



Bulletin

of the

Native Plant Society of Oregon

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

VOLUME 50, No. 4

MAY 2017

The Mysteries of Seed Extraction

by Lynn Putnam and Sarah Garvin

Tucked in an obscure corner of the fleet parking lot in Bend, Oregon is a set of 1960s vintage, industrial-style buildings that house the U.S. Forest Service Bend Seed Extractory (BSE), the only one of its kind in the nation. About 20 High Desert chapter members braved the snow to tour the facilities in December. The building we entered had an otherworldly feel—loud noises were emanating from strange-looking equipment ranging in size from a garage down to a commercial coffee grinder. The sweet smell of sage brush was almost overpowering.

Sarah Garvin, our tour guide and assistant manager at the BSE, described the history and explained some of the intricacies of unlocking seed from other

plant parts. Seed comes in a dizzying array of structures. Pine nuts are products of huge pine cones, while tiny seed is produced by the small flowers of a myriad of shrubs, forbs, and grasses. Couple that with the fact that one of the major goals is to have 90% seed purity, i.e., be free of plant debris, and you have a complex task (really more of an art), one that these dedicated Forest Service employees have spent years perfecting.

The completely self-funded BSE takes native plant collection materials from any government entity that's willing to pay for the service. The Bureau of Land Management, which funds interns in more than 10 western states to collect native seeds for gene conservation and restoration purposes, accounts for 80%

of its business. Boxes and bags arrive from all over the U.S. to be processed at the BSE, from about May until December. Seed processing is done in three main phases: extraction, finishing and testing (there's also packaging, labeling, shipping, storing, etc.). Seed extraction is species specific.

So off we went to see a garage-sized tumbler machine extract seeds from pine cones (Workers climb the trees to collect cones as too much of the seed would be lost while waiting for cones to drop.). First, the cones' scales must be flared by spreading them on large trays, then stacking them 20 high over heaters to dry overnight. The dried cones are poured into a bin, which is picked up by a fork lift and dumped into a hopper. When the tumbler is turned on, a

continued on page 6



LYNN PUTNAM

Pine cone tumbler



LYNN PUTNAM

Missoula De-winger

In This Issue

- New Chapter Presidents2
- Senior Pass Fee Increases2
- Membership Chair Needed2
- Arundo Update2
- NPSO Calendar 3
- Seeds of Success 7
- State Board Highlights 8
- Other Events 8
- NPSO Contacts 9
- Friends of OFP 10



Native Plant Society of Oregon

World Wide Web

<http://www.NPSOOregon.org>

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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.

New Emerald and Klamath Basin Chapter Presidents

Please welcome Matt Groberg as the new president of the Emerald Chapter and Todd Kepple as the new president of the Klamath Basin Chapter. Thank you to Steven Yeager and Kim Elliott for their service as Emerald and Klamath Basin presidents, respectively.

National Parks and Federal Recreational Lands Senior Pass Fee Increase

Are you 62 or older? You are currently eligible to buy the America The Beautiful Senior Pass for \$10. The price is set to go up to \$80 by October 1, 2017. This pass gives you (and 3 adults in your car) free admission to National Parks and Monuments, U.S. Army Corps of Engineers facilities, free parking at Forest Service, Bureau of Land Management, and U.S. Fish and Wildlife trailheads, discounts on camping at six federal agency lands, and other small perks. You can also use the Senior Pass instead of the NW Forest Pass to park at trailheads. You can buy a Senior Pass in person (easiest method) at any office of the Forest Service, Bureau of Land Management, National Park Service, or U.S. Army Corps of Engineers. You can also order one by mail or online at store.usgs.gov. Get it now before the price goes up!

NPSO Needs a New Membership Chair

NPSO needs a new Membership Chair! If you are looking for a way to make a significant contribution to the Society, have a few hours a week of spare time, and enjoy working with computers, then please let the out-going Chair, Matt Morales (membership@npsoregon.org) know you are interested. A general description of the duties and responsibilities can be found in the NPSO Board Handbook (<http://npsoregon.org/documents/NPSOBoardHandbook.pdf>). Matt will be happy to provide additional details, answer any questions you might have, and train you.

Legislative Committee Update on *Arundo donax*

by Judi Sanders

Thanks to the hard work of Billy Don Robinson, NPSO has two new bills in the Oregon legislature. Both bills had a public hearing on March 29 before the Senate Environment and Natural Resources Committee. SB 789 "requires public utility to file bond with State Department of Agriculture if commercially growing or contracting for commercial growing of *Arundo donax* L. or invasive species for use as biomass." SB 790 "requires College of Agricultural Sciences at Oregon State University to conduct study regarding *Arundo donax* L. Requires college to conclude study and report findings to interim committee of Legislative Assembly no later than September 15, 2018." For more information about these bills, visit <https://olis.leg.state.or.us/liz/2017R1/Measures/Overview/SB789> and <https://olis.leg.state.or.us/liz/2017R1/Measures/Overview/SB790>.

Kevin Weitemier, Billy Don and I submitted written testimony in support of these bills. Billy Don and I also testified orally at the public hearing. Brendan McCarthy of PGE testified as well. He indicated that PGE was ending their *Arundo*

continued on page 8

State Notes

NPSO Annual Meeting 2017

June 9-11 2017, Friday-Sunday

Corvallis and Umpqua Valley Chapters will jointly host the NPSO Annual Meeting 2017 in Roseburg, with the meeting location at Phoenix School. A State Board meeting will be held on Sunday. Field trip descriptions, student stipend information, and registration form are in the March *Bulletin*. For additional information and updates, visit annualmeeting.npsoregon.org.

Blue Mountain

For information on Blue Mountain Chapter call Jerry Baker, 541-566-2244. To get on our email list, contact flora.id@wtechlink.us.

Cheahmill

For questions, or to be added to the Cheahmill Chapter's email list for reminders of upcoming programs and events, please contact the Cheahmill Chapter President at ch_president@NPSOoregon.org.

Meeting and work party location:

Carnegie Room, McMinnville Public Library, 225 NW Adams St. (corner of Highway 99W and SW Second St.), McMinnville. Parking lot entrances on Adams and Second Streets.

May 13, Saturday, 10 am-Noon

Work Party: Native Plant Garden.

Join the NPSO Garden Crew preparing this garden for the wildflower show. Bring gloves, bucket and gardening tools if you have them. Location: McMinnville Public Library, see above for details. For more information, contact Catie Anderson, catie.fishback@gmail.com or 503-435-2401.

May 27, Saturday, 10 am-3 pm

Event: Wildflower Show and Native Plant Sale. Chapter members scour Yamhill County for native plants, as many as possible in bloom, and fill the Carnegie Room of the library with color and fragrance. Species are identi-

fied by Latin name, common name, and plant family. Buy locally grown native plants and tour the native plant garden. Location: McMinnville Public Library, see details above. Free admission. For more information, contact Marna Porath at MPinAmity@gmail.com or 503-835-1042.

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. A sample waiver form is available at http://npsoregon.org/documents/NPSO_waiver.pdf. 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. You must pre-register for all events. 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. A trip leader checklist and sample waiver form are available at: <http://npsoregon.org/calendar.html>

Corvallis

For questions, information on upcoming events, or to be on the Corvallis chapter email list, contact co_president@NPSOoregon.org.

May 8, Monday, 7:30 pm

Meeting: Rare Endemics and other Native Species of North Central Idaho and Their Increasingly Rare Pollinators.

Nan Vance will share photos of *Dasynotus daubenmirei*, found at only two sites on the Clearwater National Forest. Vance will conjecture why this borage is so limited in its distribution even though it seems to flourish where it is. She will also include other species somewhat disjunct from Western Oregon, like the Pacific dogwood, *Cornus nuttallii*. Location: Room 2087 Cordley Hall, 2701 SW Campus Way, OSU. For more information contact Judi, judi.sanders@gmail.com or Louise, 541-753-0012 or patch1L@aol.com.

Emerald

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

New Meeting Location: The Stellaria Building, 150 Shelton-McMurphey Boulevard, Suite 104, Eugene. Head east on West 3rd Avenue until it turns into Shelton-McMurphey Boulevard. Stellaria is inside Hummingbird Wholesale.

May 13, Saturday, 8 am-3 pm

Event: Bikes to Blooms. Join local experts in exploring native plants in bloom. Wildflower tours throughout the day at multiple locations along Dorena Lake. All walks are accessible by car or bike. Please carpool, parking is limited. Bring lunch, water, weather-appropriate clothing, weed-free shoes, and a helmet if cycling. Free and open to the public. Please leave dogs at home. Cosponsored by Emerald Chapter NPSO and others. Location: Bake

Stewart Park and Row Point Trailhead along Dorena Lake. For more information, call 541-767-9717 or visit coastfork.org.

May 13, Saturday, 9 am-12:30 pm

Field Trip: Coyote Prairie. Diane Steeck, wetland ecologist for the City of Eugene, takes us on a tour of Coyote Prairie, a 240-acre native wetland prairie west of Eugene that the city has been restoring. Come learn about vernal pools, rare species (such as Bradshaw's lomatium), and how this site is changing over time. Total walking is 2 miles off-trail with some wet areas. Dress for weather. Bring snacks and water. Location: meet for carpooling at the tall fir trees in front of Lowe's store on the NE corner of 11th Ave. and Bailey Hill Rd. For more information call 541-345-5531.

May 19, Friday, 7:30 pm

Meeting: Southern Willamette Natural Areas through the Seasons. Ed Alverson of Lane County Parks will share great pictures of our area as well as thoughtful commentary. He visits landscape photo points throughout the year to create a time series for each site and a record of seasonal changes. Ed has a botany degree from Oregon State University and has done field botany in the Pacific Northwest for over 30 years. This is a combined program of Emerald Chapter NPSO and Eugene Natural Society. Location: Room 100, Willamette Hall, University of Oregon.

May 19-20, Friday-Saturday

Volunteer: Mount Pisgah Arboretum Wildflower Show. We will spend all day Friday as well as Saturday morning in the field collecting plants. Saturday is also a chance to work with field botanists who can identify plants. We need people to help place plants in vases, ID species, and put plants on display at the Arboretum. Come for a couple of hours or all day (9 am-3 pm). Please contact Matt Groberg at 541-954-5334 or botanybudmg@gmail.com for more information and instructions on public land collection permits and rules. Location: Mount Pisgah Arboretum. From Eugene go east from I-5 at 30th Ave. and follow Seavey Loop Rd. to Mount

Pisgah.

May 21, Sunday, 10 am-5 pm

Event: Mount Pisgah Arboretum Wildflower and Music Festival. NPSO needs volunteers for the information booth. Call Matt Groberg at 541-954-5334 if interested. For full Festival details, visit mountpisgaharboretum.com. Location: Mount Pisgah Arboretum White Oak Pavilion. Directions: In Eugene go east from I-5 at 30th Avenue and follow Seavey Loop Road to Mount Pisgah.

June 3, Saturday, 9 am

Field Trip: Horse Rock Ridge. Alan Curtis leads a 3-mile hike to a steep, rocky meadow high in the Coburg Hills north of Springfield. Enjoy wonderful views of the surrounding countryside and great botanical diversity. Bring water and lunch. Location: meet at South Eugene High School, 19th and Patterson. For more information, email Alan at abcwoods1@gmail.com.

Filipendula

This is a newly formed chapter for the northern Oregon coast area. For more information, visit our Facebook page: NPSO-Filipendula Chapter, or contact Field Trip Chair Carla Cole, colecarla@yahoo.com.

May 20, Saturday, 9 am-4 pm

Field Trip: Saddle Mountain State Natural Area. Strenuous hike to the summit (5 miles round trip, 1,600 ft. gain, trail difficult in spots). Bring water and food, hiking sticks recommended, wear sturdy hiking boots. We will hike through diverse habitats: coniferous forests, riparian zones, seeps, meadows, talus slopes, summit rock garden, and extensive balds. Expect endemics and high species diversity. Leader: Hope Stanton. If interested, sign up with Carla Cole, carlajeancole@gmail.com.

High Desert

For information, visit the High Desert Chapter website: www.highdesertnpsoregon.org and Facebook page: Native Plant Society of Oregon: High Desert Chapter, or email highdesertnps@gmail.com.

Klamath Basin

For information on the Klamath Basin Chapter, visit <http://klamathbasinnps.com> or contact the chapter president, kb_president@NPSOregon.org.

Mid-Columbia

For information on the Mid-Columbia Chapter, contact Sara Wu at mc_president@NPSOregon.org.

May 18, Thursday, 7 pm

Meeting: Mushroom Identification and Foraging. Presenter Rachael Box, a member of the Oregon Mycological Society, is based in the mid-Columbia area. She will share information about mushroom ID, foraging, and fungal-plant associations. For more information, contact: Sara Wu, mc_president@npsoregon.org. Location: Columbia Gorge Community College, Building 1 Room 1.362, 400 Scenic Drive, The Dalles.

Portland

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

Facebook: Take a look at our Facebook page. Native Plant Society of Oregon-Portland-Chapter. It will have the most up-to-date information on hike and other events as well as great plant pictures.

The Portland Chapter meets the second Thursday of most months. Meetings and programs begin at 7:00 pm. **MEETING PLACE: TaborSpace at Mt. Tabor Presbyterian Church, 5441 SE Belmont St., Portland.** We will meet in **Copeland Commons**; enter the church through the main door off Belmont and turn right to enter the room. Parking is available in the church lot on the NW corner of SE 54th and Belmont.

May 1, Monday

Field Trip: Elowah and McCord Creek Falls. Upper McCord Creek Falls is 2.2 miles round trip with an additional 1.0 round trip side trip to lower Elowah Falls. We will have

spectacular aerial views of the falls from a ledge carved out of rock 400 feet above the canyon. The wall itself is covered with a remarkable spread of wildflowers, some of which you will definitely not find in your backyard. (details withheld for conservation purposes). Hike participation limited, please pre-register by contacting Don Hardin at donhardin2@gmail.com.

May 9, Tuesday, Noon

Field Trip: Urban Lunch Hour Walk, Tanner Springs Park. Led by Rick Shory, who has worked throughout the West as a Forest Service botanist. In this sunny "restoration ecology," the parks department has gathered some native wildflowers you would have to travel far to see in their natural haunts. Water features make a pleasant retreat from the urban bustle. Location: Meet at the SW corner of the park, NW Marshall and NW 11th Ave. in downtown Portland. If you get there late we will be easy to spot as the entire park is just one city block. Sign up is not required, but will allow the leader to contact you if anything changes, rickshory@gmail.com or 503-253-8100.

May 11, Thursday, 7 pm

Program: Wildflowers of Northern Arizona. Join Corvallis Chapter members Dan Luoma and Joyce Eberhart as they re-create exploring the spectacular wildflowers and landscapes of northern Arizona. From 5,000 ft. near Boynton Canyon and Secret Mountain to the highest reaches of the San Francisco Peaks near Flagstaff, there was tremendous variety in bloom. Views from Walnut Canyon National Monument and the Grand Canyon are also included. Meeting location: Mt. Tabor Presbyterian Church, see above for details. Contact: Willow at salixsky@hotmail.com or 503-358-5848.

May 12, Friday, 8 am

Field Trip: Cape Horn Trail. Co-led by Willow Elliott and Kris Freitag. Hike from Salmon Falls Rd. Park and Ride to Nancy Russell Overlook and back. This is a moderate hike of five miles round trip with a 700 ft. gain and some difficult footing. Lush woods, fantastic views, and a wealth of spring

wildflowers make this a must-do hike. Location: meet at Gateway Park and Ride in Portland at 8 am to carpool or at the trailhead at 9 am. For information, contact Kris at kfreitag@pdx.edu or 503-310-9341.

May 24, Wednesday

Field Trip: Tamanawas Falls. The three mile round trip hike to Tamanawas Falls is a nice alternative to the steeper waterfall hikes in the Columbia Gorge, with an opportunity to climb to a niche in the rock behind the falls. There is a good mix of wildflowers not found on the west side of Mount Hood. The trail has become very popular in the last few years; a Northwest Forest Pass is required for parking. Please pre-register for this hike by contacting Don Hardin at donhardin2@gmail.com.

May 27, Saturday, 8:30 am-4:30 pm

Field Trip: Four Sisters near The Dalles. We will hike the beautiful prairie hills just west of The Dalles on Seven Mile Hill. The property, owned by Columbia Land Trust, is a very special place that is home to several large vernal pools surrounded by hundreds of acres of balsamroot, milkvetch, lupine, and much more. The vernal pools provide a spectacular show of wet prairie wildflowers and with this year's wet spring our timing should be just right! Easy three mile hike with 100 ft. gain. Drive 150 miles round trip from Portland. Led by Mary Bushman. For more info, meeting place, and to sign up, contact Mary at 503-860-9689 or m.botanist@gmail.com.

June 8, Thursday, 7 pm

Program: Soil! What it Is and how it Works. Presented by James Cassidy, a popular instructor of Soil Science at OSU, Corvallis. He will discuss the fundamentals of soil nutrients, how it stores water and the reason soil is the reason you are alive! You will learn more than you ever thought possible from this lecture. Location: Mt. Tabor Presbyterian Church, see above for details. Contact: Willow at salixsky@hotmail.com or 503-358-5848.

Siskiyou

To join the Siskiyou Chapter email list: Send an email, from the address at which you want to receive announcements, to announce-join@siskiyou.npsoregon.org. No subject or message is required. You will get a confirmation email. If you would like to volunteer to lead a hike in 2017, make a suggestion, or provide feedback regarding the field trip program, please contact Julie Spelletich at: jspelletich@gmail.com. Join us on Facebook at: facebook.com/SiskiyouChapterNativePlantSocietyOfOregon.

May 18, Thursday, 7 pm

Meeting: A Brief History of the Kalapuya Peoples of Northwestern Oregon and Their Use of Native Plants. Educator Ginny Maffitt will discuss native plant use by the Kalapuyas of northwestern Oregon who lived there "from time immemorial." Dried plant samples will also be displayed. Ginny has been the acting volunteer botanist at the Tualatin River and Wapato Lake National Wildlife Refuges. Refreshments at 6:45 pm, meeting and program at 7:00 pm. Location: Southern Oregon University Science Building, Room 161. Free and open to the public.

May 20, Saturday, 9-11 am

Field Trip: Plant Oregon Nursery. Steve Siewert from Plant Oregon will give a tour and discussion of this 40 acre nursery that specializes in native and PNW adapted trees, shrubs, and plants. Plant Oregon has been involved in many riparian restoration projects along the Rogue and Applegate rivers as well as a variety of landscape remediation projects. Location: meet at the nursery parking lot, 8677 Wagner Creek Road, Talent. For more information contact Julie Spelletich at 541-951-1744 or jspelletich@gmail.com.

June 15, Thursday, 2:30-6 pm

Volunteer: 3rd Annual Star Thistle Pull, Cascade Siskiyou National Monument. A collaboration of Siskiyou Chapter NPSO, CSNM, BLM Medford, and Klamath-Siskiyou Wildlands Center. Join Julie Spelletich (NPSO), Jeanine Moy (KS Wild), Charles Shelz and Christine Beekman (Medford)

BLM), for an invasive weed pull at the Mariposa Preserve south of Ashland. We will continue to clear yellow star thistle in the habitat of the rare Green's mariposa lily and observe wildflowers along the way. Celebrate afterwards (6:30 pm) with dinner at Caldera Brewery. Location: Meet at 2:30 to carpool from Clover Lane, Ashland (in front of El Paraiso Restaurant). For more information and to register contact Julie Spelletich at 541-951-1744 or jspelletich@gmail.com.

Umpqua Valley

Visit umpquavalleynativeplants.com for more information on chapter activities or to be added to our email list. Check out our Facebook page, www.facebook.com/UmpquaValleyNPSO. Not online - call Donna Rawson 541-459-2821.

New business meeting and program location: Room 310 in the Douglas County Courthouse, 1036 SE Douglas, Roseburg.

Meeting place for field trips: The large parking lot between the Douglas County Library and Douglas County Courthouse (west side of Fowler St. near the creek). Please contact M.A. Hansen at 541-863-8111 (call or text) if you plan to attend any of our field trips.

Willamette Valley

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

May 7, Sunday, 9 am-Noon

Field Trip: Passport to Nature—Birds and Blossoms Scavenger Hunt. Straub Environmental Center educators will lead a family-friendly hunt for native species at the 152-acre Nature Conservancy Preserve at Kingston Prairie southeast of Stayton. This Preserve is the best example of native prairie remaining in the central Willamette Valley. Cost: \$5 per person (includes a free field notebook). Children 5 and under are free. Open to the public; pre-registration is required. To register and for more information, call 503-779-5414 or email info@straubenvironmentalcenter.org.

May 11, Thursday, 6-7 pm

Nature Talk: Wicked Plants of Oregon. Join John Savage of the Straub Environmental Center and Willamette Valley Chapter NPSO for a presentation on some of the most dangerous and deadly native plants in our state. Inspired by Amy Stewart's book, *Wicked Plants*, this slideshow will highlight the different ways plants defend themselves with examples of noxious, poisonous, and carnivorous plants. Location: The Eco Hub, Willamette Heritage Center, 1313 Mill St. SE, Salem. Cost: \$5 suggested donation at the door. For more information call 503-779-5414 or email Info@StraubEnvironmentalCenter.org.

William Cusick

Visit our Web site at <http://williamcusick.npsoregon.org> or contact Susan Geer at 541-963-0477 or Emelie Montgomery-Jones at 541-963-3339 for updates and general information. Chapter notices and communications are done primarily through a Google group. Members are reminded to contact Susan or Emelie if they want to be added to the Google group, or if they do not have internet access and want to be contacted by phone for events.



Seed Extraction, cont'd

conveyor belt feeds the cones onto a vibrating table with a series of filters and screens that mechanically (if not magically) spits the seeds into a bin while the empty cones drop off the end. The finishing step is to de-wing the seeds by tumbling them in a cement mixer for a few minutes.

After that ear-numbing experience, we toured the Missoula De-winger machine where Amy Rosendahl (the new president of the High Desert chapter) and Jason Newman were extracting Pacific ninebark and bullrush seed. The dried flowers are dumped into the hopper where rubber flappers twirl it, allowing the seed to fall down while a vacuum duct sucks the inert material to a waste container. Finishing usually includes sifting the seeds through finer and finer sieves.

To extract the seed from berries in the *Rubus* genus, a slurry is made by adding water and either mashing

continued on page 7



LYNN PUTNAM

Sieves are used to finish the seed, removing as much inert material as possible.

NPSO Annual Meeting 2017

June 9–11, Roseburg

Register Now!

Details in the March *Bulletin* and
online at annualmeeting.npsoregon.org

Seed Extraction, *cont'd*

the berries by hand or putting them through a quick trip in a food processor with a plastic blade. The fleshy parts rise and the seed falls to the bottom of the container. Some *Rubus* seeds must then have a mucous sheath removed by soaking in an enzyme overnight. The seed is then dried on trays.

Before packaging, four tests are performed on every seed collection. First, the percent purity is determined on a randomly selected 500 seed sample. Either with the naked eye or magnification, the seeds are separated from inert material. Both are weighed and the percentage is calculated. To pass, most seed must be 90% pure. Second, the percent viability is estimated by X-raying a random sample to determine how much seed contains a living embryo. So many species of animals rely on seeds as a food source that it's not unusual for technicians to detect seeds in the X-ray image either damaged by insects or filled with insect larva. Third, the moisture content is tested to ensure that it's around 8%. Higher moisture content could spell a moldy doom for packaged seed. Finally, seed weight is determined so the client knows roughly how many seeds are present in their final package.

Seed is usually destined for one of four places as specified by the client. It may be shipped to the client or a third party, like a nursery for germination (e.g., J. Herbert Stone Nursery in Central Point, Oreg.). Or the client



Packaged seed

specifies that it be stored, sometimes at the BSE, which has a large freezer on site.

Additional Information

Video of Bend Seed Extractory: [youtube.com/watch?v=3WZ1TvCYxrM](https://www.youtube.com/watch?v=3WZ1TvCYxrM)

More about herbarium vouchers: botany.si.edu/colls/collections_overview.htm and botany.si.edu/pubs/plantpress/vol15no1.pdf



X-ray room. Non-fertile seed appears light on the screen; fertile ones appear dark.



A typical "collection," one species from a particular location, kept completely separate from other collections.

Seeds of Success

by Lynn Putnam and Sarah Garvin

With the Bureau of Land Management (BLM) being one of its major clients, the Bend Seed Extractory often gets collections whose first 10,000 seeds are destined for the Seeds of Success (SOS) Program. SOS is the national native seed collection program, led by the BLM along with several partner organizations. Its mission is to collect wildland native seed for research, development, germplasm conservation, and ecosystem restoration.

SOS's current focus is on collecting species needed for restoration and rehabilitation projects. Estimates have shown that between 10 and 20 collections of a single species, across its range, are needed to develop genetically appropriate ecotypes.

The first 10,000 seeds of each SOS collection are sub-divided, with roughly 4,000 seeds sent to the Western Regional Plant Introduction Station in Pullman, Washington for freezer back-up storage and the other 6,000 seeds going to the National Center for Genetic Resources Preservation in Fort Collins, Colorado for permanent storage. BLM collectors can request that any seed over 10,000 be returned or shipped to a cooperater.

Another interesting detail is SOS has generated approximately 5,500 herbarium vouchers that will become part of the permanent collections in the U.S. National Herbarium, part of the Smithsonian Institution. For more information about SOS, visit blm.gov/programs/natural-resources/native-plant-communities/native-plant-and-seed-material-development/collection.



Arundo Update, cont'd

"R & D," had removed 64 acres of it, and would remove the balance (30 acres) this year. We emphasized to the committee that even if PGE was finished with *Arundo*, another entity could come along and decide to commercially grow it, putting our state at risk (especially if the *Arundo* was grown in southern Oregon). Committee chair Michael Dembrow asked if we would be amenable to an amendment to SB 789 that would apply the bond requirement to entities other than public utilities and we said yes, definitely. All in all, the hearing went well and Billy Don is optimistic that the bills will make it out of committee.

Tim Butler from the Oregon Department of Agriculture (ODA) was also at the public hearing. He did not testify but he noted ODA had eradicated the feral *Arundo* in Talent that had been growing in an irrigation canal. He also said that they (a consortium of agencies/entities) had almost eradicated yellow tuft alyssum from southern Oregon, though they had found a couple of new patches. We had a brief conversation with Tim about getting *Arundo* listed on the State Noxious Weed List, which he indicated is updated by the Oregon State Weed Board each February. He will send us information so NPSO can make such a request.



January 2017 State Board Meeting Highlights

Dan Luoma presented the 2017 budget and the Board approved it with minor amendments. It was noted that the Leighton Ho fund was over budget last year due to some generous donations. Thea Jaster of the Oregon Flora Project shared plans to update their website. The updates will include an improved plant atlas and photo gallery, an addition to the online keys, and other online resources.

Zak Weinstein presented the Outreach Committee's goals, objectives, and mission statement, all of which were approved by the Board. He stated that the Committee is looking for new members. Kelli Van Norman suggested that each chapter should have an outreach chair and emphasized that members do not need to be in Portland to attend or be involved with Outreach Committee meetings.

Michael McKeag informed the Board that an Intel Senior Fellow was not obtained for website design. Zak Weinstein reported that the Website Committee has contacted web design companies and received several quotes. There was a lengthy discussion about the importance of a functional, updated website and how to move forward. The Board asked the Committee to select a web designer by the next Board meeting on April 1.

Susan Berger reported that the High Desert Chapter is working with a Forest Service botanist in the Ochoco National Forest to adopt a scabland. The Chapter will help provide volunteers to monitor populations and data collection for Henderson's needle grass (*Achnatherum hendersonii*).

The South Coast Chapter President is relocating and the Chapter has decided to dissolve.

OTHER EVENTS

For more events, visit npsoregon.org/wildflowers.html

Straub Environmental Center

May 19-21, Friday-Sunday

Field Trip: Wiking: Wine Tasting and Wildflower Hiking in the Gorge. Join Straub Environmental Center educators for a weekend adventure in the Columbia River Gorge National Scenic area. This fun excursion includes spectacular vistas, vibrant wildflowers, a tour of tribal petroglyphs, hikes for all fitness levels, regional wines, a tour of Cor Cellars Winery, natural history and botany presentations, and gourmet dinners at the historic Lyle Hotel in Lyle, Washington. To register and reserve your space, call 503-779-5414 or email Info@StraubEnvironmentalCenter.org. For more information, visit StraubEnvironmentalCenter.org.

Siskiyou Field Institute

June 8, Thursday

Class: Preparing Voucher Specimens.

This is an introductory course on collection and preparation of plant specimens for artwork, craft use, or submission to an herbarium. Topics covered include evaluating and collecting the most useful specimens, selecting a plant press, preparing plants for pressing (including large or thick specimens), preparing labels, and basic mounting techniques. Tuition: \$75. Instructor: Janel Johnson, M.S. Location: Siskiyou Field Institute, Selma. For more information and to register, visit thesfi.org or call 541-597-8530.

NATIVE PLANT SOCIETY OF OREGON MEMBERSHIP FORM

Name _____

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Chapter (if known) _____

Is this a change of address? If so, please write your old address here:

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Check to receive electronic *Bulletin*, sent by email in lieu of paper.

Please make checks for dues and contributions payable to:

NATIVE PLANT SOCIETY OF OREGON

Send completed form and full remittance to:

Native Plant Society of Oregon
P.O. Box 80714
Portland, OR 97280

DUES include monthly *Bulletin* and *Kalmiopsis* when published.

Membership is for the calendar year. New memberships enrolled after July 1 include the following year.

New Renewal

Student – \$12 Regular – \$25 Family – \$35

Sustaining – \$60 Patron – \$125 Life Membership – \$500

Subscription Only (*Bulletin* and *Kalmiopsis*) – \$25 *Only for those who wish to subscribe, but do not want to have full membership status.*

CONTRIBUTIONS to NPSO are tax deductible.

Jean Davis Memorial Scholarship Fund \$ _____

Leighton Ho Memorial Field Botany Fund \$ _____

Augusta Rockafellar Memorial Scholarship \$ _____

Rare and Endangered Plant Conservation Fund \$ _____

Friends of the Oregon Flora Project \$ _____

Membership in the Native Plant Society of Oregon is open to all.

Membership applications, renewals and changes of address (include old address) should be sent to the Membership Chair. Changes of address may also be e-mailed to Membership@NPSOregon.org.

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VICE PRESIDENT..... Dan Luoma..... vice-president@NPSOregon.org; 541-752-8860
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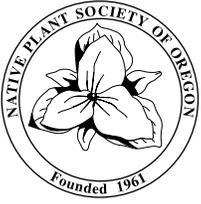
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There are still opportunities to sponsor portions of Volumes 2 and 3 of the *Flora of Oregon*! A number of groups, businesses, and individuals have given their support for the development and publication of front chapters, illustrations, and floristic treatments. The Leach Botanical Garden is sponsoring an illustration of *Kalmiopsis leachiana*, the Morning Glory Café is sponsoring treatments of plants in the Convolvulaceae....can you spot the trend? We welcome everyone who has an affiliation with plants, whether in your name or in your heart, to help bring information about our state's treasures to the public. Find more details about sponsorship—and the acknowledgement of your generosity published in the appropriate volume—on our website.

Contributions can be made online (www.oregonflora.org/supportOFP.php) or mailed directly to: Agricultural Research Foundation, 1600 SW Western Blvd. Ste. 320, Corvallis, OR 97333. Please make checks payable to the Agricultural Research Foundation and include "OFP" on the memo line.