Bulletin

of the

Native Plant Society of Oregon

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

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DECEMBER 2010

Giving Kincaid's Lupine the Competitive Edge

by Kristen Emmett, Geoff Gardner, and Andrew Dempsey-Karp

This article is the first of two written by the 2010 Native Plant Society of Oregon/Institute for Applied Ecology (IAE) interns in the Conservation Research Program. Our interns participated in rare plant monitoring, restoration, floristic surveys, seed collection, and other research projects conducted by IAE staff throughout Oregon. In this article, the interns in the Conservation Research Program describe their experience monitoring Kincaid's lupine experimental plots. For more information on internship opportunities, please contact IAE at andrea@appliedeco.org, 541-753-3099 ext. 401 or visit www.appliedeco.org. We thank NPSO for contributing to botanical education and work experience.

-Andrea S. Thorpe Ph.D., Institute for Applied Ecology, Corvallis, Oregon

The Institute for Applied Ecology (IAE) is a nonprofit organization based in Corvallis that is dedicated to the conservation of native species and habitats. Every year the Conservation

Research Program hires interns with partial funding from the Native Plant Society of Oregon. As interns we learn research skills by aiding in projects that take us all over Oregon. One of our projects was close to home, here in Western Oregon, working on a novel restoration technique for Kincaid's lupine (*Lupinus sulphureus* ssp. *kincaidii*).

Kincaid's lupine is a perennial forb, usually 40 to 80cm tall, with palmately

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It's Renewal Time!

The NPSO membership year is January to December. Now is the time for members to renew for 2011. To find out whether you need to renew, please look at your address label on this issue of the Bulletin. If 2010 appears along the top edge of the label, you need to renew before February 15, 2011 to ensure that you do not miss out on any of the Bulletins or on the 2011 issue of Kalmiopsis. If the year is absent (i.e. top of label is blank) or if you see 2011 or a later year, ignore this notice - you do NOT need to renew at this time.

Please use the remittance envelope in this issue of the Bulletin to send in your dues, or use the membership form on the inside back page if the envelope is missing.

It's also a good time to consider a tax-deductible contribution to our special funds. The Leighton Ho Memorial Award is used for research projects in western Oregon. The Rare and Endangered Plant Fund supports work with our most threatened plants. The Augusta Rockefeller and Jean Davis Memorial Scholarships are awarded annually to a botany student at an Oregon college or university. You can also include a contribution to the Oregon Flora Project along with your dues.

Notice for Earth Share Contributors: please ignore this notice unless you wish to become a regular member of NPSO. You will continue to receive the Bulletin for one year from the time of your contribution.

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Native Plant Society of Oregon

World Wide Web

http://www.NPSOregon.org

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To join, send a message to majordomo@tardigrade.net, with the following in the body of the message: subscribe npso

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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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The submission date is the 10th of each month for the following month's issue except for the Aug/Sept issue which is July 24 and the Dec/Jan issue which is November 24. Send submissions by e-mail to bulletin@ NPSOregon.org.

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.

Highlights of the NPSO State Board Meeting, Portland October 23, 2010

President David Lebo was not able to attend; the meeting was well chaired by VP Judi Sanders.

Chapter Reports: Brian Basor's Emerald Chapter report was read aloud. Sadly, the High Desert Chapter has been dissolved for lack of interest among members and difficulty in recruiting officers. (We hope they come back to us soon.)

Clay Gautier gave a favorable membership report with graphs showing that membership is holding up well.

A detailed financial report was presented by Treasurer Cyndi Dion. See information about a dues increase below.

Occasional Paper 3, "Urbanizing Flora of Portland" has sold out and John Christy was given permission for another print run.

Fellows of NPSO: Jan and Dave Dobak were enthusiastically nominated as 2011 Fellows of NPSO. They will receive their plaque at the next Annual Meeting. Much applause!

Conservation issues were discussed: ESA violations in Yamhill County. Proposed mountain bike path at Mt.

Hood Timberline. Proposed idea: Each NPSO chapter might lead a hike at an Oregon State Park on the same day in connection with Oregon State Parks Trust.

Oregon Flora Project: Linda Hardison introduced Dr. Stephen Meyers, recent OSU PhD in Botany under Aaron Liston. (Thesis: Gymnosperms of Oregon. His treatment is on line at the Oregon Flora Project website.) Steve will be spearheading the new Flora of Oregon —the book! Watch for more information in the next Oregon Flora Newsletter.

Portland folks will be writing an outline History of our society for NPSO's 50th Anniversary in 2011.

NPSO State Dues Increase: Increase will be announced in the December-January *Bulletin*. (Clay has suggested that there is an opNew schedule: Student no change at \$12; Regular raised from \$18 to \$25; Family raised from \$24 to \$35; Sustaining raised from \$50 to \$60; Patron raised from \$100 to \$125; Life no change at \$500.

The next meeting will be held in Corvallis on January 22 or 29, 2011.



Tiarella trifoliata var. unifoliata, one of three varieties of Foamflower

PHOTO BY TANY.

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NPSO CALENDAR

State Notes

June 24-26, 2011

Annual NPSO Meeting: The Portland Chapter will be hosting the 2011 annual meeting of the Native Plant Society of Oregon in Logan Valley, located on the south side of the Strawberry Mountains. This area has an extremely diverse ecological makeup, including five of the seven major life zones in North America. Nearly every type of alpine wildflower found west of the Rockies can be observed here. The rich flora is complemented by diverse wildlife and geological history. Join us in Logan Valley this June, and you too will agree that this is a special place worthy of holding the annual meeting, and celebrating the 50th Anniversary of NPSO. More information is available at http://2011.npsoregon.org/.

Blue Mountain

For information on Blue Mountain Chapter call Jerry Baker, 541-566-2244.

Cheahmill

For more information, visit the chapter website, www.oregon-nativeplants.com. To be added to the e-mail list for upcoming programs and events, please contact Jennie Sue Dunn-Dixon at jsdd51@ verizon.net.

January 27, Thursday, 7-8:45 pm Program: 'Re-inventing' in the Past.

Paleontologist, author and retired professor Dr. William Orr will give a power point presentation comparing modern-day inventions to plants' and animals' astonishing ability to engineer devices for everything from predation to protection. Most innovations that we imagine characterize our culture — like snap fasteners, zippers, carbide studded tools, chain saws and serrated blades — were developed by plants and animals. Fossil records demonstrate that the best ideas have been re-invented several times in the 4.5 billion year history of the earth. Dr. Orr is director of

the state museum of fossils and teaches geology at Chemeketa Community College. Location: Carnegie Room, McMinnville Public Library, 225 N.W. Adams St. (Highway 99W). Parking lot entrances on Adams and Second streets. Information: 503-835-1042, marna@onlinemac.com.

February 24, Thursday, 7-8:45 pm Program: Update on Sudden Oak

Death. Dr. Nancy K. Osterbauer, a Plant Health Program Manager for the Oregon Department of Agriculture, will give a presentation to update us on Sudden Oak Death, which affects our local Oregon white oak, *Quercus garryanna*. The disease, *Phytophthora*

IMPORTANT NOTE TO FIELD TRIP PARTICIPANTS

Field trips take place rain or shine, so proper dress and footwear are essential. BRING WATER AND **LUNCH.** Trips may be strenuous and/or hazardous. Participation is at your own risk. Be prepared to sign a release form indicating this. For a sample copy check out the NPSO website. Please contact the trip leader or chapter representative about difficulty, distance, and terrain to be expected on field trips. Dogs are not allowed. 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. National Forests require a Northwest Forest Pass for some field trip locations. Permits can be acquired at forest headquarters and ranger districts.

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.

ramorum, has spread and killed hundreds of otherwise healthy oaks in Oregon. Location: Carnegie Room, McMinnville Public Library, 225 N.W. Adams St. (Highway 99W). Parking lot entrances on Adams and Second streets. Information: 503-835-1042, marna@onlinemac.com.

Corvallis

For questions, information on upcoming events, or to be on the Corvallis chapter e-mail list, contact Laurel Moulton at lamoulto@yahoo.com.

December 13, Monday, 6 pm

Meeting: Annual Holiday Party. Join us at the house of Loren and Flo, 3420 SW Willamette, Corvallis. Please bring slides or digital images of your botanical adventures to show, and a dessert or drink to share. This is a great way to meet new members, catch up with old friends and see some fantastic photos. For more information contact Laurel Moulton at lamoulto@yahoo.com.

January 10, Monday, 7:30 pm Meeting: The High Road South -Arctic-Alpines in the Southern Rocky **Mountains.** Loren Russel give us a quick look at some localities above timber line in the Rockies in southern Colorado and northern New Mexico. The southern Rockies are well-known for spectacular and diverse alpine vegetation. Loren will emphasize the significance of arctic-alpines all the way to the last alpine summits in northern New Mexico and contrast this with the rapid fall-off in this element in the Cascades.Location: Avery Park Nature Center. Contact Laurel Moulton with questions: lamoulto@yahoo.com.

Emerald

Visit the Emerald Chapter Web site at http://emerald.npsoregon.org to learn more about the latest chapter events, plant lists and botanical information about Lane County plants and the people who love them.

December 20, Monday, 7:30 pm

Event: Holiday Social and Slide Show. Bring 10-12 slides (traditional or digital) and a snack to share if you wish. Meet others who share your interest in native flora. Location: EWEB Training Rm., 500 E. 4th Ave., Eugene. For information, call 541-746-9478.

January 10, Monday, 7:30 pm

Meeting: Bruce Newhouse presents "Delights, Myths and Legends of Native Plant Gardening." Can midwinter exploration of gardening delights, myths and legends bring spring here sooner? Let's try it and see! Join us for this presentation on creating "deep gardening" goals that can make a garden both good looking and purposeful. Is there really a difference between planting native or non-native plants in a home garden? Do native Plants have special care needs? Native plants are not easy to find for sale, so where can I get them? These and other questions will be addressed in this show. You can create a small ark of native biodiversity in your yard if you are willing to include native bees, butterflies and birds as part of your inner circle of friends. Sharing between like-minded gardeners will be encouraged during this event. If you would like to read a good primer, try "Bringing Nature Home," by Douglas Tallamy. Can spring be far behind? Location: EWEB Training Rm., 500 E. 4th Ave., Eugene. For more info call 541-343-2364.

February 14, Monday, 7:30 pm Meeting: Historic and Current Ethnobotany as Practiced by Native and Rural Americans. Eric Jones shows us the uses of native and naturalized plants combined with implications for management and restoration of habitats. He cites the West Eugene Wetlands Ethno-botanical project as an example of the challenges and benefits. Location: EWEB Training Room at 500 East 4th Avenue, Eugene. For information,

High Desert

call 541-746-9478.

The High Desert chapter is inactive at this time. If you are interested in

participating in organizing chapter events, please contact membership@npso. org.

Klamath Basin

For information on the Klamath Basin Chapter, contact Sarah Malaby at 541-884-5703 or smalaby@cs.com.

Mid-Columbia

For information on the Mid-Columbia Chapter, contact Sara Wu at wusara96@yahoo.com.

December 9, Thursday, 7 pm

Meeting: Understanding Plant Communities in Forest Management. Jim White, Underwood Conservation District Forester and part-time employee of the Washington Dept of Fish and Wildlife, will discuss the development of plant community guides for National Forests, and how these guides can help forest management. White holds degrees in wildlife management and forestry and spent 30 years as a Silviculturist with the US Forest Service. Location: Boardroom, Building 1, Columbia Gorge Community College, The Dalles.

There will be no meeting in January.

North Coast

For information on the North Coast Chapter call Janet Stahl at 503-842-8708.

Portland

If you would like to receive the chapter's semi-official e-mail newsletter, The Calochortus, e-mail Don Jacobson at donj-photo@gmail.com.

December 9, Thursday, 7 pm

Meeting: Members Night/Berry Seed Bank. This is our annual party celebration. Share your images of native flora. Slides and electronic images are acceptable. Electronic images should be on a USB flash drive (preferred) or a CD. Also, Dawn Kropp, Board President

of the Berry Botanic Garden, will give a short presentation at the start of our December meeting concerning challenges facing the continuation of the Berry Botanical Garden seed bank at Portland State University. Dawn has been Board President from before it became necessary to close the garden, as well as during the process of finding a home for the seed bank. This seed bank is a 'Noah's Ark" of biodiversity for our region during these times of stressful climate change. Location: Mount Tabor Presbyterian Church, Southeast Belmont at 54th Avenue. Church lot parking OK. For information, contact Billy Don at 503-515-1708.

January 13, Thursday, 7 pm

Botanical Presentation/Slideshow:

The Flowers of Kangaroo Island, Australia. Brent Miller, field botanist, photographer, traveler, and web master extraordinaire will provide a splash of color in the middle of our northwest winter. This informative, visually engaging program will be the perfect antidote for any mid-winter, post-holiday "blahs" you may be experiencing! Location: Mount Tabor Presbyterian Church, Southeast Belmont at 54th Avenue. Church lot parking OK. For information, contact Billy Don at 503-515-1708.

Siskiyou

The Siskiyou chapter e-mails meeting reminders and last-minute information such as field trip cancellations. To be added to the list, please send your e-mail address to Kristi Mergenthler at coprolitemergie@yahoo.com.

December 9, Thursday, 6:30-9:30 pm Holiday Potluck & Talk: Elmer Ivan Applegate: The *Erythronium* Man.

Applegate was an important early Oregon botanist best known for his monograph on Trout Lilies (*Erythronium*). Presented by another important Oregon botanist, Dr. Frank Lang. Please bring a potluck dish, table service (plate, silverware, glass), and packets of seeds to contribute for the native plant seed exchange. Alcohol is permitted. Location: Talent Community Center,

206 E. Main in Talent (the old city hall, a large white clapboard building a block from Camelot Theater). Contact Kristi Mergenthaler, 541-941-3744, for more information.

Umpqua Valley

Visit www.umpquavalley.npsoregon.org for more information on chapter activities.

December 9, Thursday, 6 pm Event: Annual Holiday Potluck.

Please come and mingle while we enjoy good food at our annual holiday potluck. This is a great chance to visit with friends or meet new members as we share our interest in native flora and future projects. We will show photos from past field trips and others taken by members. Bring a dish to share. Location: Upstairs in room one in the Mercy Community Education Bldg, 2459 NW Stewart Parkway, Roseburg.

PLEASE NOTE, this is our usual meeting place in Roseburg. For information or to coordinate what dish you plan to bring contact Donna Rawson 541-459-2821 or e-mail her at uv_president@ NPSOregon.org.

January 13, Thursday, 7 pm Business meeting at 6 pm. Program still in the planning stages. We welcome members and anyone wanting to know more about our chapter or how to introduce native plants into the landscape. Programs are held every second Thursday at 7 pm in room one at the Mercy Community Education Bldg, 2459 NW Stewart Parkway, Roseburg. Contact: Donna Rawson 541-459-2821.

Willamette Valley

For program information, contact John Savage at 503-399-8615.

January 13, Thursday, 7-8:30 pm

Program: Creating Native Plant Gardens. Gail Gredler, Instructor of Horticulture at Chemeketa Community College, will explain how to create native plant gardens and landscapes. She will highlight the benefits of gardening with native plants and discuss which plants to use to create a haven for birds, pollinators, and other wildlife. The class costs \$5 and is open to the public and is co-sponsored by Willamette Valley Chapter of the Native Plant Society and the Straub Environmental Learning Center. Location: 1320 A St. NE, next to Olinger Pool, near North Salem High. Registration is required. To register, call John Savage at 503-391-4145.

William Cusick

Visit our website at http://williamcusick. npsoregon.org for updates and general information.

OTHER EVENTS

Eugene Natural History Society

December 10, Friday, 7:30 pm
Talk: Why have so many birds disappeared from a tropical island in Panama? Somewhere over Missouri. The tropics will be a little closer when songbird enthusiast, Doug Robinson gives a talk titled on birds in Panama at the December meeting of the Eugene Natural History Society. Doug is an Assistant Professor at OSU with special interests in both tropical and arid land ecology—especially when it includes birds. The community is invited free of charge. Location: Room 100, Willamette Hall, UO campus

January 21, Friday, 7:30 pm
Talk: Recovering the oldest directly dated human remains (fossilized feces) in the Americas. Beginning in 2002, Dennis Jenkins, exuberant Oregon archaeologist, conducted new excavations in the Paisley Caves, South

Central Oregon. A segment of his work at Paisley Caves was featured in The History Channel presentation, "All About Dung" (June, 2008). The Eugene Natural History invites the public, free of charge, to attend a fascinating talk by Dr. Jenkins at their January meeting. Location: Room 100, Willamette Hall, UO campus

February 18, 7:30 pm

Talk: Salamander Courtship. What could be better than studying the courtship of salamanders for a career? If that sounds intriguing, come enjoy a colorful, illustrated talk by Dr. Lynne Houck, Professor, OSU. She has been the recipient of numerous National Science Foundation grants and will present "Salamander Courtship" at the February meeting of the Eugene Natural History Society. The community is invited free of charge. Location: Room 100, Willamette Hall, UO campus.

Willamette Valley Hardy Plant Group

January 11, Tuesday, at 7 pm

Talk: Meadows by Design. John Greenlee will give a good introduction to the creation of meadow-like spaces in urban and suburban settings. You will come away with new ideas for designs and specific planting advice. Known as the "Grassman" in horticultural circles, John Greenlee is an internationally known horticulturist, landscape designer, and an advocate for sustainable lawns and meadows. His bestselling book, The Encyclopedia of Ornamental Grasses (Rodale, 1992), is considered by many to be an indispensable reference. Doors open at 6:30 for book sales and viewing botanical samples. Admission is \$6 for non-members and free for members. Location: University of Oregon, Agate Hall, Agate Street at 18th Avenue, Eugene, OR. Ample parking next to Agate Hall. For more information about the group or this event, visit the website at www.thehardyplantgroup.org or call 541-344-0896.

New NPSO Members

Between August 2 and November 11, 2010, NPSO added these new members:

Corvallis

Dorothy Blazo Tamra Prior Clara Y. Schroeder Rachel Schwindt

Emerald

Joni Dawning Dave Hicks Elizabeth Thorley

High Desert

Marlo Gil

Portland

Hugh Ferrar Marsha W. Freed Tanner Harris Jane Montgomery Gail Popham Rick Shory

Siskiyou

Bob Budesa Ron & Susan Crowell Diane Holt Frank D. Lospalluto Anne Thayer Gary Zamzow

Susann & Marc Allen

Umpqua Valley

Lise Wall

Willamette Valley

Jennifer Sanders

William Cusick

Sarah Russ



Willamette Valley Nature Calendar for 2011

¬he Willamette ■ Valley Nature Calendar for 2011 is ready. This is my 32nd year of calendar making. All the usual nature notes and gardening hints are present; drawings for each month are posted here (Canada geese are on the cover, too): http://web.mac. com/davidwagner/ Site/2011_drawings. html.



Bitterroot. David Wagner

The calendars have been distributed

via the usual outlets: University of Oregon Museum of Natural and Cultural History, UO bookstore (Duck Store), Down to Earth Home & Garden in Eugene, and in Corvallis at First Alternative Coop, OSU Bookstore, and Grassroots Books.

If you would like to have one mailed, the cost is \$18 postpaid. Quantity discounts available; contact me directly. Make check out to "Northwest Botanical Institute" and send it, along with address where you want calendar mailed, to:

Northwest Botanical Institute P.O. BOX 30064

EUGENE OR 97403-1064

Those who prefer to use a credit card online can visit my shop on Etsy: http://www.etsy.com/shop/fernzenmosses

May you Thrive and Prosper in the upcoming year!

Increase in Membership Dues

by Billy Don Robinson, Portland Chapter

 $\Gamma^{irst, the bad news.}$ We have to increase the yearly dues.

Why now, with everything else getting so expensive?

I guess this question is the answer, as well. It started at a recent chapter board meeting--it could have been any of our chapters, but it just happened to be in Portland. We were going over the budget, and came to an unsettling conclusion--we were going downhill, fast! We have been forced to pay for things that used to be either free, not needed, or pretty cheap. Case in point...insurance...gotta have it. There are other things, like rent...fairly inevitable stuff.

So we brought it up at the state board meeting. Other chapters have

been seeing the same thing. Raising dues has been considered in the past, but was declined with the hope that some solution might arise. Dan Louma gave a brief economic history – essentially, we have been "living off" the proceeds of a few good years about ten years ago, but those funds are dwindling fast in recent years.

As a society "Dedicated to the enjoyment, conservation, and study of Oregon's native plants and habitats", we are committed to continuing the good work we have done for decades. We ask all members to join together in this endeavor in order to continue these good works for many, many decades to come!

Remembering Leighton Ho (1951-1987): Please Help — the Fund is Running Low

by Rhoda Love, Emerald Chapter

ur dear friend and NPSO member, Dr. Leighton Chee Won Ho, drowned in Hawaii on December 20, 1987. Leighton was an inspirational President of NPSO's Emerald Chapter in Eugene in the mid-1980's. During that time he encouraged our chapter to become involved in environmental issues including the fight to establish the Waldo Wilderness, conservation of rare species such as Aster vialis, and protection of fragile ecosystems – especially in the west Eugene wetlands. The accompanying photo shows Leighton and Gaylee Goodrich inventorying Microcala quadrangularis near Lane County's Greenhill Road in May, 1985.

Leighton loved the Northwest and the Native Plant Society. He was born in Hawaii and attended the University of Oregon where he and I met when we were both botany teaching assistants. The late Scott Sundberg, founder of the Oregon Flora Project, recalled his first taste of plant



Leighton and Gaylee Goodrich inventorying
Microcala quadrangularis

systematics at the UO in 1975 with Leighton as his lab instructor. Leighton was a high school biology teacher in Hawaii at the time of his accidental death. Tragically, he swam into an underwater sea cave where he lost his life at the age of 36. Contributions from his friends and bereaved parents helped establish the NPSO Leighton Ho Memorial Fund which allows NPSO to award a Field Botany grant each year for summer research. Thus far 23 deserving students have been recipients of this award.

The most recent grantees have been: Rhiannon Thomas, who studied nectar availability for the rare Fender's Blue Butterfly; Andrea Thorp & Robert Massatti who worked on range-extension of *Sidalcea hendersonii*; Jennifer Modliszewski who worked on the genetics of local *Mimulus* species; Evan Frost who inventoried rare plants in serpentine fens; Harold Zald who worked on plant distributions in Jefferson Park; and Malanie Gisler who carried out the re-introduction of Henderson's checkermallow near the northern Oregon coast.

In the past, the Leighton Ho Fund contained over \$2,000 and earned approximately \$100 in annual interest. In recent years contributions have declined, and I am sorry to report that the grant fund has dwindled significantly. Unless the Ho Fund receives a new influx of contributions, we will be unable to award our usual \$750 stipend for field research in 2011.

I am writing a check to the Leighton Ho Fund today and hope that many *Bulletin* readers will follow my example. I feel certain that Leighton's friends as well as former recipients of the Ho Award will wish to contribute, and I hope other NPSOers will do so as well. I know Leighton's family in Hawaii will be cheered to learn that the fund is alive and well and that Leighton has not been forgotten by the Plant Society he loved. Contribute using your membership renewal form, or send your checks in any amount to NPSO Treasurer Cyndi Dion at the address in this *Bulletin*. Mark them "Leighton Ho Fund." Happy holidays to you all!

2011 Native Plant Appreciation Week Poster Contest

Summer's over... but remember all of those great photos you took of native plants in Oregon this spring and summer? Now that you're probably spending more time indoors, you could take this opportunity to select the best of your photos and submit them for the Native Plant Appreciation Week Poster Contest.

Entries must be submitted online on the NPSO Photo Gallery (http:// npsoregon.org/photos/v/2011npaw/)in the album titled "2011 NPAW Photo Contest." Each person may enter two photos of Oregon native plants (photographed in Oregon with photographer name, species or other description, family, common name, location, and date). All entries must be received by January 10, 2011. Photos will be rated on artistic presentation, appropriateness to the theme, and technical excellence. Complete details can be found at: http://npsoregon.org/ photocontest.html. If you have any questions, please email Judi Sanders, judi.sanders@gmail.com.



Join the Native Plant Appreciation Week Committee

The Native Plant Appreciation Week Committee is looking for new members to help promote Native Plant Appreciation Week! The purpose of the committee is to promote activities for Native Plant Appreciation Week. To join, please email Judi Sanders, judi.sanders@gmail.com.



Kristen Emmett (IAE intern) works with Amanda Stanley (IAE staff) to monitor fertilization plots at Baskett Butte National Wildlife Refuge.

divided leaflets on unbranched petioles. The leaves have 6-11 leaflets that are hairless on the top and hairy on bottom. The flowers exceed the height of the plant, are usually purple, and found in whorls on an unbranched raceme. Flowering is from April through June and they form pea-like fruits. Kincaid's lupine grows in prairie and grassland habitats in western Oregon and southwestern Washington where less than one percent of its habitat remains. It is a federally listed threatened species and is of particular concern because it is the primary larval host plant of the endangered Fender's blue butterfly (Icaricia icarioides fenderi). IAE partners with other organizations and agencies to monitor and manage populations of Kincaid's lupine in the Willamette Valley, thus also enhancing critical habitat for the Fender's blue butterfly.

Farmers and gardeners know that soil nutrients are vital for a healthy crop, leading many to use fertilizers to facilitate plant growth. Several studies have tested the usefulness of fertilization as a prairie restoration tool. Kincaid's lupine, along with many members of the legume family (Fabaceae), is associated with nitrogen-fixing bacteria that convert nitrogen gas in

the atmosphere into a form usable to the plant. Because of this association, legume growth is not limited by nitrogen, unlike most other prairie plants. However, phosphorous and/ or micronutrients (including iron and molybdenum) may limit the growth of Kincaid's lupine, particularly since nitrogenase, the nitrogen fixing enzyme, requires large amounts of these nutrients to function. Previous experiments showed that fertilization with phosphorous, iron and molybdenum increased growth, abundance, reproductive output, and nitrogen acquired through N2 fixation for leguminous plants in temperate old-field ecosystems. Conversely, legumes had a negative response to nitrogen fertilizer, presumably due to increased growth and competition from neighboring species. Thus, selective fertilization treatment may benefit Kincaid's lupine while not benefiting competitors.

Starting in 2006, IAE has tested the effects of fertilizers on Kincaid's lupine in three locations within the Willamette Valley. At each site, plots were treated in one of four ways: fertilized with phosphorus, micronutrients, a combination of phosphorus and micronutrients, or not fertilized (a control). Plots were fertilized in November of 2006 and in March and November each year thereafter. Each year, IAE

researchers measured Kincaid's lupine, shrubs, forbs, and grass cover and counted the number of inflorescences on the lupine.

Compared to 2006, the cover of Kincaid's lupine in 2009 had increased in all plots including the control plots. Fertilizer treatments increased Kincaid's lupine cover, though the effects varied between the three sites. For example, phosphorous benefited lupine the most at one site and micronutrients benefited lupine the most at another. When present, other nitrogen-fixing species, most notably the invasive vetches (Vicia hirsuta and V. sativa), also benefited from fertilization, sometimes climbing over Kincaid's lupine. It is possible that these responses may change over time; Kincaid's lupine is a slow growing perennial and may take longer to respond while the vetches are annuals. These results suggest that we should be cautious before using fertilizers on a large scale.

In this study, we learned about experimental design and specific scientific methods for measuring treatment effects. It is exciting to know that as interns for the Institute for Applied Ecology, we have made a difference in the conservation of threatened and endangered plant species and contributed to the scientific community by testing new experimental techniques.



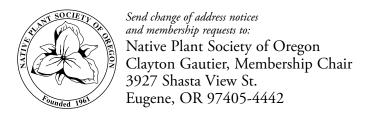
Kincaid's lupine (Lupinus sulphureus ssp. kincaidii)

Native Plant Society of Oregon Membership Form

DUES include monthly Bulletin and Kalmiopsis when published.

Name		DUES include monthly <i>Bulletin</i> and <i>Kalmiopsis</i> when published.	
Address		Membership is for the calendar year. New membershi 1 include the following year.	ps enrolled after July
City	StateZip+4	New Renewal	
Phone	E-Mail	☐ Student – \$12 ☐ Regular – \$25 ☐ Family	y — \$35
		Sustaining – \$60 Patron – \$125 Life M	embership – \$500
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The Oregon Flora Project is developing information about the plants of Oregon. The contributions people give of their time and financial resources are a critical part of our operating budget. If you would like to be a part of the team that makes the OFP the valuable resource it is, please contact us at ofpflora@oregonflora.org, or phone 541-737-4338.

Our second issue of this year's Oregon Flora Newsletter will be published in early December. It will include a request for your financial support of our research; namely the writing of our new Flora of Oregon. We hope that you will remember the Oregon Flora Project in your charitable giving this year.

Contributions can be mailed directly to: Agricultural Research Foundation, Oregon State University, 100 Strand Ag Hall, Corvallis, OR 97331-2219. Please make checks payable to the Ag. Research Foundation, and include "Oregon Flora Project—4482" on the memo line.