



Bulletin

of the

Native Plant Society of Oregon

Dedicated to the enjoyment, conservation, and study of Oregon's native vegetation

VOLUME 33, No. 6

JUNE 2000

Election Results

Ballots have been counted. The following officers and new board members will be installed at the Annual Meeting in June and will serve for a year: President, Bruce Newhouse; Vice President, Mike McKeag; Secretary, Rhoda Love; and Treasurer, Eric Wold. Board members at large elected to two-year terms are: Karl Anderson, Dan Luoma, and Danna Lytjen. Many thanks to the candidates for running. Thanks also to retiring board members Ben Fawver and Steven Jessup.

Annual Meeting at Malheur Field Station June 23-25

Don't miss out on this year's Annual Meeting, June 23, 24, and 25 at the Malheur Field Station south of Burns. The weather should be great and the flowers bountiful! Friday during the day is being set up as the every-other-year Rare Plant Meeting for Oregon. Friday evening will be an informal gathering. Saturday night will include our annual banquet, installation of officers, and dinner speaker/entertainment. There will be a board meeting Sunday morning.

Featured Speaker for the Annual Meeting will be Dr. Barbara Ertter, Curator of Western American Botany, Jepson Herbarium, UC Berkeley. On Friday evening she will speak on "Biogeography of Iran and the American West" and on Saturday will deliver her famous lecture, as featured in *Newsweek* "Floristic Surprises in North America".

Annual Meeting Registration

Send name, address, and \$5 fee to Stu Garrett, 1501 NE Med Center Dr., Bend, OR 97701. Please indicate first and second choices for field trips. Accommodations must be arranged separately.

For Meals and Lodging contact

The Malheur Field Station
HC 72, Box 260
Princeton, OR 97721
phone and fax: 541-493-2629
email: mfs@burnsnet.com

The Malheur Field Station is an old government training camp. Accommodations are simple, clean and not luxurious. There are beds, but bring your own bedding and towels. Basic cooking equipment is provided in some of the dorms and all of the trailers. Also recommended are bug spray, sun screen, flashlight and drinking water. Water at the station is safe, but many find it has a mineral taste.

Prices

- Accommodations are \$18 per person per night for dorms with no cooking facilities. Some dorms with cooking facilities, trailers and RV hookups are also available for higher rates.
- Meal costs are as follows (for adults): breakfast – \$7, lunch – \$5, Dinner – \$8. All meals must be arranged at least a week ahead of time. Vegetarian meals must be requested at that time as well.
- A 50% deposit is required ahead of time to reserve your accommodations and meals.
- Any changes in group numbers are required at least 7 days prior to your arrival. No refund on meals is possible without 7 days notice of changes.

See insert in May *Bulletin* for field trip and other important information and registration form.

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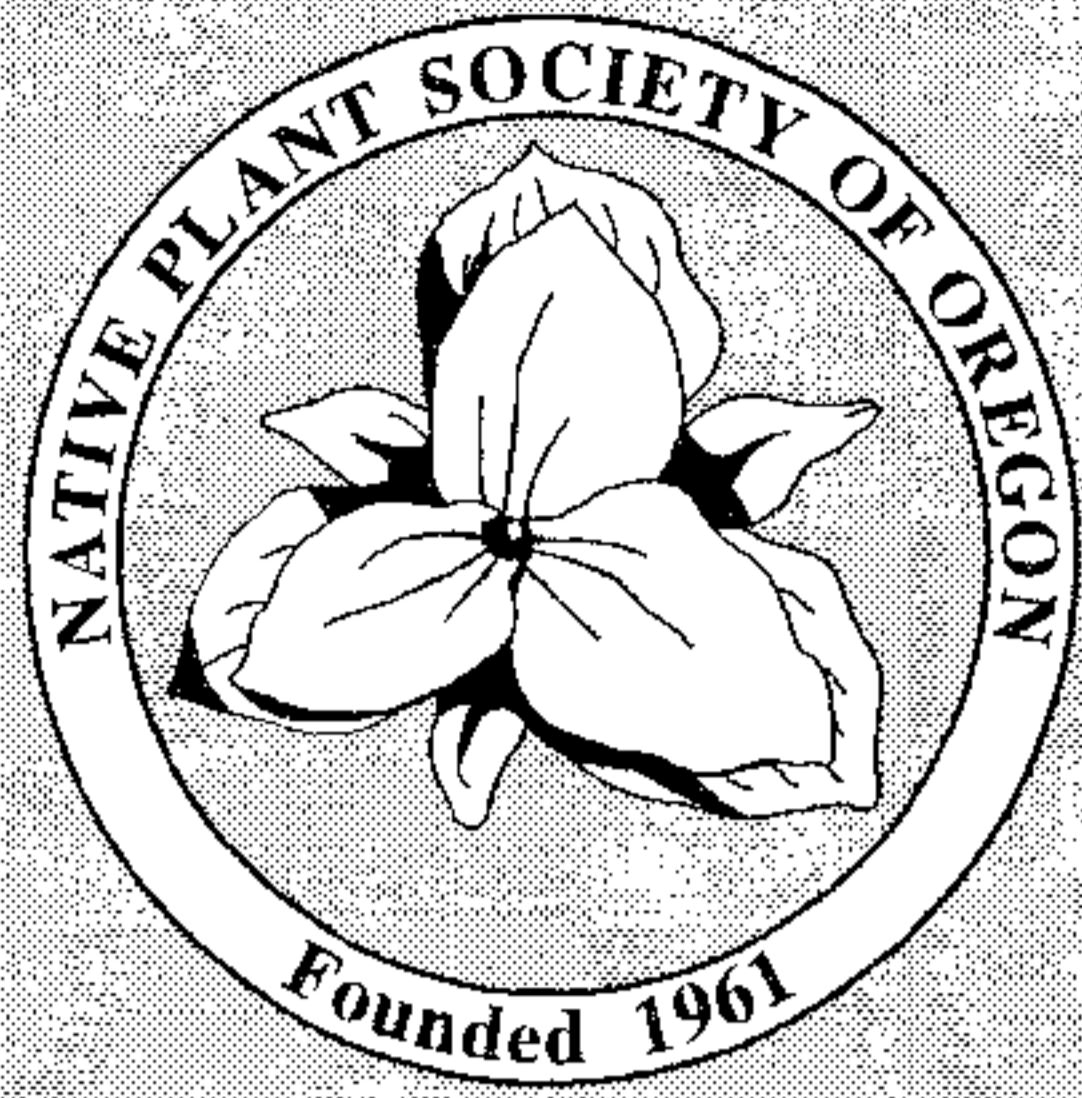
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Native Plant Society of Oregon

World Wide Web

<http://www.NPSOregon.org>

Email Discussion List Login

<http://www.telelists.com/cgi-bin/lyris.pl?enter+nps>

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P.O. Box 902
Eugene, OR 97440

or correspond directly with Officers and Committee Chairs listed on the inside of the back page.

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Opinions expressed in this publication are those of the authors of the articles. They do not represent the opinions of the Native Plant Society of Oregon, unless so stated.

Volunteers Needed for Garry Oak/Oregon White Oak Acorn Production Study

Researchers with the Pacific Northwest Research Station in Olympia are again seeking volunteers to help with a study of Oregon white oak acorn productivity. This study began in 1999 and seeks to determine how common good and bad acorn crops are and what environmental factors and biological interactions influence acorn productivity.

Volunteers are needed to do simple acorn abundance surveys throughout the range of Oregon white oak (collecting acorns is not needed). Last year volunteers surveyed 131 trees from 12 sites in Washington and 7 sites in Oregon. Volunteers are needed for all areas from California to British Columbia and for trees in natural, agricultural and urban settings. Surveys can be conducted from late August to early October depending on acorn maturity.

Forms and instructions can be downloaded from the Olympia Forestry Sciences Lab website: <http://www.fs.fed.us/pnw/olympia/silv/oak.htm>. Volunteers and others can also view survey results from the same web site. For additional information go to the website or contact:

David Peter
Olympia Forestry Sciences
Laboratory
3625 93rd Ave. SW
Olympia, WA 98512-9193
dpeter@fs.fed.us
360-753-7654

Kalmiopsis Needs Assistant Editor

K*almiopsis* is the annual journal of NPSO, which contains a variety of interesting articles about Oregon botany and botanists. Our current editor would like an Assistant Editor to train, with the eventual goal of the Assistant becoming the Editor in time. Publication and editorial experience is a must; computer skills and email address mandatory.

This is a great opportunity for someone to get involved with botanical projects, events, and research occurring in Oregon. If you are interested, please e-mail the *Kalmiopsis* Editor, Linda Vorobik, at vorobik@rockisland.com.

Eastside Conservation Chair Needed!

The Native Plant Society of Oregon is looking for a new Eastside Conservation Chair. Stu Garrett has been in this position for several years, and is moving on to other tasks—creating a space for an enthusiastic volunteer (or two!) who wants to work on behalf of NPSO on conservation issues. Recent examples are providing input for long-range conservation strategies for Steens Mountain, as well as providing occasional analysis and input regarding US Forest Service, BLM and State of Oregon policies affecting native plant habitats east of the Cascades.

If this interests you, contact Stu at garrett@coinet.com or Bruce Newhouse (President) at newhouse@efn.org

Ideas Wanted for a New Bulletin Name

Please keep submitting your ideas for a new name for the Bulletin. We would like to gather the ideas and vote on the best suggestions later on in the year. Any name that fits in with our purpose and distinguishes us from other organizations is welcome. Send any ideas to the Bulletin Editor at bulletin@NPSOregon.org.

NPSO CALENDAR

State

June 23-25

Annual Meeting: Malheur Field Station. See insert.

June 25, Sunday

Board Meeting: Malheur Field Station. 9:00 am at Annual Meeting.

Blue Mountain

For information on the Blue Mountain Chapter call Jerry Baker at 541-566-3381.

Cheahmill

June 3, Saturday

Field Trip: Deer Creek County Park. Leader: Dave Hanson. The park's 23 acres of wet prairie has a good stand of *Deschampsia cespitosa*, along with many uncommon valley species such as *Wyethia*, *Brodiaea*, etc. that may be blooming, and the small upland prairie has an increasing population of Kincaid's lupine, and other species including death camas and *Lomatium dissectum*. Meet at the park at 10:00 am. For more information, call Dave at 503-843-4338.

June 11, Saturday

Field Trip: Niagara Falls in the Nestsucca watershed. Leader: Marilyn Karbonski. We will take an easy to moderate hike (2 miles round-trip) down into a gorge to view this spectacular falls. Meet at Yamhill ESD, 2045 SW Hwy 18 in McMinnville, at 9:00 am to carpool. Bring a lunch and water. For more information, call Marilyn at 503-852-7230.

June 16-17

Field Trip: BioBlitz: an intensive 24-hour biodiversity survey to identify and count as many species from as many taxa as possible, at the Champoeg State Heritage Area in St. Paul, Oregon. Champoeg is a 615-acre site in the his-

toric French Prairie region of the upper Willamette Valley. It has upland meadows, wet meadows, oak savanna, ash swales, 2nd growth Douglas-fir, 3 miles of Willamette River shoreline, and 3 perennial creeks. It will begin at 3:00 pm and end the following day at 3:00 pm. To participate contact Dale Shank at Pacific Habitat Services, 503-570-0800 or ds@pacifichabitat.com.

Corvallis

May 27, Saturday

Field Trip: In search of *Delphinium pavonaceum* in our area. We will visit local sites and document population status of this rare white delphinium. Meet at 1:00 pm at the parking lot across from the Monroe Beanery and plan to be gone for the afternoon. Leaders: Gaylee Goodrich, 541-753-9227 and Esther McEvoy, 541-754-0893.

IMPORTANT NOTE TO FIELD TRIP PARTICIPANTS

Field trips take place rain or shine, so proper dress and footwear are essential. Trips may be strenuous and/or hazardous. Participation is at your own risk. Please contact the trip leader or chapter representative about difficulty, distance, and terrain to be expected on field trips. Bring water and lunch. All NPSO field trips are open to the public at no charge (other than contribution to carpool driver) and newcomers and visitors are always welcome.

NOTICE TO FIELD TRIP CHAIRS AND LEADERS

The Forest Service and other agencies have set policies limiting group size in many wilderness areas to 12. The reason is to limit human impacts on these fragile areas. Groups using wilderness areas should be no larger than 12.

June 12, Monday

Event: Spring Potluck at Avery House. Note the time change, meet at 5:30 pm. Bring a dish to share and come enjoy our native plant garden in Avery Park.

June 17, Saturday

Field Trip: Chip Ross and surrounding area. Meet at 10:00 am at the parking lot across from the Monroe Beanery. Bring a lunch and walking shoes. We will explore the late spring plants of Chip Ross Park and the proposed open-space near Timberhill. For more information contact Esther McEvoy at 541-754-0893

Emerald

National Forests require a trail head park permit for some field trip locations. Permits can be acquired at forest headquarters and ranger districts.

June 3, Saturday

Field Trip: Gorgeous Graminoids: an introduction to local grasses, sedges & rushes. Half day trip, meet South Eugene High School parking lot, 8:30 am. Bring hand lens. Led by Bruce Newhouse. For more information, call Bruce, 541-343-2364.

June 10, Saturday

Field Trip: Oregon Atlas and Lane Checklist field trip to the Lane County Coast to search for unreported and under reported species suspected to occur in Lane County or known only from historic records. All botany levels welcome. We'll have a grand time exploring sand dune, salt marsh, and deflation plain habitats. Depart South Eugene High School parking lot 8:30 am. Bring lunch and dress for weather. Drivers will need a national forest trail head park permit (annual or day). Day permits can be purchased at the pay station on site. Call leader Charlene Simpson, 541-465-1059, for information.

June 17, Saturday

Field Trip: Tire Mountain, near Westfir, is an easy 4-mile round-trip hike through old growth forest and sloping flower-filled meadows along the side of ridge. Meet at the South Eugene High School at 9:00 am or at the Demeter's Corner Store and Café parking lot in Dexter (just off Highway 58) at 9:30 am. After the hike, Tanya Harvey's garden will be open in Fall Creek for anyone interested. The garden is naturalistic woodland and rock garden with many natives. For more info, call Tanya, 541-937-1401. Hike is sponsored by the Emerald Chapter of the North American Rock Garden Society.

July 1, Saturday

Field Trip: Patterson Mountain, east of Dexter, has a wide range of habitats for a short hike. There is a large wet meadow, a dry meadow, beautiful old growth forest and a rock outcropping with a view of Lookout Point Reservoir. The trail is an easy 1.7 miles to the top. Meet at the South Eugene High School at 9:00 am or at the Demeter's Corner Store in Dexter at 9:30 am. After the hike, Tanya Harvey's garden will be open in Fall Creek. See info for June 17 trip.

July 8, Saturday

Field Trip: First Annual Milkweed Drive. We will conduct a windshield survey of southern Willamette Valley milkweed populations, followed by a mapping party (and pizza?). Meet at South Eugene High School parking lot at noon. Bring binoculars. Pre-registration required. Call Sue Mandeville at 541-746-1805 to register.

July 9, Sunday

Field Trip: Moon Point to look for *Cercocarpus ledifolius*, *Asarum wagnerii* and *Lilium pardalinum*. Led by Kim McMahan and Jenny Lippert. Meet 9:00 am South Eugene High School or 10:00 am Middle Fork Ranger Station (old Rigdon Ranger Station). For more information, call Jenny, 541-465-6321.

July 15, Saturday

Field Trip: Grasshopper Meadows, north of Oakridge, is part of an extensive trail system that connects with the Chucksney Mountain Trail so the trip can be whatever length people are up for. The trail goes through vast sloping wildflower meadows looking out at Diamond Peak. Meet at the South Eugene High School at 9:00 am or at the Demeter's Corner Store in Dexter at 9:30 am. After the hike, Tanya Harvey's garden will be open in Fall Creek. See info for June 17 trip.

July 22, Saturday

Field Trip: Blair Meadows, a wildflower paradise northeast of Oakridge, led by Barbro McCree. Easy walk and optional swim in Blair Lake. Meet 9:00 am South Eugene High School parking lot or 10:00 am, Middle Fork Ranger Station (old Rigdon Ranger Station). For more information, call Peggy, 541-744-0439.

July 23, Sunday

Field Trip: Butterflies and their host plants. This trip to Iron Mountain will focus on the identification of butterflies and learning about the ecological interactions between butterflies and their host plants. Iron Mountain is a spectacular place for both wildflowers and butterflies. Bring close-focusing binoculars if you have them. Meet at South Eugene High School Parking Lot, 8:00 am, co-leaders: Eric Wold and Bruce Newhouse. Trip is limited to 20 people. Call Eric at 541-431-7388 to register.

July 29, Saturday

Field Trip: Swamp flower and sedge expedition to Beaver Marsh at the edge of Diamond Peak Wilderness. Led by Nick Otting and Jenny Lippert. Meet 9:00 am at South Eugene High School. Bring hand lens, waterproof boots, and be ready for mosquitoes. For more information call Nick, 541-334-4499, or Jenny, 541-465-6321.

High Desert

Amateurs and experts are equally welcome! Unless otherwise noted (and please be sure you check!) all trips will depart from the north end of the main parking lot on the east side of Pilot Butte State Park off of Hwy 20 (Greenwood St.) in Bend at 8:30 am sharp. Please arrive a few minutes early to form carpools. On one-day trips we will normally return to the parking lot by 5:30 pm. Be sure your gas tank is full, bring plenty of water, rainwear, a sack lunch, a day pack, and sturdy shoes. Consider bringing layered clothing, sunscreen, a hand lens, cameras, binoculars, etc. Weather may be severe, trails can be rugged, and roads are sometimes poor. Unless noted, roads should be passable by a normal clearance passenger sedan. Riders are encouraged to reimburse drivers a total of 25 cents per mile. Please be aware of user charges for the Deschutes National Forest. Please: no smoking, no picking or collecting of plants, and no pets. Remember, you participate at your own risk.

May 31, Wednesday

Work Party: Pilot Butte State Park: Stop the Alien Invaders! The Butte is a special natural feature in the urban sea of Bend. This half-million-year-old volcano has intact native bunchgrass communities over much of its flanks and springtime wildflowers abound. Unfortunately, in the last 10 years spotted knapweed, toadflax, cheatgrass, sweet-clover, and mullein have begun to replace native plants. In cooperation with the State Parks Division and Pilot Butte Partners, we are pulling weeds to stop this invasion in its early stages. Bring gloves, wear sturdy footwear, and meet at the eastside parking lot at the base of the Butte at 6:00 pm for an hour of weed pulling! Call Stu Garrett for more information: 389-6981 eves.

June 9, Friday

Field Trip: Oregon Atlas Project Survey - Castle Rocks area. This will be one of our surveys to look at poorly-botanized areas in order to develop information for the Oregon Plant Atlas Project. We will take several hours to key-out and identify plants in the Sisters

Ranger District of the Deschutes NF. All are welcome. Moderate 4 mile hike on steep terrain. Meet at the Deschutes National Forest Sisters Ranger District Office in Sisters at 9:00 am. Call Caroline Lindstedt 382-3237 for details.

June 23-25, Friday-Sunday

NPSO Annual Meeting - Steens Alvord Ecosystem. The High Desert Chapter will host this year's annual meeting at the Malheur Field station in Harney County. We will have the every other year Rare Plant Meeting on Friday, field trips Saturday, and speakers and banquet Saturday evening. See front page or May *Bulletin* insert for details. This is a great weekend!

July 8, Saturday

Field Trip: Glaze Meadow prescribed burn and Old Growth. This area at the foot of Black Butte is one of the most scenic on the Deschutes National Forest. We will see the rare Peck's Penstemon, hike through old growth Ponderosa pine stands and explore the meadow that was burned last year to help the penstemon. An easy 4-mile walk. Meet at Pilot Butte in Bend at 8:30 am and at 9:00 am at Sisters Ranger District parking lot at 9:45 am. Call Stu Garrett for details: eves 541-389-6981

July 15, Saturday

Field Trip: Oregon Atlas Project Survey - Brown's Spring. This will be one of our surveys to look at poorly-botanized areas in order to develop information for the Oregon Plant Atlas Project. We will take several hours to key-out and identify plants in this beautiful area off Century Drive in the Deschutes NF. All are welcome. Easy 2-mile walk. Meet at the Deschutes National Forest Supervisors Office parking lot near Pilot Butte at 8:30 am. Call Caroline Lindstedt 541-382-3237 for details.

July 22, Saturday

Field Trip: Oregon Atlas Survey - Oregon Cascades Recreation Area. Caroline Lindstedt and USFS botanist Carolyn Close will lead a moderate hike to either the subalpine areas around Maiden Peak or to lower eleva-

tion lakes to botanize for the Oregon Flora Project. All are welcome. This is a rarely visited area that should be full of surprises. Meet at Crescent Ranger District at 8:30 am or call Caroline about a Pilot Butte carpool. Call Caroline for details. 541-382-3237

August 5, Saturday

Field Trip: Many Lakes/Cultus Lakes Basin. Join expert botanist/ecologist Reid Schuller on a moderate 5 mile round trip hike on the Many Lakes Trail. This is a spectacular area in the Three Sisters Wilderness featuring bogs and lakes. Reid is the world's expert on sedges of the Central Oregon Cascades! Be sure to call early to reserve spot on the trip as only 12 people can travel together in the Wilderness. Be ready for mosquitoes! Meet at Pilot Butte Parking Lot at 8:30 am. Call Reid at home: 541-317-1901 or work: 541-317-0199 to do the required pre-registration!

August 26, Saturday

Field Trip: Broken Top Volcano. This is our annual trek to view the spectacular glaciated scenery and alpine wildflowers in the High Cascades west of Bend. This is a six-mile round trip, moderate to strenuous hike with a 1,700 foot elevation gain. We will do mostly off-trail hiking through the Three Sisters Wilderness, so hiker numbers are limited to 12. Meet at Pilot Butte Lot at 8:30 am. Pre-registration is required! Call trip leader Stu Garrett for sign-up: eves 541-389-6981 The sooner the better!!

For more information, call field trip chairman, Stu Garrett, 541-389-6981 evenings. On trips where participant numbers are limited, preference will be given to NPSO members. Permission is granted to newsletters, newspapers, and magazines to reprint field trip information as long as enough information is provided to fully inform the public.

Klamath Basin

For information on the Klamath Basin Chapter, call David Lebo at 541-883-8393.

Mid-Columbia

June 7, Wednesday

Meeting: A Love Affair with the Steens. At 7:30 pm at the Columbia Gorge Discovery Center Theatre (exit 82 off I-84, and follow signs). Botanist and forest service ecologist Christine Ebrahimi will give a slide show on Steens Mountain where she has studied the flora from the grasslands to the alpine area for over 12 years.

July 5, Wednesday

Meeting: Our Annual Potluck! 6:30 pm. at Jerry Igo's beautiful pine-oak acreage and cabin. Bring your favorite dish. Directions: I-84 to Mosier, right at gas station, left on 3rd, cross bridge, right on Carroll, left on Dry Creek, go about 1.8 miles beyond end of pavement, take driveway on right about 1/3 mile, cross creek (dry) and park.

North Coast

For information on the North Coast Chapter, call Christine Stanley, 503-436-0161.

Portland

June 3, Saturday

Field Trip: North Ridge of Augspurger Mountain. We'll join trip leader Russ Jolley as we explore the back side of Augspurger Mountain. This hike will be 3 miles R/T with an 1,100ft. elevation gain. We'll be looking for *Hydrophyllum fendleri* along with many others. Leave 8:30 am from Gateway/NE 99th Ave. Park and Ride, southeast corner of parking lot. For more info. call Greg Stone at 503-233-4761 or Russ at 503-286-2350.

June 11, Sunday

Field Trip: Multnomah Bog. Our program director and botanist Skip Haak will lead us into this bog at the foot of Larch mountain. *Listera*, *Habenaria*, *Drosera*, *Caltha*, and *Nuphar* to name a few. Come learn more about this unique habitat. Leave

from NE 99th Gateway Park and Ride, southeast corner of parking lot at 8:30 am. For more information call Greg Stone at 503-233-4761 or Skip at 503-460-3198.

June 13, Tuesday

Meeting: Grazing Management to Improve Habitat for Trout in SE Oregon presented by Ron Rhew, Fish & Wildlife Biologist with the U.S. Fish and Wildlife Service. The meeting will be held in the Fireside Room (#355) of the First United Methodist Church located at 1838 SW Jefferson St., in Portland. The room is open at 6:30 pm for socializing and the meeting will begin at 7:00 pm.

June 24, Saturday

Field Trip: Saddle Mountain. This is the time when lots of colors are showing. Competing for attention will be Saxifrages, Penstemons, Delphiniums, Campanulas, the Saddle Mountain Bittercress, and *Erigeron peregrinus*. We'll meet trip leader Kathleen Sayce at the trailhead between 9:30 am and 10. We will also carpool from Portland leaving at 8:00 am from our meeting place for all westbound trips; Cedar Hills Shopping Center parking lot at the east end. For more information call Greg Stone at 503-233-4761 or Kathleen at 360-665-5292.

July 15, Saturday

Field Trip: Badger Creek Wilderness. We'll explore the east side of the Cascade range in Ponderosa forests with Beth Magnus. More details in July *Bulletin*. Put this one on your calendar. For more info. call Greg Stone at 503-233-4761 or Beth at 503-226-7919.

Siskiyou

Warnings: Be prepared for hiking. Sturdy boots are advisable for moderate hikes, but canvas shoes may suffice on others. Spring weather may be wet, cold, and stormy; summer weather can be hot with intense sunshine. Bring a lunch and water. The trip sponsors and land owners hold no liability; all trip participants will

be required to sign a disclaimer. None of the trips are all-access (on trails suitable for wheelchairs). For more information, call the trip leader or Don Heinze at 541-955-7247.

June 3, Saturday

Field Trip: Wildflowers of Woodcock Fen. Leader: Mike Anderson. 9:00 am. This hike could be titled "The Wildflower Express," because the 1999 Woodcock hike turned up 11 sensitive species from the Oregon Natural Heritage Program list. All this in an extremely small area that includes Woodcock Fen and an adjoining Jeffrey Pine Savanna. The plant list includes the rare purple form of the large flowered rush lily. Meet at the Illinois Valley Visitor's Center in Cave Junction. Easy two mile hike.

Umpqua Valley

June 8, Thursday

Meeting: Annual Summer Potluck dinner. Mildred Kanipe County Park north of Oakland on County Road 50. Call Richard Sommer at 541-673-3709 for directions or more information.

June 10, Saturday

Field Trip: Travel to Powers and Elk Creek to see *Rosa canina*, the white dog rose, and the world record Port Orford Cedar. One-mile walk to the cedar. Meet at the BLM parking lot, 777 NW Garden Valley Blvd at 8:00 am or at the Winston Dairy Queen at 8:30 am. Call Sandra Stiltner at 541-672-5903 for more information.

June 17, Saturday

Field Trip: Travel to New River ACEC south of Bandon to see *Kurzia makinoana*, *Lilium occidentale* and other native species. Meet at the BLM parking lot, 777 NW Garden Valley Blvd, Roseburg at 8:00 am. Call Russ Holmes at 541-672-4635 for more information.

Willamette Valley

June 4, Sunday

Field Trip: The 'YAMPO' BLM ACEC on the Polk-Yamhill county line. Leader: Larry Scofield. Interesting area for flowers, geology, and the creek. Best population of Tall Bugbane on any BLM lands. About a 2-hour walk. We will meet Larry at the Dalles Safeway parking lot at 9:30 am.

June 17, Saturday

Field Trip: Salem Weed Day. Meet at 9:00 am at the East end of Bush Pasture parking lot (off Mission St). We will gather weeds from city locations for identification and submission to the Oregon Plant Atlas. Please call Glenn or Barbara Halliday (503-371-1025) by June 15. If there is sufficient interest, we will meet separately for consensus on "what is a weed?", a little identification, and collecting protocol. Participants are also urged to search their own yards for samples, bag them, and bring to the Saturday meeting. We expect to disperse to various parks, but meet back at Bush Pasture for lunch (bring your own) and sample comparison. Yes, we'll be brave and include grasses: but we can exclude lawn grasses, dandelions, English Daisies, and your neighbor's domesticated flowers.

July 15,16, Saturday, Sunday

Field Trip: Steens Mountain. Details later.

July 29, Saturday

Field Trip: Canyon Creek Meadows. Details later.

William Cusick

for information on the William Cusick Chapter call Frazier Nichol at 541-963-7870.

OTHER EVENTS

Events at Mount Pisgah Arboretum

Saturday, May 27

10:00 am - noon: Wildflower Walk with Fran Rosenthal, MPA Education Program Manager. Suggested donation: \$3 (MPA members free!). Meet at Mt. Pisgah Arboretum Visitor Center, Buford Park, Eugene. 541-747-1504 for details.

Saturday & Sunday, June 17 & 18

9:00 am - 4:00 pm: Tree Identification Workshop with Whitey (Dennis) Lueck. Learn to identify broadleaf and conifer species of the local area. Native and non-native trees will be covered. Tree keys will be provided. Fee: \$80 (\$75 MPA members). Pre-registration required: call 541-747-1504.

Saturday & Sunday, June 24 & 25

9:00 am - 3:00 pm: Introduction to Birding Workshop with Diane Horgan, Audubon Society. Topics include: using binoculars, what to look for, and birding by ear. Fee: \$45 (\$40 MPA members). Pre-registration required: call 541-747-1504.

Botanical Society of America (BSA) Meets in Portland August 5-11

by Rhoda Love

The Botanical Society of America and related organizations will be having their national meeting, dubbed "Botany 2000," at the Oregon Convention Center, Doubletree Lloyd Center, Portland, August 5th to 11th this summer. This is a marvelous opportunity for NPSOers to hear papers, attend poster sessions, luncheons and dinners, listen to speakers and take part in field trips.

The full conference schedule is not available as I write this, but registration materials, including descriptions of many enticing field trips, are available online at: www.signupcenter.com/botany2000/online.html

Here is a sampling of the field trips offered: "Ferns of the Columbia Gorge," "Bryophytes of the Columbia Gorge," "Saddle Mountain," "Lichens and Bryophytes from Steppe to the Coast," "Fossil Forests of Central Oregon."

The conference is not cheap, but this is a chance for us to meet the country's top botanists and visit Oregon plant communities with the experts.

Berry Botanic Garden Events

Portland's Berry Botanic Garden has a number of native plant oriented events. To register or to get more information on these and other events at the garden call 503-636-4112 or check out their website at <http://www.berrybot.org>.

Botanical Illustration

Spend a relaxing afternoon using the right side of your brain to interpret the garden. Increase your observation skills, and learn to see nature in a different, more personal way. Plan on sketching outside (we will move indoors if the weather is uncooperative). All levels, including beginners are welcome. Laurie Carlyon-Ward Saturdays, 6/10 and 6/17, 1:00 pm - 3:00 pm, \$35/(\$32 members), Limit: 15.

Plant Photography

Would you like to move your 35mm camera out of "auto" mode and into "artistic" mode? Jessica Sall, of Leach Botanic Garden, is going to share her slides, knowledge, and photographic eye and skill. We'll have fun shooting up a roll of Berry Garden plants, and will even get them devel-

oped for constructive feedback, praise, and laughs. A truly unique opportunity! Class fee includes one roll of film and development costs. Jessica Sall Saturday, 7/8, 9:00am - noon \$25/(\$22 members), Limit: 15

Partners for Plants

Play an important role in the conservation of Pacific Northwest endangered plants by joining this cooperative effort between the staffs of The Berry Botanic Garden and Gifford Pinchot National Forest (now in its 9th year!). In the day, collect data on rare plants. In the evening, retire to the picturesque Flying L Ranch Bed and Breakfast, in the Washington countryside near Trout Lake. Although we'll still share KP and evening cooking duties, the inn will prepare our breakfasts. Accommodations, meals (except Monday's lunch), and training are provided. Participants will also receive an informational packet, including packing list and driving directions to the ranch. Two different weeks from which to choose: 6/12 - 6/16 and 7/10 - 7/14, \$75, Limit: 12.

Nature Walk At Razor Park, Eugene

June 3, Saturday

10:00 pm - noon at Razor Park (Razor Park is a strip along the bike path by the river east of River Road). Nature walk with Dennis "Whitey" Lueck. Come view and learn about the flora and fauna of our Willamette River Greenway, and the newly-planted native trees, shrubs, forbs, and wildflowers in the habitat restoration project underway at the park. Parking is limited, so please consider using alternative transportation (bike, bus, walk). For more information contact Becky Riley, Friends of Razor Park, 461-4281.

The Spider and the Fly: A proposed pollination scenario for *Darlingtonia californica*, the California Pitcher Plant

by Susan E. Nyoka

D*arlingtonia californica* is a rare endemic with patchy distribution in western Oregon and northern California, inhabiting perennially wet seeps, often in serpentine soil. I began studying this fascinating plant as an undergraduate and was surprised to find that the pollination biology was largely unexplored. My initial research suggested that *Darlingtonia* may be pollinated by spiders, with occasional visitation by generalist insect pollinators. The focus of this study was to ascertain whether spider activity within *Darlingtonia* flowers results in seed set. Subsets of populations at two sites in the Illinois Valley were enclosed in drawstring bags prior to anthesis. A spider was introduced into each for approximately 7 days, and seed set compared with open-pollinated flowers.

The Spider

Introductions of spiders from 3 families (Clubionidae, Theridiidae and Salticidae) resulted in seed set. A species of hunting spider (Family Clubionidae) was most commonly observed within the flowers, so it was not surprising that blossoms which received a visit by this species had the highest average seed set. Flowers into which spiders were introduced frequently had webs inside them following introduction, including silken retreats and drag-lines coated with pollen between the anthers, ovary and stigma tips. Spiders were regularly observed entering and leaving flowers through the "window" formed by the petals, crawling across the stigma and among the anthers. In tagged, open-pollinated flowers, drag-lines were observed between the stigma, ovary and anthers from the time stigmatic exudate was present and anthers were dehiscing pollen, until seed set.

Powdered fluorescent dyes applied

to the anthers of mature flowers provided an indirect method of observing spider activity. Nearby *Darlingtonia* flowers were inspected for transferred dye particles following application using a portable ultraviolet light. No dye movement was observed in plants within 24 hours; however, when revisited after one week, dye particles were often observed on the ovary, stigma, inner and outer petal surfaces, including around the "windows" which provide access to the interior of the flower. On several occasions, dye was observed on spider drag-lines within the flowers and extending down the scape, forming a "dye trail" to the outer petals of *Darlingtonia* flowers up to 84 cm away from the dyed blossom.

Overall seed set in spider-introduced plants was low compared to open-pollinated flowers and may have been negatively impacted by several factors: spider species may vary in their effectiveness as pollinators, the period of introduction (24 hrs) for several spiders may have been insufficient for pollination to occur, or introduction occurred when flowers were not fully mature (pollen and stigmatic exudate unavailable). In addition, several seed capsules were browsed by insects, which reduced the number of seeds per capsule.

The Fly

Although this study focused on spider activity, a considerable amount of time was spent keeping a look-out for other floral visitors. With the exception of a single pair of andrenid bees captured while feeding on pollen within the flowers, no insects were observed attending *Darlingtonia* flowers during approximately 133 hours spent in the fens. Dark-winged fungus gnats (Family Sciaridae) and black flies (Family Simuliidae) collected on sticky traps set out near mature blossoms were the

only insects found to carry *Darlingtonia* pollen. Small-bodied dipterans are generally considered inefficient pollinators since they are weak, short-range flyers with inconsistent foraging behavior whose relatively hairless bodies carry a limited pollen load. However, several authors have suggested that repeated floral visits by small insects such as fungus gnats are valuable to fruit set, particularly in long-lived flowers such as *Darlingtonia* (Gomez and Zamora 1992, Mesler et al. 1980, Stebbins 1971, Zamora 1999). The success of small-bodied insects as pollinators is attributed to their abundance and high frequency of visitation over time, which offsets low per-visit efficiency. Fungus gnat behavior may also contribute to their success as pollinators: they are active from early morning to late afternoon, foraging in the cool, rainy weather conditions common during *Darlingtonia*'s flowering season.

"Fast-food" à la *Darlingtonia*

Stigmatic exudates can be collected and chemically analyzed using methods similar to those applied to nectar (Kearns and Inouye 1993) and may also serve as a reward to pollinators (Dafni 1992). The stigmatic exudate produced by mature *Darlingtonia* blossoms tested positive for the presence of glucose and other sugars. Stigmatic exudates may have significant nutritional value for small flies such as fungus gnats which feed on them (Baker et al., in NBM Brantjes, ed. 1973). Observations made during the course of this study suggest that several arachnid species may also be utilizing nectar and/or pollen from *Darlingtonia* flowers to supplement their diet. Dwarf spiders, hunting spiders and comb-footed spiders were observed attending the stigmatic surface and feeding on pollen in *Darlingtonia* flowers. Other researchers have documented both nectar or

pollen-feeding in these same families (Taylor and Foster 1996, Pollard et al. 1995) and there is some evidence of increased life expectancy and fitness associated with these activities (Pollard et al. 1995, Smith and Mommsen 1984).

In addition to food resources such as pollen and nectar (stigmatic exudate), the numerous small insects which visit *Darlingtonia* flowers may provide additional incentive for spiders to visit the flowers. Spiders build webs and occupy habitat where prey is most abundant (Foelix 1996). Rhuren (1999) suggested that spiders may be attracted to insect prey feeding on extra-floral nectaries. This could well be the case with *Darlingtonia*, where tiny dipterans feeding on stigmatic exudate become easy prey for spiders lurking within the flowers. Small insects, particularly Collembola and Nematoceros flies (which include fungus gnats and black flies) form the staple diet of practically all young spiders and also contribute to adult diets (Bristowe 1941).

Conclusion

The longevity of a flower determines, given a certain level of activity by pollinators, the probability and number of times the flower will be visited (Primack 1985). *Darlingtonia* produces a single conspicuous flower per rosette, which is open for up to 48 days and capable of producing a huge number of seeds if pollinated (2000+ seeds per capsule) (DeBuhr 1973). Although several spider families characteristically hunt on flowers (Louda 1982), spiders are not generally considered to be pollinators of the plants they visit. Seed set following spider introduction, considered together with observations of spider activity within the flowers, provide strong evidence that spiders are acting as pollinators of *D. californica*. Observations suggest that pollination occurs through repeated visits over the flower's life span, as spiders alternately forage for pollen and/or nectar and hunt small insects present in the flowers. Both spiders and fungus gnats may effect low pollination efficiency per visit, but make many visits during the life span of the flower.

Flower longevity has been shown to increase with cooler day and night temperatures and in humid environments (Primack 1985), conditions typically found in the fens during early spring. While warmer and drier weather conditions may allow more reliable and greater levels of pollinator visitation in many plants, in *Darlingtonia*, its insect and arachnid pollinators are well adapted to humid environments (Borrer et al. 1976, Bristowe 1939). The paucity of medium to large bodied pollinators attending the flowers increases the importance of small-bodied pollen vectors. Long lasting flowers increase the chance of a visit by the occasional large pollinator (such as andrenid bees) and favor repeated pollen transfers by spiders and tiny dipterans. A long blooming period, combined with floral rewards in the form of stigmatic exudate and abundant pollen, may insure a high level of seed set in *Darlingtonia*, despite competition for pollinator services from coincidentally blooming species. Therefore, pollination by spiders and small dipterans provides a good "solution" for *Darlingtonia*: both are ubiquitous, abundant, and well adapted to environmental conditions where *Darlingtonia* is found.

Acknowledgements

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2000 Oregon Rare, Threatened and Endangered Plant Conference

The Oregon rare, threatened and endangered plant conference will be held on Friday, June 23rd immediately preceding The NPSO annual meeting at the Malheur Field Station, located approximately 30 miles south of Burns, within the Malheur National Wildlife Refuge. Registration for the T&E conference will be from 8:30-9:00 am; the conference will start at 9:00am and last until about 5:00pm. There is a tentative registration fee of \$5.00 per person, which is separate from the registration charges for the NPSO meeting. Any and all people are welcome to attend.

The main purpose of this conference is to update the status of Oregon's rare vascular plants, using as the starting point the plant list from the 1998 booklet, *Rare, Threatened and Endangered Species of Oregon*. This list is also available online at www.heritage.tnc.org/nhp/us/or.

Please submit any recommendations you have for additions, deletions, corrections or any other comments before June 1 to:

Sue Vrilakas,
Oregon Natural Heritage Program
821 S.E. 14th Ave.
Portland, OR 97214
phone: 503-731-3070 x 338
fax: 503-230-9639
e-mail: svrilakas@tnc.org

A summary of these pre-conference recommendations will be posted on the Web page (see above for Web address). Results from the conference will be posted on the Web page for further review. Additional comments may be made after the conference up to the time of re-publication of the next version of the booklet, *Rare, Threatened and Endangered Species of Oregon*, sometime mid-2001.

Attendees are responsible for arranging their own lodging and meals. For further information and making reservations, please contact the Malheur Field Station directly at 541-493-2629. In consideration for the Field Station's staff need for advance preparation, please do not wait until the last week if you wish to stay or eat there.

NPSO Items for Sale

Oregon's Rare Wildflower Poster depicts Punchbowl Falls and three of the Columbia River Gorge's endemic wildflowers. Text on the back describes the natural history of the Gorge and the mission of the NPSO. Available from Stu Garrett, 21663 Paloma Drive, Bend, OR 97701, 541-389-6981. Individuals may order posters at \$12 each, plus \$3 per order for shipping. Posters are mailed in tubes. Chapter treasurers may contact Stu for wholesale prices to chapters.

NPSO's Original Wildflower Poster depicts 13 Oregon wildflowers in a striking artist's rendition. Soon to be a collector's item. Available from Stephanie Schulz, 84603 Bristow Rd., Pleasant Hill, OR 97455, \$5 each, plus \$3 per order for shipping. Posters are mailed in tubes.

NPSO Membership Directory lists names, addresses, phone numbers and e-mail addresses of NPSO members (April 1999). Available from Jan Dobak, 2584 Savier St., Portland, OR 97210.



Friends of the Oregon Flora Project

Activity on the flora Project is heating up as the year's field season begins. Under the leadership of Wilbur Bluhm, NPSO State Atlas Coordinator, an increased effort is being made to gather additional plant site records for mapping. A second printing of the Asteraceae Checklist with additions is underway, and Scott Sundberg and staff will design an online version of the text. A Checklist of the Oregon sedges, rushes, lilies, and orchids is also being prepared. The Friends group is presenting the new brochures and its color display at wildflower shows and gardening events throughout Western Oregon. The Friends is grateful for the sponsorship of NPSO as we work to raise funds for the new Flora and Atlas of Oregon Vascular plants.

Some members of the Friends recently received a membership renewal notice. Many thanks to those who updated their annual membership and subscription to the *Oregon Flora Newsletter*. We are declaring April, when *Erythronium* blooms, as our membership campaign month. Of course, contributions are gratefully accepted at any time. If you are interested in participating in the Friends of the Oregon Flora Project, we welcome you! Please contact Dr. Linda Hardison at (541) 745-5770 or at the Friends address:

Please make checks payable to:
Native Plant Society of Oregon

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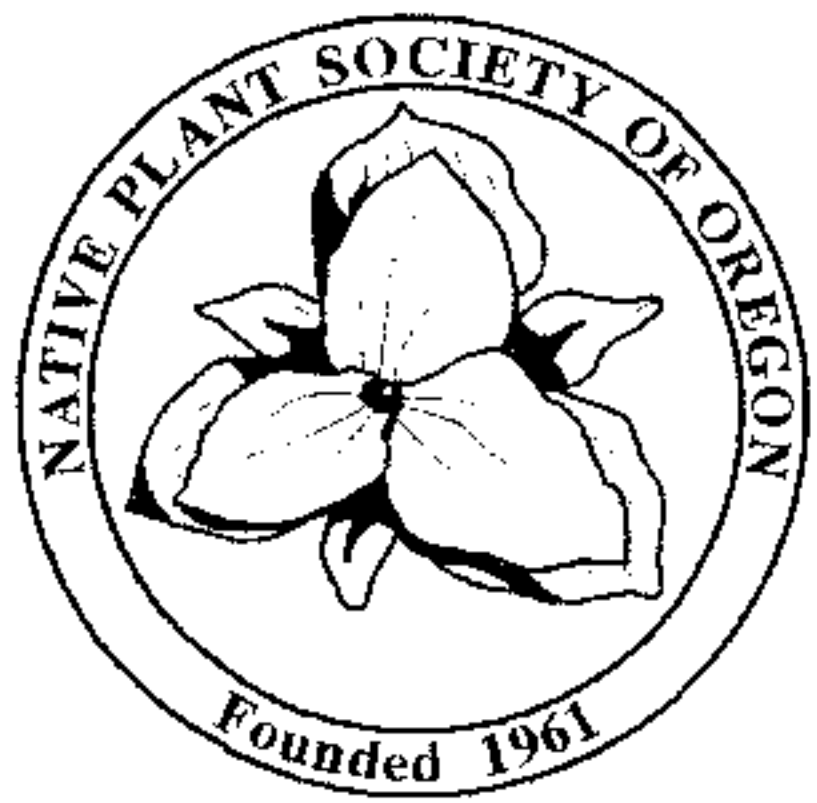
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Comments Needed on Forest Service Roadless Area Proposal

by Peggy Robinson, Emerald Chapter

The US Forest Service has released its Draft Environmental Impact Statement (DEIS) on President Clinton's initiative to protect remaining roadless areas in our National Forests. The complete text as well as a summary can be accessed at: <http://roadless2.fs.fed.us/documents/deis/index.shtml>.

Local ranger stations throughout the Northwest are scheduling information and comment sessions. It is important for environmentalists to attend these meetings to state our views on what should be included in the roadless area policy.

Some important points to make are:

- 1) All roadless areas of at least 1,000 acres must be included, whether previously inventoried or not.
- 2) Road building and logging must stop immediately in all inventoried roadless areas, including those in the Tongass National Forest in Alaska.
- 3) Uninventoried roadless areas must be identified, and all damage to them must be stopped including logging, mining, off-road vehicle travel, and down hill ski development.
- 4) There must be an interim moratorium on all development and damaging use of uninventoried roadless areas until they are permanently protected.

Please watch your newspaper and/or contact your local ranger station to find out when meetings are scheduled in your area and plan to attend. You can also mail comments to: Mike Dombeck, Chief, USDA Forest Service, 201 14th St @ Independence Ave. SW, Washington, D.C. 20250.