

RAE SELLING BERRY SEED BANK & PLANT CONSERVATION PROGRAM



Fall 2022 Newsletter

Introduction to the New Director



New Director Dr. Gabriel Campbell

I am Dr. Gabriel Campbell, the new director of the Rae Selling Berry Seed Bank & Plant Conservation program at Portland State University (PSU). I also wear other hats at PSU, including the Botany Program Manager responsible for the management of botanical conservation programs at the [Institute for Natural Resources](#), Aquatic Botanist for PSU's [Center for Lakes and Reservoirs](#), and as a plant class instructor. Approximately 25% of my full-time effort is directed towards the Seed Bank.

But let's start from the beginning. I spent most of my time as a "youngin" in the southeastern USA including Florida, Texas, and Oklahoma. My parents used to drag me kicking and screaming on weekend hikes through the imperiled Florida Coastal Scrub ecosystem where I was hot, mosquito ridden, and probably audibly miserable. Little did they know the impact this would have on me as a young scientist.

Fast forward to sophomore year as an almost 20-something at the University of Oklahoma where I was required to take a biology credit in order to complete my chemistry degree. I had two choices, botany or zoology, neither of which I could define, or probably spell correctly, and the last biology course I took (five years previously) was as interesting as the standardized test it was designed for. I ended up choosing botany because rumor had it that it was easier than zoology and I was not looking forward to dissecting animals and the smells that followed. At the same time, I took an internship in a chemistry lab that worked with a plant virus.

Well, as that semester trickled along, the only class I looked forward to was botany, and the only part of my internship I liked was taking care of plants that others in the lab were infecting with the virus. By the next semester, I had changed my major to Botany and taken an internship as a greenhouse assistant at the university greenhouse working for a crusty, well-seasoned, greenhouse manager. On my first day of work my manager told me, in a charmingly slow Oklahoma draw, "Gabe, you don't know [expletive]. All you got is book learnin'. You gotta get yer hands in the dirt." This was the first of many a life lesson learned caring for plants and interacting with the colorful characters in the plant world.

My time as an undergraduate student/intern set the framework for a plant-based career. After graduation, I worked at a native plant greenhouse and a small "mom and pop" ornamental nursery in Oklahoma for a few years. At night, I took horticulture classes and talked to my friends about plants too much.

Eventually, I was accepted into a graduate horticulture program at the University of Florida where I spent six years working on projects related to conservation and restoration

MAKING A DIFFERENCE

VOLUNTEERING

Your support helps us to do our best work.

Please call Kris at (503) 725-2468 or email kfreitag@pdx.edu if you would like to support our program.

MAKE A GIFT TODAY



Have you included or considered including the Rae Selling Berry Seed Bank in your estate plans? If so, or if you would like to learn more, please contact Kari Lawrence, Associate Director of Development, CLAS at (503) 725-3526 or lawrencek@psuf.org.



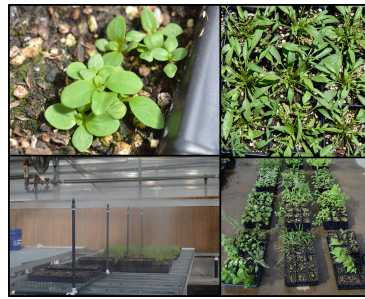
Stay up-to-date with the Seed Bank through Instagram!



See details of our activities on our Facebook page

horticulture. As fate would have it, my work focused on the same imperiled Florida Coastal Scrub ecosystem my parents dragged me into as a child. Slogging through the dunes I saw many of the same plants from my childhood and reflected on how important it is for people, especially kids, to interact with nature. It reminded me of a quote by Reed Noss, "Nothing will destroy the science and mission of conservation biology faster than a generation or two of biologists raised on dead facts and technology and lacking direct, personal experience with Nature."

After graduating with a PhD in Horticulture in 2021, I moved to Seattle to be close to family and to work a seasonal job as a wetland botanist performing plant surveys across the Pacific Northwest and Great Plains. In January 2022, I started my position at PSU.



Germination trials ongoing at the Berry Seed Bank including seedlings (top left), plants "filling out" 4-inch containers (top right), a greenhouse mist propagation bench (bottom left), and plants growing outdoors in our nursery (bottom right).



Germination trials ongoing at the Berry Seed Bank. View of germination chamber (left) where seedlings have germinated (top right) in germination boxes (bottom left).

Since I began, notable Seed Bank achievements include being awarded two small grants, submitting two large grant applications to the America the Beautiful Challenge, hiring three student interns, and securing research materials including growth chambers, greenhouse propagation bench space, and space for outdoor nursery plant production. The Seed Bank has also been busy doing applied conservation horticulture research including 250+ propagation trials resulting in the propagation of 119 species, new website content including 1,000+ images of 250+ species, and propagation protocols for 15+ species, all of which are available in an online field guide to

cultivating Pacific Northwest native plants. From this work, two peer-reviewed publications are currently under construction. Additionally, I and Seed Bank staff have gone on three collection trips to coastal Oregon and Washington to collect seeds of dune plants for storage in the seed vault and for future research including germination and greenhouse trials.

Since beginning work at the Center for Lakes and Reservoirs, notable achievements include a grant awarded by the US Army Corps of Engineers for work with invasive aquatic plant species including flowering rush (*Butomus umbellatus*), a grass-like species that threatens ecosystems in the Columbia River and elsewhere. I have also located two new occurrences of the invasive dense-flowered cordgrass (*Spartina densiflora*) in Coos Bay, which had only been documented at one site historically. I have received training from Rich Miller and will help the Center for Lakes and Reservoirs with their plant work.

Since beginning work at the Institute for Natural Resources I have been doing botanical surveys for the Bureau of Land Management's Lotic Assessment, Inventory, and Monitoring program in California, Nevada, and Washington. I have also been producing species account documents for "species of conservation concern" that the US Forest Service will use to develop National Forest System Land Management Plans.



Gabriel with propagated native plants

IN THIS ISSUE

From the Director

Berry Seed Bank at the Portland Farmers Market

Seed Collection in Threatened Coastal Dunes

Citizen's Rare Plant Watch 2022

Plant Conservation Pioneer, Nikolai Vavilov

Berry Volunteers Connect

Making a Difference--Private Support

Upcoming Events

Wide World of Seed Banking

OTHER LINKS

Researchers complete first comprehensive threat assessment of all U.S. trees

Cleared tropical forests can regain ground surprisingly fast

How passion, luck and sweat saved some of North America's rarest plants

Native plant gardening for species conservation

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The recently formed Oregon Native Plant Conservation Coalition (ONPCC) is a diverse, regional coalition composed of federal and state agencies, academic institutions, and nonprofits with a history of plant cultivation, conservation, restoration and ecological research in Oregon.

please follow the Berry Seed Bank on Instagram (@berry_seed_bank) and come to the Portland Farmers Market where we will have a booth set up every other Saturday, with native plants available by donation!

I am interested in the intersection of conservation biology and horticulture and use my background as a field botanist and greenhouse grower to inform my work and research. I am most proud of having propagated nearly 500 species of North American native plants and am most comfortable botanizing among the coastal dunes and marshes.

I am excited to continue plant conservation work at PSU and look forward to getting more involved with student research, including serving as a committee member for graduate students. To get in contact with me please send email to gec2@pdx.edu. Lastly,

[Go to top](#)

Berry Seed Bank at the Portland Farmers Market

Greenhouse Assistant Roxy Olsson

Find our table before the season ends!
November 5, November 19, December 3
North Park Blocks
9:00am to 2:00pm

Over the course of 2022, the Berry Seed Bank's seed germination and propagation research has resulted in a stock of potted native plants which are now available at the Portland Farmers Market at PSU. The plants are offered by suggested donation, as an effort to raise funds towards research, conservation, and student internships. Another key aspect of the Seed Bank's presence at the market is to engage with the community, raise awareness of the resources we offer, provide access to native plants not typically seen in nurseries, and to answer gardening questions. Our hope is to cultivate community partnerships, and be seen as an accessible resource of research-based information and citizen science opportunities to a broad range of people (professional and home-scale) who wish to participate in native plant conservation.



Gabriel and Roxy at the Portland Farmers Market

So far, the market booth has engaged with a multitude of supportive and curious community members. Some with clean-slate gardens who are backyard habitat certification program participants, others with just a windowsill, though both have brought home native plants and have keen interest in getting to know their native plants better. The booth is at the Portland Farmers Market at PSU periodically, so be sure to check our Instagram (@berry_seed_bank) or [website](#) for updates.

I'd like to introduce myself: I am currently a post-baccalaureate student at Oregon State University with the intention of pursuing a masters degree in either Horticulture or Botany. My research interest is in native seed germination with the application towards ecological restoration, biocultural remediation, and conservation of native plant diversity. I became interested in native seed conservation through several different avenues. During my

undergraduate studies at the University of Oregon, I completed a field ethnobotany apprenticeship, studied abroad in Yunnan, China, and fulfilled a senior dissertation on human-nature relationships in urban planning. After which, I worked in the landscaping industry with the motivation of public environmental education. These experiences lead me to the conclusion that access to native plants, ecological literacy, and environmental identity are crucial aspects to restoration initiatives. Ultimately, I found that I really enjoy the process of cultivating native plants from seed.

As a member of the Native Plant Society of Oregon, I chanced upon the opportunity to get involved with the Rae Selling Berry Seed Bank after attending a tour at PSU. I was excited to learn what projects the Berry Seed Bank was working on since I was largely unfamiliar with any such organizations on the West Coast. As the Greenhouse Assistant at the Berry Seed Bank, I have been working on general propagation and greenhouse tasks, assisting with germination research, and orchestrating the Portland Farmers Market booth for fundraising and public outreach efforts.

[Go to top](#)

Seed Collection in Threatened Coastal Dunes

Gabriel Campbell

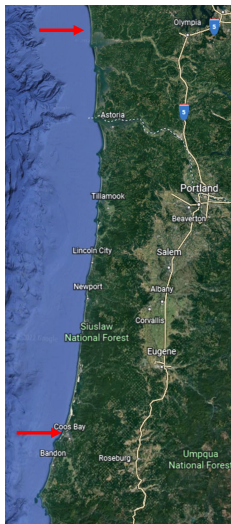


Figure 1. Geographic range of coastal dune plant seed collections conducted by the Berry Seed Bank during the 2022 field season. Note the two red arrows that demarcate the northern and southern boundaries of the collection events.

Coastal dunes are threatened throughout the Pacific Northwest by development, climate change, and invasive species, particularly the ubiquitous invasive dune building European beachgrass which has severely altered the coastal landscape. Coastal dunes provide valuable ecosystem services including raw materials, coastal protection, erosion control, water catchment and purification, wildlife habitat, carbon sequestration, tourism, recreation, education and research. Coastal dunes along the Oregon and Washington coast are in need of conservation and restoration because of human activity. In particular, they are threatened by (and offer protection from the effects of) climate change.

Little is known about the seed biology of common coastal dune plants along the Oregon and Washington coast collectively, and few common coastal species

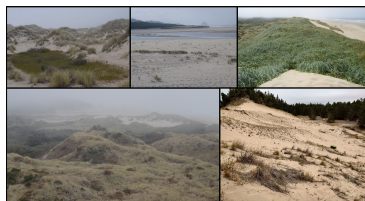


Figure 2. Examples of coastal dunes where seed collections were conducted by the Berry Seed Bank staff during the 2022 field season including dunes with embedded wetlands (top left), embryonic dunes along the beach (top center), large foredunes dominated by grasses (top right), dunes heavily infested with invasive species (bottom left), and back dunes with forests (background) and native perennial bunchgrasses (foreground) (bottom right).

are currently in the Rae Selling Berry Seed Bank at Portland State University, the Miller Seed Bank at the University of Washington, or other regional and global seed banks. Limited information on the germination behavior of coastal plants hinders informed conservation measures and complicates restoration projects where direct seeding is implemented. Likewise, a lack of coastal species in seed banks leaves coastal landscapes particularly vulnerable to large scale destructive events, where high levels of fragmentation reduce the ability of native species to recolonize affected areas.

During the 2022 field season, seed bank staff completed three seed collection trips along the Oregon and Washington coast, in part supported by grants awarded by the Native Plant



Figure 3. Examples of coastal species that were included in seed collections conducted by the Berry Seed Bank staff during the 2022 field season. Shown in flower are: yellow sandverbena (*Abronia latifolia*; top left), coast morning-glory (*Calystegia soldanella*; top center), black knotweed (*Polygonum paronychia*; bottom left), beach bur-sage (*Ambrosia chamissonis*; center) and beach pea (*Lathyrus japonicus*; top right). Foliage only: seaside sandplant (*Honckenya peploides*; bottom right).

Society of Oregon and the Washington Native Plant Society. The seed collections focused on areas from Coos Bay, OR north to Ocean Shores, WA with remnant coastal dunes (Figure 1 and 2). Collections were focused on common coastal species, with an emphasis on plants restricted to coastal dunes (Figure 3 and 4). These collection trips and associated seed work offered valuable work experience to a number of student interns and volunteers.

For species with ample

seed collections available (several hundred to thousands of seeds), preliminary germination tests and greenhouse trials will be conducted. Data and other information gathered in this project including pictures of mature fruits and seeds, germination data, and greenhouse propagation protocols will be made available on the Rae Selling Berry Seed Bank's website. Any plants that are successfully grown as a part of this project will be offered back to land managers for use in restoration or will be donated to various botanical gardens such as Hoyt Arboretum. Additionally, seeds will be banked at the Rae Selling Berry Seed Bank and offered for transfer to the Miller Seed Bank.



Figure 4. Examples of coastal species that were included in seed collections conducted by the Berry Seed Bank staff during the 2022 field season. Shown in fruit: beach silvertop (*Glehnia leiocarpa*; top left), big-head sedge (*Carex macrocephala*; top right), dune tansy (*Tanacetum bipinnatum*; center left), and seashore lupine (*Lupinus littoralis* center right). Foliage only: American dunegrass (*Leymus mollis*; bottom right).

[Go to top](#)

Citizen's Rare Plant Watch 2022



Thank you, Citizen's Rare Plant Watch (CRPW) volunteers! We had no shortage of individuals wishing to help out with our mission of updating the status and extent of rare Oregon plant species in support of conservation efforts. In all, we had 25 volunteers join in visiting sites of 10 sensitive plant species. Our community provided over 300 hours in 2022, putting in long and sometimes multiple days.

It was still a rainy day in April when we took our first trip to north of Maupin to catch *Astragalus conjunctus* varieties in bloom for the Bureau of Land Management. We were caught by a thunderstorm and fairly large hail, with only a single western juniper under which to take shelter. Unfortunately, we timed it so precisely that a volunteer had to return a few weeks later to see the plants in fruit--blossoming was magnificent, but we were unable to distinguish var. *rickardii* from var. *conjunctus* without fruits. A nearby trip to document a site of *Eriogonum thymoides* known only from a single collection made almost 40 years ago had us beat, but a null report can also be useful.



Kris monitoring *Allium nevii*

This year, we almost finished revisiting all (16 in total) our assigned sites of *Boechnera atrorubens* east of Mt Hood that were initially (and most recently) documented in the 80's. At most sites the populations have apparently succumbed to encroachment by trees and shrubs over the past 40 years. For Deschutes National Forest Botanist Beth Johnson we documented sites of *Allium nevii* and *Gentiana newberryi* var. *newberryi*, necessitating some camping in the rain for the former. In the John Day area's Black Canyon, we officially

documented and vouchered a new site of *Cryptantha grandiflora* and checked up on a known site of *Thelypodium eucosmum* that was in vivid bloom. In September we revisited some old sites of *Calamagrostis breweri* on Mt Hood, testing our botanists' eyes to the limit with this diminutive grass.

Our BLM, Forest Service and Oregon Parks partners have expressed consistent gratitude for CRPW activities, and we've had a great deal of fun doing them. These partners receive the updated site data, as does ORBIC, who in turn makes the data available to Oregon Flora. We hope and expect that our activities contribute to the conservation of our wonderful rare plants. Read more about our program on the [Native Plant Society of Oregon web site](#).



Volunteer Ron Klump examining *Calamagrostis breweri* (Image: Erleen Whitney)

The following is a selection of the rare Oregon species we documented this season.



Astragalus conjunctus var. *rickardii* (Rickard's milkvetch) has been recorded at only a few sites in Washington and Oregon. It is very similar to the more widespread var. *conjunctus*, which was also found at the sites we visited, testing our keying and observational skills.

Mid-June was still too early for Nevius' onion (*Allium nevii*) blooms at one of our assigned central Oregon sites, this cold spring, but in other areas, we just kept coming across large patches of this charming onion. *A. nevii* is found only in parts of eastern and southern Oregon and Washington.



Apparently Peck's penstemon (*Penstemon peckii*) are known for moving around a bit over time, and this site was no exception. A fire in the past 15 years caused a bit of confusion in relocation, but the Ponderosa pine forest openings proved to be thronging with this vivid purple-blue penstemon.

The Coast Range site of the very rare Chambers' paintbrush (*Castilleja chambersii*) necessitated a (very welcome) hike of several miles. We relocated but a handful of the plants, but still managed to increase the known extent of one subpopulation (while determining that another subpop was apparently no longer, unfortunately).





Locally common in parts of the Deschutes National Forest, Newberry's gentian (*Gentiana newberryi* var. *newberryi*) is confined to wet mountain meadows in Oregon and northern California. Where we found it, we found a LOT of the lovely true-blue flowers, so were able to report positively on the health of most of the sites we visited.

[Go to top](#)

Plant Conservation Pioneer, Nikolai Vavilov

Ed Guerrant



Nikolai Vavilov holding stalks of teosinte, wild ancestor of maize (corn)

We have regularly drawn attention in our newsletters to other seed banks. In the Spring 2013 newsletter, we made passing reference to the world's first modern seed bank, the N.I. Vavilov Research Institute of Plant Industry in St. Petersburg, Russia. It owes its existence to a remarkable man and scientist, Nikolai Ivanovic Vavilov (1887-1943). Vavilov applied the emerging science of Mendelian genetics in order to improve crop plants, by breeding into them traits such as disease or drought resistance, early maturity and ultimately increased yield, thus establishing the genetic basis of modern agriculture.

Vavilov lived through his first Russian famine as a 5-year-old child. When he was twenty, he wrote in his diary of his determination to "...commit his life to understanding nature for the betterment of humankind." His higher education came in the wake of the re-discovery of the work of the German Augustinian friar and abbot, Gregor Mendel, on

inheritance patterns in common garden peas. Mendel's core insight is that the material basis or stuff of inheritance is particulate in nature--we now call the "particles" genes. The importance of this is that, however much inheritance may at times look like a blending of parental traits, it is fundamentally unlike mixing paint, in which distinctiveness is irrevocably lost. Genes persist unchanged over the generations, even though they might not be expressed in all offspring of every generation.

In a post-graduation internship at the Bureau of Applied Botany in St. Petersburg, Vavilov used cross breeding to develop mildew resistant strains of oats, wheat and barley. As was common for the star graduates in Russia at the time, he was sent to Europe for advanced study. And it was there, especially in Britain with William Bateson, who coined the term "genetics," and through him that Vavilov got to interact with many other of the early great leaders of genetics.

Another of Vavilov's intellectual triumphs was how he went about seeking appropriate genetic material with desired traits. His approach flows from Darwin's recognition that the history of life is one of descent with modification. Darwin did not know about the mechanism of inheritance itself, and the marriage of Darwin's insights and Mendelian genetics is called the Modern Synthesis. Given that life evolves it follows that 1) cultivated crops must have originated from wild ancestors, and 2) the most likely place to find compatible plants with desirable traits is where the oldest cultivars of a particular crop plant are to be found. It is there to begin the search for wild relatives.



Display of maize diversity from Vavilov Museum (Image Luigi Guarino)

It was Vavilov's passion to prevent famine by developing crop plants better adapted to local conditions and thus more likely to thrive. Vavilov, a real-life Indiana Jones, scoured five continents seeking the origins of a wide variety of crop plants. In a series of Vavilov-led seed expeditions between 1916 and 1933, over a quarter million samples were collected. The seeds were sent to the seed bank at the Bureau of Applied Botany in St. Petersburg. From there the seeds were to a large number of agricultural research stations throughout the USSR, which Vavilov helped establish, to evaluate plants for potentially useful traits. The method was to crossbreed crop plants with compatible plants that had needed qualities, grow out the progeny, select the best and repeat the process until plants with the desired traits were produced and bred true. The process would be slow, but certain.



Trofim lysenko

Vavilov had essentially created the model for modern genetically informed agriculture, making the USSR the undisputed world leader in theory and practice. By 1980, there were ~1,000 Vavilov named varieties of many crop plants growing in the Soviet Union, each suited to their geographical and ecological circumstances.

Following the Russian Revolution, Vladimir Lenin strongly favored Vavilov as the head of the All-Union Institute of Plant Breeding, backing an aggressive strategy to collect genetic diversity across the globe, and generously funding experimental plant breeding stations across the Soviet Union.

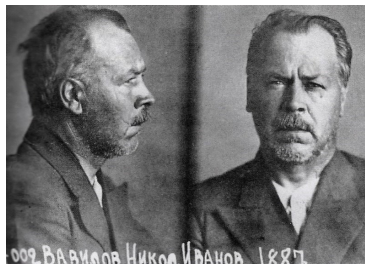
However, Vavilov, born to a bourgeois family, well-educated, and widely known and respected across the globe, was caught up in and crushed by political forces. His ruin, and that of genetic science in the USSR, was instigated by a charlatan, Trofim Lysenko, one of the poorly educated "bare foot scientists" that emerged from the then socio-politically prestigious Russian proletariat.

Lysenko's approach was a mishmash of Lamarckian ideas (i.e., traits acquired during an organism's lifetime could become heritable and passed on to later generations). He thought organisms could basically be "educated" by environmental conditions and the "lessons" would become heritable. He believed that Marxism was the only "true science," that Mendelian genetics was rooted in fascism and that he, Lysenko, could produce results in just 2-3 years, as opposed to the much longer-term process used by Vavilov.

Not surprisingly, Communist Party leader Joseph Stalin was attracted to Lysenko's views-- after all, genetic science was inspired by a German Catholic--and the transition from a slow but assured approach was replaced by an ideologically appealing, but bogus alternative. By the mid-1930s, the two "schools" of thought were effectively at war with each other, with ideology and favoritism trumping science.

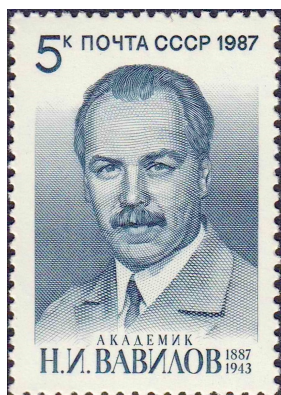
Stalin's waning favor led to increasing suspicion of Vavilov's motives and interactions with

scientists suspected of espionage. Stalin replaced Vavilov as the head of Soviet Agriculture. Soon thereafter, Vavilov was arrested and sent to Saratov Prison, where he was ruthlessly interrogated for three years and ultimately died in 1943, likely of starvation. Unlike Galileo, who, while in custody, renounced the heliocentric view of the solar system, Vavilov never renounced the truth of Mendelian genetics.



Vavilov's mugshot upon his arrest

So great was Stalin's disdain for the truly priceless holdings of Vavilov's seed bank, he left it to the mercies of the almost 900-day Siege of Leningrad by the German Army, from 1941 to 1944. He clearly had time to save the collection, as he did make provisions to move the art collection of the Hermitage out of harm's way. The seed bank staff maintained their posts, ingeniously protecting the collection from rats and intruders throughout. Several scientists starved to death protecting their treasure, to help feed humanity in the long run.



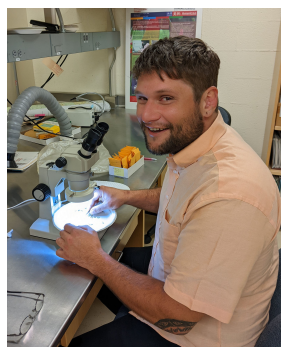
Soviet stamp in honor of Vavilov

Ultimately, Nikolai I. Vavilov was "rehabilitated" by the USSR, and his legacy of providing food to untold millions in Russia and the world properly recognized. However, Lysenko went on to lead Soviet Agriculture until the mid-1960s, devastating the country's genetic science for a generation or more. We have much to learn from this story as a global society: what will be the legacy of those who deny climate science, let alone those who actively hamper global efforts to maintain the ability of the planet to support life?

[Go to top](#)

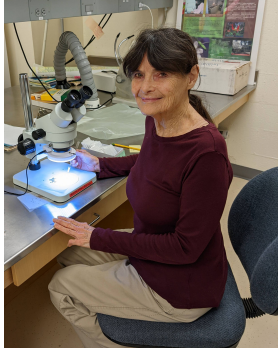
Berry Volunteers Connect

Thank you to all our volunteers! Since last October, our volunteers gave us close to 500 hours, or about one-quarter of a full time employee. We couldn't do it without you! Here are three individuals who have been especially helpful with our seed banking efforts:



Justin Twiddy's time in our lab spanned most of a year, until this year's fire season called him away to train as a firefighter. We are so grateful for all the valuable work he put in to process seeds for long term storage. Thank you, Justin!

Volunteer **Riley Katynski** has already given over a full work week's worth of very capable lab support in her first month with us! Riley is training to become a seed bank curator with a focus in biodiversity conservation as well as archaeobotanical research.



Newest volunteer **Collene Barnhart** found us through Gabriel and Roxy's outreach work at the PSU Farmer's Market. Collene has this to say: "As a retired person I enjoy learning new things and also volunteering, and so I was happy to discover that I could do both being involved with the Rae Selling Berry Seed



Bank & Plant Conservation Program. I am especially drawn to this program because plant diversity, like social diversity, is vital to our future well being. Unprecedented changes in all aspects of life have presented such environmental challenges and issues that each of us, in my opinion, should try to reverse some of their negative impacts. In a very small way, I hope that my volunteer hours in this program can contribute in the important effort to conserve plant diversity."

[Go to top](#)

Making a Difference - Private Support

Many thanks again to the **Gilbert and Laurie Meigs Conservation Education Endowed Scholarship** for enabling us to hire two PSU undergraduate student interns to support us in lab and database work. We are deeply grateful!



Interns Stephanie (left) and April

Interns **Stephanie Meikle** and **April Hersey** joined us in the spring. **April** says of her path to us: "I'm a post-baccalaureate student working on a second bachelor's degree in biology. After earning my first bachelor's degree, I worked on sustainability initiatives in the energy sector for a while, but I'd prefer to work with living systems. I like spending time with plants and people who like plants, so I'm hoping to change my career to focus on ecosystem restoration as a botanist or ecologist."

"When I saw on Portland State University's job website that the Rae Selling Berry Seed Bank was looking for interns, I felt this would be a great chance to get some practical

experience supporting ecosystem conservation and restoration as I work toward my biology degree. At the seed bank, I process seed accessions for long-term storage. I also help water seeds and seedlings as part of germination experiments to better understand the conditions native plants need to grow, and I'm gaining some horticultural knowledge in the process. I hope what I've gained at the Seed Bank will help me ensure future restoration initiatives I work on are successful."

Stephanie says: "I found the Seed Bank internship through the ESM department list serve and thought it would be a great opportunity to learn more about native plants. With the goal of working in soil restoration, my time at the Seed Bank has been invaluable. Between seed processing, germination experiments, propagation, outreach at the farmer's market and a few trips into the field, I've gained a lot of knowledge and skills that can be applied to many different aspects of my life!"

Private gifts and grants make all the difference in the life of our program. You can go directly to our [giving page](#), or for more information about estate giving or other ways to make a gift, please contact Kari Lawrence, Associate Director of Development, CLAS, at (503) 725-3526 or lawrencek@psuf.org.

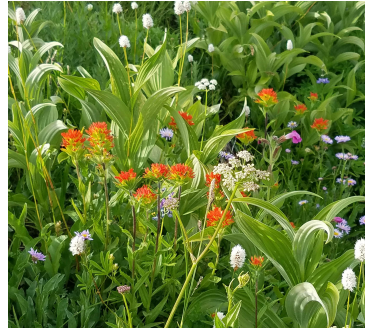
[Go to top](#)

Upcoming Events

Native Plant Society of Oregon, Portland Chapter Events

Wildflowers of Goat Rocks Wilderness

Presented by author and photographer Mark Turner
Thursday, November 10, 7:00 pm
Native Plant Society of Oregon,
Portland Chapter monthly meeting
Virtual, pre-registration required



Enjoy an evening with well-known native plant field guide author and award-winning photographer Mark Turner (*Wildflowers of the Pacific Northwest*). Mark will discuss his backpacking trip into Goat Rocks Wilderness in Washington's Gifford Pinchot National Forest. Volcanic landscapes from Mt. Adams to Mt. Rainier provide a diversity of habitats for an amazing array of unusual and endemic plants which Mark has photographed to perfection.

NPSO Meet & Greet Potluck

Hosted at PSU by Rae Selling Berry Seed Bank
Tuesday, November 15, 4:30-6:30 pm

2022 Members' Photo Show

Thursday, December 8, 7:00-8:30 pm
Native Plant Society of Oregon,
Portland Chapter monthly meeting
Virtual, pre-registration required
AND Live at PSU, location TBA

[More details>>](#)

[Go to top](#)

Urban Ecology and Conservation Symposium 2023



21st Annual Urban Ecology and Conservation Symposium

April 4, 2023
In person at PSU
Details TBA

[More details>>](#)

[Go to top](#)

The Wide World of Seed Banking

Saving seeds for future use is as old as human civilization and as timely as today's headlines. Our focus has been on rare and endangered species, but the world of seed

banking is far more expansive. It probably began with storing seed for next year's crop, and agricultural plants are likely still the most common focus of seed banks around the world. But recent decades have seen an explosion of seed banking of a much wider array of plants for many different purposes. In this section, we seek to provide a glimpse of the wide and wonderful world of seed banks.

In Our Country: Santa Barbara Botanic Garden

Conserving biological diversity starts with native plants, and Santa Barbara Botanic Garden takes a comprehensive approach--from the (sub)microscopic level of genes to the landscape level of ecosystems. This allows them to more thoroughly tackle the conservation challenges of our day, such as habitat loss and fragmentation, invasive species, climate change, and pollinator decline.



Endemic of the Central Basin and Range, Cymopterus globosus (Image: Jim Morefield)

Their entire team works together with partners to tackle complex rare plant conservation challenges, with the goals of preventing extinction and fostering recovery in the wild. This work takes them to unique and diverse habitats throughout the state, from Northern California to Baja California, Mexico, and from the Channel Islands to the Nevada border.

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[Go to top](#)



A true Alpine endemic, growing above 13,000 ft, Androsace alpina (Image: Muriel Bendel)

In the World: Geneva Conservatory and Botanical Garden

Understanding and documenting global biodiversity remains one of the major challenges facing scientists today. The Convention on Biological Diversity (CBD) and the Aichi Biodiversity Targets form the legal framework for CJBG activities. The fundamental significance of biodiversity, the services it provides and the future well-being of the planet should not be underestimated.

The seed bank is part of the panel of tools available to the CJBGs to fulfill one of their 5 missions, namely "to protect": that is to say, to contribute to the protection of our plant heritage. Established in 1999, the seed bank stores seeds of endangered Swiss flora, and in particular Geneva, to save species threatened with extinction. Over the years the seed bank has been able to conserve more than 600 species, i.e. more than 30% of the endangered flora in Switzerland and 57% of the endangered flora of the canton.

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[Go to top](#)

Stay informed on upcoming events and news by regularly visiting the [Rae Selling Berry Seed Bank web site](#).