb called *The Story of the Bitterroot a cross cultural odyssey of discovery* (see *Kelsey* Vol. 18 No. 1 for a review). It seems appropriate that we honor our state flower and its cultural and ecological history as interest and appreciation for Montana's flora increases.

Montana PBS recently had a major presentation on Montana's state flower the bitterroot, *Lewisia rediviva*. All in all, this television special was an excellent ethnobotanical treatment of a plant beloved by many who know it only when it is in full bloom. The history of Native American use of this plant as a source of food was reviewed in detail; simply stated, the bitterroot was, and continues to be, a Montana plant that's greatly revered.

Prior to 1900, in many parts of western Montana, Native Americans traveled to bitterroot "digging areas" and set up encampments for extended periods, digging the roots, peeling them and drying them for winter storage. In my studies of the history of native vegetation in western Montana, spanning over 40 years, I have begun to think of an ecological relationship that developed between the introduction of horses in this region in the 1730's and the abundance of bitterroot in western valley grasslands.

My idea or notion is that during the era spanning from 1750 to 1850 and beyond, Native Americans took special pride in their horses and made every effort to expand their herd

sizes, far beyond what would have been needed for utilitarian purposes such as hunting bison, or moving their camps. What happened, I'm guessing, is the recognition by the Native Americans that an expanded grassland pasture resource was needed to support and even enlarge their horse herds; herds that numbered many thousands per tribe. I also suspect the American aboriginal peoples purposely burned lower forest edges to convert forest cover to grassland cover to provide additional pasture for their horses. Pasture was needed for year 'round feeding.

Furthermore, I've noted that bunchgrass areas, even in modern times, that are or were subject to light to moderate horse pasture use, exhibit increases in their bitterroot populations. Range managers refer to such native plant species that respond positively to such levels of disturbance as "increaser species." Increaser species, such as bitterroot seems to be, benefit from reduced competition when horses selectively remove bunchgrasses, leaving the prairie forbs to show increases in numbers. Balsamroot and lupines are also well known increaser species.

Thus, I suspect that bitterroot populations essentially exploded in numbers when and where horse herds were pastured; the exact places Native Americans targeted for bitterroot gathering!

Bitterroot were no doubt always available in some numbers, and subject to collection as a food source, but the number of bitterroot that would allow a week-long tribal root

gathering effort would not have existed had it not been for horse grazing contributing the needed disturbance for bitterroot population numbers to greatly increase. This is just speculation on my part, but I don't believe the native peoples would have made an ecological connection between the acquisition of horses, horse pasturing disturbance, and the increased size of the bitterroot populations they gladly harvested on an annual, ritualistic schedule.

Also of interest is Jerry DeSantos' book, *The Bitterroot*. On page 68 he states that loss of western valley bitterroot habitat to subdivisions and the invasion of alien species like knapweed and leafy spurge have led to the reduced abundance of wild-occurring bitterroot. Around Missoula, bitterroot still persists on wind-swept, rocky, southwest-facing ridgelines (cushion plant habitats) that never supported much grass cover; these habitats are so moisture-stressed even weeds don't, or can't, crowd them out. The 1915 University of Montana Yearbook shows an 1887 sketch by Edgar Paxson of an Indian bitterroot gathering encampment located directly on the present location of the University campus—a place known to have had an abundance of bitterroot before 1880.

Dr. Jim Habeck is a University of Montana retired professor of plant ecology



Bitterroot (*Lewisia rediviva*)
Montana's State Flower

CALENDAR

ARTEMISIA CHAPTER

MNPS members and non-members alike are invited to attend these events. If you have any questions please call Leslie at 445-9178.

Thursday, January 13, 7:00 p.m.

Anne Laird, a professional wildflower photographer, will present a short slide show of her work and then demonstrate and explain her techniques. Bring your own SLR camera if you have one. The program will be held at ZooMontana.

Thursday, February 10, 7:00 p.m.

We will watch a documentary film by Steve Slocomb called *The Story of the Bitterroot*. The program will be held at ZooMontana.

CALYPSO CHAPTER

Call Sheila Thompson at 846-1855 for times and details.

Monday, February 7

We will have a brief meeting and then watch the *Story of the Bitterroot a cross cultural odyssey of discovery* DVD, produced by Steve Slocomb.

Monday, April 4

Meeting followed by a program (details to follow).

CLARK FORK CHAPTER

Thursday, January 13, 7:30 p.m.

Bitterroot is certainly Montana's most famous plant. Come and see *The Story of the Bitterroot*, a 68-minute documentary on bitterroot including interviews with tribal elders, historians, and botanists. The film's maker, Steve Slocomb will be on hand to answer questions and lead a discussion afterward. Rm L09 Gallagher Business Bldg., UM Campus.

Tuesday, January 25, 7:30 p.m.

Herbarium Night. Everyone loves those cute little primroses. "Meet the stemless Primulaceae of Montana." Peter Stickney will do the introductions. Rm 303, Botany Bldg., UM Campus.

Thursday, February 10, 7:30 p.m.

Native Americans were Montana's

first botanists. Rosalyn LaPier is an historical researcher for the Piegan Institute in Browning. She will speak to us on "Blackfoot Plants", their uses and how they influenced the annual migrations and ceremonies of the tribes. Rm L09 Gallagher Business Bldg., UM Campus.

Tuesday, February 22, 7:30 p.m.

Forest Service biologist James Riser will share his excitement with "Montana Milkweeds: orchids of the dicot world." Bring a hand lens if you have one. Rm 303, Botany Bldg., UM Campus.

Thursday, March 10, 7:30 p.m.

"Garden Where You Are: Creating a Native Plant Garden in the Northern Rockies." Dave Schmeterling and Mike Young will show you how to build a native garden from the sub-soil up with examples from their world-class efforts. Rm L09 Gallagher Business Bldg., UM Campus.

Tuesday, March 29, 7:30 p.m.

Eriogonum is one of western North America's largest genera, and Montana has its share. Join Peter Lesica to "Learn Montana Buckwheats." Bring a hand lens and dissecting tools if you have them. Rm 303, Botany Bldg., UM Campus.

Thursday, April 14, 7:30 p.m.

Shrubs are some of our most famous wildflowers and some of the best ornamentals too. Tune up your identification skills with Clark Fork Chapter photographers for a refresher on "Montana's Woody Plants." Rm L09 Gallagher Business Bldg., UM Campus.

Thursday, May 12, 6:30 p.m.

"Our Annual Spring Potluck" will be held at the home of Mike Young and Dyan Mazurana, 529 Evan Kelly Rd. Go north on Duncan Drive; it's at the end of the cul-de-sac on the 3rd street on the right after the top of the hill. Bring your own utensils and a dish to share. We can poke around in Mike's native garden and check out what's going on along Rattlesnake Creek. Bring a native garden plant or two to exchange with others.

EASTERN MONTANA

For more information about Eastern Montana events call Connie Jacobs at 622-5266.

FLATHEAD CHAPTER

Our meetings have moved to the Mountain View Mennonite Church. To reach the church, follow Highway 35 east from Kalispell past Woody's (Highway 206 jct.) Just past Woody's, turn left on the Lake Blaine Rd. and continue for one mile. Turn right on the Creston Hatchery Road and go another mile. The Mennonite Church is on the right at the junction of Creston Hatchery Road and Mennonite Church Road. A general meeting is at 5:30 (everyone invited). Programs start at 7:00 p.m.

Wednesday, January 19

"Sensitive Plants of the Flathead National Forest" by Lihn Davis, Flathead National Forest botanist.

Wednesday, February 16

"Wildflowers and Ecology of Glacier National Park's East Side Grasslands" presented by Jen Asebrook and Tara Carolin, Glacier National Park ecologist.

Wednesday, March 16

Filmmaker Steve Slocomb will show and discuss his highly acclaimed film *The Story of the Bitterroot*. Nine years in the making, this fascinating 68-minute DVD examines, among other things, the relationship of the bitterroot plant to the Salish Indian tribe, how Meriwether Lewis was introduced to it, why it became Montana's state flower, and its unusual botanical characteristics. The DVD uses reenactments, animation, macro and time-lapse photography, and historic photographs, all of which paint a rich portrait of this venerated plant. The event is cosponsored by the Montana Committee for the Humanities.

Wednesday, April 20

"Mushrooms" presented by Dale Johnson.

Wednesday, May 18

Field Trip (details to follow)

KELSEY CHAPTER

For more information about Kelsey Chapter programs and events, call Kathy at 449-6586.

Tuesday, January 11, 7:00 p.m.

Andy Bauer from the Prickly Pear Land Trust will tell us about the mission and accomplishments of the land trust in protecting the natural diversity and rural character of the Prickly Pear Valley and adjoining lands. Lewis and Clark Library large meeting room.

Wednesday, February 16, 7:00 p.m.

Scott Mincemoyer, botanist for the Montana Natural Heritage Program, will present a program called "The Montana Natural Heritage Program—what it is and what it does." Lewis and Clark Library large meeting room.

Thursday, April 7, 7:00 p.m.

"Primitive Skills Using Local Montana Plants." Rocky Mountain botanist and naturalist Kevin Taylor will share his experiences using Montana plants for primitive skills such as friction fire making, basketry, rope making, painting, shelter building, collecting and processing edibles and medicinals, and more. The presentation will involve a slide show and some of the materials and examples of Kevin's work. Lewis and Clark Library large meeting room.

MAKA FLORA CHAPTER

For information about the Maka Flora Chapter or events call Rebecca Kallevig at 488-5455.

VALLEY OF FLOWERS

During the winter and spring, the Valley of the Flowers Chapter meets on the second Tuesday of the month January through April. In January, February and March we will meet in Room 108 of the AgbioScience Building at MSU. The building is on South 11th, and parking is free in the evening in the lot to the north of the building. In April, we meet in the auditorium at the Museum of the Rockies. Meetings begin at 7:00 p.m. For more information contact Monica Pokorny at 763-4109. Also, please

contact Monica if you are interested in organizing a summer field trip.

Tuesday, January 11, 7:00 p.m.

Tracy Dougher will present "Techniques and Pitfalls of Growing Native Plants from Seed and Cuttings." Tracy is an assistant professor at Montana State University in the Dept. of Plant Sciences and Plant Pathology.

Tuesday, February 8, 7:00 p.m.

Tracy Dougher will lead us in "Hands-on Propagation Techniques of Native Plants." We will meet in Agbio-Science Room 108 and then move to the greenhouse for the evening. Tracy will demonstrate propagation techniques for everyone to try. Let us know in advance what plant cuttings or seeds you would like to work with and grow.

Tuesday, March 8, 7:00 p.m.

Robert Dunn of Westscape Nursery will present "Commercial Production of Native Plant Species." The discussion will include how to start and run a native plant business, including how to grow the material, where seed comes from, and difficulties and pitfalls to avoid.

Tuesday, April 12, 7:00 p.m.

This program is at The Museum of the Rockies. Wayne Phillips will present "Plants of the Lewis and Clark Expedition," a one-hour slide lecture that combines history with botany. Wayne is a former Forest Service ecologist and past president of MNPS. The presenter takes the audience from St. Louis to Fort Clatsop along the Lewis and Clark Trail, traveling through the six geographic ecoregions: the Eastern Deciduous Forest, Tallgrass Prairie, High Plains, Rocky Mountains, Columbia Plains, and Pacific Forests. With stunning photography he shows the characteristic landscape and plants encountered by Lewis and Clark, while discussing the related observations of the explorers in their journals. The presenter dresses in period costume and shows dried plant material, both in the form of herbarium specimens and dried berries and roots used as "trade items" by Lewis and Clark to

trade with native people along the route. Although plants along the entire expedition route are shown, the presentation will emphasize the plants encountered in the Rocky Mountains and Missouri High Plains regions. The program concludes with a suspenseful story of dangers faced by the explorers.

WESTERN MONTANA

Call Dennis Nicholls at 295-4768 for details on Western Montana activities.

Calypso Chapter Report

Calypso members participated in several activities over the summer. In Butte, members met with a group of citizens to stake out the 557 acres involved in the Big Butte Open Spaces plan to acquire the land for public ownership. This property is very scenic, undeveloped land, which Calypso members would like to see preserved as recreational property for the public, rather than sold for development.

Members also met in September to work on the enclosure in German Gulch. The purpose of the enclosure is to establish a pilot plot of land that is planted with native shrubs, forbs, and grasses to see how competitive the native plants are with spotted knapweed. A grant from the George Grant Chapter of Trout Unlimited was secured for this project by Kriss Douglass and Kriss is continuing to accept volunteer help from interested parties.

In Deer Lodge, Calypso member Sheila Thompson and family have been actively engaged in uprooting knapweed from public land on which they discovered bitterroot growing. It's great to have Sheila back in the state with her dynamic energy and enthusiasm.

On November 30, the Calypso Chapter met at Kriss Douglass' home. We had a great potluck meal and caught up with each other, and even had a meeting, too! How about that? We had some new folks come and they were really positive and excited about the group.

Debbie Mueller & Sheila Thompson

Flathead Chapter Report

The Flathead Chapter has resumed meetings at a new location: the Menonite Church in Creston, located at the corner of Creston Hatchery and Menonite Church Roads. Attendance at our October potluck was high, and our November program (Tara Luna on native plant propagation) was also popular.

Our newest group project involves compiling information on local native gardens. We're hoping to encourage the use of native plants in landscaping by giving gardeners the ability to visit successful demonstration sites. The location and a brief description of each garden will be assembled. These summaries will then be compiled into a handout and added to our Native Landscaping Packet. The information will be available at meetings and may also be obtained through the MNPS website once the project is completed.

Please see the Calendar section for upcoming programs. Hope to see many of you in the coming months.

Shannon Kimball

Native Plant Garden at UM

This was a big year for the MNPS native plant garden on the University of Montana campus. An attractive color brochure was completed and is now available to guide visitors around the garden. Information in it includes a map that locates and explains each habitat, a brief history, and a list of plants growing in the garden that Lewis and Clark collected in present-day Montana. The brochure is the result of many hours of work by Kelly Chadwick, Jean Pfeiffer and several others.

The other big news is the arrival of labels for the Lewis and Clark plants. These were put in place in May. Many, many thanks to the state MNPS for funding the project. Also thanks to Linda Iverson. Because of her information, we were able to obtain the labels for considerably less cost than the original proposal.

The garden is thriving, with crowd-pleasers like bog orchids (*Habenaria dilatata*), wild hollyhock (*Iliamna rivularis*) and white evening-primrose (*Oenothera caespitosa*) drawing com-

ments from passersby. People start asking early in the year when the bitterroots (*Lewisia rediviva*) will bloom (about June 1). Happily, the bitterroots are now self-sowing in the bed alongside the Missoula phlox (*Phlox kelseyi* var. *missoulensis*) and douglasia (*Douglasia montana*). White dryas (*Dryas octopetala*) makes a showy mass in the alpine area, followed, of course, by their fluffy seed heads. We think founders Klaus Lackschewitz and Sherman Preece would be pleased with the present garden.

Sheila Morrison



White Dryas (*Dryas octopetala*)

...Dennis (Continued from page 4)

greatest places on Earth—the wild Selkirks.” Both of Dennis’s books are available at area bookstores in communities around the Cabinet and Selkirk mountains. They may also be ordered by phone from Kookee Books at (800) 880-3573 or online at www.keokeebooks.com.

Kathy Lloyd and Kookee Books



Hiker, Author and Western Representative Dennis Nicholls

New Native Plant Display Garden at ZooMontana

Flora of Montana - Rimrocks to River, a new display garden at ZooMontana, showcases the beauty, diversity, and utility of native plants in the region around Billings, Montana. This project was initiated in the spring of 2003 by members of the Artemisia Chapter in conjunction with ZooMontana and has received contributions from several benefactors. In November 2003, the Artemisia Chapter received \$1000 in funding from MNPS to help with construction costs.

This year’s work concentrated on garden design, site renovation, hardscaping, and the development of the “Rimrock” section of the garden. In early spring, huge sandstone rocks donated to ZooMontana were positioned into place—transforming a neglected slope into an eye-catching rimrock hillside. In late spring, a wide sandstone-colored, leaf-imprinted, concrete pathway was installed throughout the garden. It is beautiful as well as wheel chair ac-

cessible. Instantly, visitors started walking through the display, something rarely done before. Throughout the year, Artemisia Chapter members, ZooMontana staff, and other volunteers salvaged and transplanted over 100 plants into the garden. Sections have been tentatively prepared for: Rimrock Plants, Shrubs of the Sagebrush, Prairie Grasses, Prairie Forbs, Aquatic and Riparian Plants, Currants and other Fruit Bearing Plants, and Short-lived, Short-Stature, and Seedling Plants.

The majority of MNPS project funding helped to provide hoses and hook-ups for watering through the summer, plant labels, and installation in the fall of a permanent drip irrigation system throughout the garden. Plans for 2005 include the installation of a flipbook-style information station and placards acknowledging contributors; plant salvaging, planting, and labeling; and general maintenance. There’s still a lot of satisfying work yet to be done so please call Sandy King at 652-8468 if you can give us a hand.

MNPS Chapters & the Areas They Serve:

- ARTEMISIA CHAPTER - Yellowstone and Carbon counties; southeastern/south-central Montana
- CALYPSO CHAPTER - Beaverhead, Madison, Deer Lodge and Silver Bow counties; southwestern Montana
- CLARK FORK CHAPTER - Lake, Mineral, Missoula, Powell and Ravalli counties
- 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. 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.

Your mailing label tells you the following:

CLASS OF MEMBERSHIP: See I, II, III, IV below

CHAPTER AFFILIATION: ART= Artemisia; CAL=Calypso; CF=Clark Fork; F=Flathead; K=Kelsey; MF= Maka Flora; VOF=Valley of Flowers

DATE YOUR MEMBERSHIP EXPIRES: If your label reads "2/99" your membership expired February 28, 1999. Use this form to renew your membership TODAY! Please drop us a note if any information on your label is incorrect. Please notify us promptly of address changes.

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 *Kelseya* 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!

MONTANA NATIVE PLANT SOCIETY MEMBERSHIP

Name (please print) _____ E-mail _____

Address _____ City/State/Zip _____

Phone _____ New Membership (✓) _____ Renewal (✓) _____

If you wish to be affiliated with a chapter (see above), list it here _____

Membership Dues	Price with chapter affiliation	Price no chapter affiliation
Individual	\$18	\$12
Family	\$22	\$18
Business/Organization	\$35	\$30
Living Lightly	\$12	\$12
Lifetime (one-time payment)	\$300	

MAKE CHECKS PAYABLE TO:
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 Missoula, MT 59807-8783



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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 *Kelseya*, the quarterly newsletter of MNPS. We welcome your articles, field trip reports, meeting notices, 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 submissions should be mailed to *Kelseya* Editors, 314 Travis Creek Rd., Clancy, MT 59634. All items should be typed and put on a 3.5" disk and saved in Microsoft Word or rich text format (rtf.) for a PC. Please include a hard copy with your disk. They can also be sent electronically in the same format as above to: drakekath64@msn.com

Changes of address, inquires about membership and general correspondence should be sent to MNPS Membership, P.O. Box 8783, Missoula, MT 59807-8783.

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; Summer— June 10. Please send web items to our webmaster concurrent with these dates.

If you want extra copies of *Kelseya* for friends or family, call the Newsletter Editors, write to the above address or e-mail: drakekath64@msn.com

Visit our website at: www.umt.edu/mnps/ or contact our webmaster Marilyn Marler at: marler@bigsky.net

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