
Obispoensis

Newsletter of the San Luis Obispo Chapter of the California Native Plant Society



MAY 2022

Penstemon heterophyllus Foothill penstemon

DIRK WALTERS

Bonnie's drawing accompanying this article started out as a banquet program cover back in 1984 and was used for an OBISPOENSIS cover in 2012. You might notice something else about the appearance of the drawing. It has much more fine detail than Bonnie's usual drawings that were used in Dr. Keil's and my textbook and most of the OBISPOENSIS covers. This is because it was done to size (3½ x 3½ inches) using fine drawing pens. It was not drawn to be reduced or enlarged. Bonnie's more recent drawings are done with less detail because they are meant to be reduced. Also, I encouraged simple drawings that distill the plant down to basic characteristics.

The plant is *Penstemon heterophyllus* (or *Penstemon heterophylla*) depending on which flower book is used. I've seen both in the literature. The most recent Jepson Manual uses the name *Penstemon heterophyllus*. The correct ending depends on whether one considers the genus name, *Penstemon*, to be masculine, feminine or neuter. Of course it is both, as the flowers contain both stamens (male) and a pistil (female). But in Latin, which all scientific names are considered, almost everything must be assigned a gender whether it is appropriate or not. Secondly, in Latin, an adjective usually has the very same ending as the noun it modifies. For example, the scientific name for our common black sage is *Salvia mellifera*. However, following Latin rules can create exceptions. The most common one is with trees. Trees were considered by the Romans to be feminine. Therefore, the masculine noun for the oaks is *Quercus* but the adjectives that make up its specific epithet must be feminine. Thus, we get the confusing scientific name for the valley oak,

Quercus lobata. The other exception is when the noun or the adjective is irregular and is neither masculine or feminine. When this occurs, (i.e., *Penstemon*) one must just memorize the endings since rules don't seem to work. At least, I haven't been able to make consistent sense out of them.



In the Jepson Manual and most references, the large genus *Penstemon* is given the common name 'beardtongue'. This name refers to the prominent hairs (trichomes) found on the flattened style in many members in the genus. Locally we tend to just make the genus name its common name (i.e. penstemon). The best common name for this California endemic species is foothill penstemon as it describes its habitat and/or range. It is widespread in the interior foothills up to over 5,000 feet (1700 m) throughout much of interior California. I've observed it to be particularly common in the mountains behind Santa Barbara and in the Sierra Nevada. Other common names such as blue bedder penstemon and bunch-leaf penstemon refer to its habit. It branches profusely from near its base with its branches lying flat until they turn up at the tips. I've found it to be quite variable in flower color. Note Bonnie's habit sketch. This habit makes it an excellent plant to fill in a flower bed, thus the latter common name, bedder penstemon. Most of the time it a bright bluish pink color, but it can be pinkish blue or even completely blue. Although blue flower color is less common than pink, many of the pictures of this plant I saw on the Web were of plants bearing large, dark blue flowers. I interpret this observation to mean that what are being put on the Web are garden plants selected for their larger size and bluer colored flowers. Since the plant is commonly found on disturbed edges of roads and paths or where vegetation is scattered, I suspect it should readily adapt to the organized disturbance we call gardening. Oh, most importantly, the most easily recognized character of this species is its YELLOW BUDS!

Lastly, I haven't mentioned the family to which this plant belongs. If you think it is obviously in the figwort family (Scrophulariaceae), you are behind the times. For many years botanists assigned plants to this family based on characters that were relatively 'visible' to the naked eye—five fused petals, bilateral symmetry, fewer functional stamens than corolla lobes, and a superior ovary that matures as a capsule. However, more recent taxonomic work based on computer analysis of DNA sequence data indicates that botanists had been wrong. Not all plants sharing these features are each others' closest relatives. Various genera that had been included in the Scrophulariaceae are actually more closely related to plantains (Plantaginaceae) than they are to figworts. One obvious character that formerly separated Scrophulariaceae and Plantaginaceae (plantains), was the nature of their corollas. Plantains have small, tightly clustered flowers with four-petaled, thin, dry-membranous corollas. In contrast, almost all the old Scrophulariaceae have larger, readily visible flowers, and their corollas have the texture and color one ordinarily associates with petals—so, it was easy to tell the two families apart. But the DNA studies determined that many genera with large, pretty flowers are so closely related to the plantains that they should be placed into the same family, and the Plantaginaceae was expanded and redefined to accommodate all of its newly discovered relatives. So, beautiful, large-flowered foothill penstemon now shares a family relationship with its small-flowered cousins, and only a few California genera remain in the redefined Scrophulariaceae.



photos: Craig Cunningham, David Chipping

The cover picture shows but one of the shades found in *Penstemon heterophyllus*. The adjacent pictures from the La Panza Grade, Upper American Canyon and Avenales Ranch show some of the variety.

Calflora to include Bryophytes

Bryophytes are non-vascular seedless plants that include mosses, liverworts, and hornworts. Bryophyte taxon reports—now available in Calflora!— help users identify the bryophytes they find and increase knowledge and awareness of these fascinating plants. You can search for the bryophyte genus or species that interests you by: (a) using the name wizard here, <https://www.calflora.org/search.html> or (b) choosing from their list of known bryophyte species;

but.....

the extensive photo collections that we all use to help in plant identification are not well populated at this time, and Calflora is asking for photographic contributions. **Learn more at Cynthia Powell's presentation on May 5th.** DHC

Checklist of SLO County Bryophytes

Benjamin E. Carter of San Jose State University has recently published *A Preliminary Checklist of the Bryophytes of San Luis Obispo County, California in Madrono v.68 No3, pp. 163-190, 2021*. Of the 192 species, there are 156 mosses, 31 liverworts, and 5 hornworts. My first thought on finding this list was to search for images of each species on the internet, but as the photo collection grew I realized that a standard photograph was of little use in the mosses without the use of the microscope. Even getting down to genus is difficult, as there are nine species of the genus *Gemmabryum* that looked pretty much alike. Many on Carter's list did not show up on photographic web searches, or were illustrated by drawings made from the microscope. DHC



Picture. Female receptacles of liverwort *Asterella californica*, Morro Dunes Ecological Reserve

Lichen of the Month: *Thelomma californicum*

This crustose lichen is found growing on shale outcrops in Montana de Oro State Park, on cypress trees at Sweet Springs Preserve in Los Osos, and on old fence posts near Harmony, south of Cambria, and south of Arroyo Laguna. Apart from a collection on Cal Poly's Pennington Creek Reserve, it appears to be limited to the summer fog belt, with its most northern collection on Oregon's Rogue River and the most southerly in the Channel Islands. (photo by D. Chipping from rocks on the Coon Creek Trail)





Chapter Monthly Meeting Thursday May 5, 7pm (via Zoom)
New Calflora Tools for Your Native Plant Ventures and Adventures
Cynthia Powell, Calflora's Executive Director



Register in advance for this meeting: <https://cnps-org.zoom.us/meeting/register/tZUscO6orD0pHd2CzHXxoWwZryw8bafdJIE1>
 After registering, you will receive a confirmation email containing information about joining the meeting.

Please join us to learn from Calflora's Executive Director Cynthia Powell about new Calflora tools for native plant professionals, gardeners, and enthusiasts! Calflora aggregates millions of plant observations across the state from **dozens of sources** and serves them to the public free of charge. These data sources include CCH2 (a worldwide plant information portal from the California Consortium of Herbaria), iNaturalist, and CNPS plant checklists from around the state. How can you better use this incredible resource to learn more about regional plants?

View Calflora data sources here: <https://www.calflora.org/occ/about-data.html>

At this presentation, Cynthia will cover Calflora's **Planning Your Garden Tool**, specimen and other plant observations used in this tool, detailed plant ranges now available on Calflora's species pages (for example, *Grindelia stricta*), population monitoring tools, and email alerts.

View the Planning Your Garden Tool here: <https://www.calflora.org/entry/palette.html>

She will also go over the important role CNPS members play in submitting and commenting on Calflora observations and checklists. Also, **Bryophytes are now in Calflora**, and Calflora needs help from Bryophyte lovers to improve distribution information (see more on this in this newsletter).

Also join us for hike! Following the presentation, Cynthia will lead a hike on Friday, May 6th to demonstrate use of these tools in the field. Due to COVID, we must limit the number of participants on the hike. Attending the presentation is a prerequisite to attending the plant hike. **Sign up here:**

(https://docs.google.com/spreadsheets/d/17CIV-ackBiQPgg0qIBziPpo_cnqiMB66CvGzDuT4Ifc/edit#gid=0) .



Chapter June Meeting Thursday June 2, 7pm, (via Zoom)
Speaker Presentations from our 2021-2022 McLeod Scholarship Recipients



Annie Zell will present her research about the habitat and life history divergence between sympatric (co-occurring) populations of the seep monkeyflower complex (*Erythranthe guttata*). Annie is working on her master's degree at Cal Poly with Dr. Dena Grossenbacher.



Emma Fryer will present her research about the assembly of the vertic clay endemic flora of the San Joaquin desert. Emma is working on her master's degree at Cal Poly with Dr. Nishi Rajakaruna.

MISSED THE MEETING? VIEW RECENT CHAPTER MEETINGS AND SPEAKERS ON YOUTUBE AND SUBSCRIBE TO OUR CHANNEL

https://www.youtube.com/channel/UCNjrsrrwy14IzB3-tMn_7nw

Special Status Species of the Nipomo Mesa, with a Focus on the Dana Reserve Project Site

Part II: The Watch List Species

Melissa Mooney

In our last Newsletter, we summarized the proposed Dana Reserve project on the Nipomo Mesa and covered some of the Rare and Endangered plants that are found on the project site. In this second installment, we cover the “watch list” species, those that are of slightly lesser status than those discussed last month. List 4 plants are of limited distribution or infrequent throughout a broader area in California, and their status should be monitored regularly. List 4.2 plants are moderately threatened, and List 4.3 plants are not very threatened in California. The table below lists the four taxa to be discussed in this article.

Species Name	Common Name	Status/ CA Rare Plant Rank
<i>Ceanothus cuneatus</i> var. <i>fascicularis</i>	Sand Buckbrush	4.2
<i>Mucronea californica</i>	California Spineflower	4.2
<i>Piperia michaelii</i>	Michael’s Rein-Orchid	4.2
<i>Prunus fasciculata</i> var. <i>punctata</i>	Sand Almond	4.3

Sand buckbrush (*Ceanothus cuneatus* var. *fascicularis*) is a large shrub rather commonly found in chaparral on sand dunes. Sand buckbrush is a variety of our most common *Ceanothus*, buckbrush that is distinguished, according to Hoover, by its sandy-soils habitat and the shorter length of the internodes on the flowering branches (generally less than 1 cm.) It occurs in the Morro Bay-Los Osos area, and south to the Nipomo Mesa in SLO County, and Burton Mesa area in Santa Barbara County, where it is called the Lompoc *Ceanothus*. Interestingly, the Jepson Manual distinguishes the varieties according to flower color, twig color, and shape of the nodal and axillary leaves, with var. *fascicularis* having some clustered axillary leaves. It flowers from February to May. Dirk Walters discusses the genus in more detail in our December 2017 Newsletter.



Photo David Keil

The plant has a California Rare Plant Rank of 4.2. Biologists found 20 individuals of this plant in the northeast portion of the Dana Reserve site, and most would be subject to removal if the project is approved as proposed in the Notice of Preparation.

Howard McMinn says of buckbrush: “...when it is full bloom the mountain slopes appear as if covered with snow.”

California spineflower (*Mucronea californica*) is a tiny annual plant with basal leaves occurring in sandy soils. Spineflower is known for its fused bracts occurring along the stem; in this species the bracts occur on one side of the node as opposed to encircling the node. It is in the Buckwheat family and can be found flowering from March to August. The plant is widespread on sandy soils throughout San Luis Obispo County.



Photo Melissa Mooney

The plant has a California Rare Plant Rank of 4.2. Biologists found over 800,000 individuals of this plant covering 42.6 acres in the grasslands of the Dana Reserve site. The project would permanently impact all occurrences on the property if the project is approved as proposed in the Notice of Preparation, thus compromising a large portion of the regional population.

Michael’s Rein-orchid (*Piperia michaelii*) is a rare herbaceous monocot in the Orchid family that occurs in scrub and woodland. Interestingly, out of 10 species of this genus listed in the Jepson Manual, 7 taxa are rare and of conservation concern, including *P. michaelii*. And if you are looking for the leaves when it is in flower, well, good luck trying to find them, because they readily disappear. The green to yellow-green flowers are night-fragrant and occur in elongate clusters that arise from rather large basal leaves. The species are differentiated primarily by the length and shape of a spur on the petal lip. In *P. michaelii*, the curved spur is 6-18 mm. I find them very difficult to identify, as the flowers change as the plant grows. For more information, please refer to Dirk Walters’ stories about the Orchidaceae and interesting history behind the names of *Piperia* species in San Luis Obispo County in *Obispoensis*, Oct 2009. *Wildflowers of California*, 1907. (continues next page)



Photo David Keil

Michael's Rein-orchid (*Piperia michaelii*) continued:

The plant has a California Rare Plant Rank of 4.2. Biologists found seven individuals of this plant near the Pismo Clarkia locations in the Oak Woodlands of the Dana Reserve site. These individuals are located in the project's proposed open space area and would likely be avoidable.

"In early summer the fragrant spikes of the rein-orchis stand half-concealed under the trees and along the banks bordering wooded mountain roads." Mary Elizabeth Parsons, *Wildflowers of California*, 1907

Sand almond (*Prunus fasciculata* var. *punctata*) is not the most attractive shrub, especially in the summertime when it loses most of its leaves, but it has beautifully large fruits resembling almonds and glabrous, glandular-punctate leaves. This is another plant that has been the subject of Dirk and Bonnie Walters – in December 1998, Dirk wrote about -and Bonnie drew- the sand almond. One of the stories in this article concerns the presence of cyanogenic glycosides in the fruits of the sand almond, so they should not be eaten raw. These compounds get partially digested by bacteria in our digestive systems and produce other compounds that interfere with our blood and oxygen systems. So, please beware!



Another interesting thing about sand almond is that Dr. Hoover recognized our coastal plants as a distinct species, *P. punctata*, different from desert almond, *P. fasciculata*. In the Jepson Manual, it has been reduced to a variety of *P. fasciculata*. I always get a little freaked when I go out to the desert and see this plant, wondering if I've somehow been transported back to the central coast. In Howard McMinn's 1939 "*Illustrated Manual of CA Shrubs*," he notes that Jepson apparently described var. *punctata* in 1936 (Fl. Calif. 2:230 1936). The type locality is at Bicknell Station, Santa Barbara County. Sand almond occurs in the Morro Bay, Los Osos, and Nipomo Mesa areas, (and northern Santa Barbara County). It flowers in March and April.

The plant has a California Rare Plant Rank of 4.3. Biologists found 141 individuals of this plant scattered across the study area of the Dana Reserve site. Most would be subject to removal if the project is approved as proposed in the Notice of Preparation.

We again encourage you to begin discussions of this project and its impacts with your friends and neighbors. You can get more information about the project at the County's website: <https://www.slocounty.ca.gov/Departments/Planning-Building/Grid-Items/Community-Engagement/Active-Planning-Projects/Dana-Reserve-Specific-Plan.aspx>.



The Carrizo Plain Conservancy and Ecologistics are pleased to announce Carrizo Colloquium 2022, to be held on **Friday, May 6, 2022, at the Library in Atascadero, 655 Capistrano St, from 10 am to 3:30 pm.** The main topics of the Colloquium will be updates on research on pronghorn antelope, San Joaquin kit fox, and giant kangaroo rat, and on the campaign to enlarge the National Monument. **The program will also offer an optional all-day field trip to Carrizo Plain National Monument on the following day, Saturday, May 7.**

The Colloquium is now open for registration. To view the program and to register, please visit the Ecologistics website at <https://ecologistics.org/carrizo-colloquium/>

10 YEARS LATER.... THE COON CREEK FIRE REVISITED

In the fall of 2012, California State Parks conducted a controlled burn on the north facing slopes of Coon Creek in the area of the grove of Bishop Pine. The intent was to refresh the vigor of the grove, as the trees were senile and fire is required to release seeds from the pine cones. Due to an unexpected change in wind direction and strength, the fire reversed direction and burned much of the land south of Valencia Peak before being extinguished. We thought it might be instructive to look at the vegetation changes that have taken place in the last ten years.

Observation 1: The fire worked as intended. Nearly every pine was killed in the fire, but as the photo shows, many trees kept their heat-scorched needles as the fire was managed as a ground fire (photo A). Some areas had fire in the pine canopy, but after the needles dropped we saw a mass of blackened snags. Within a few years most of the snags were blown down, and brand new tiny pines were sprouting from the ground (photo B), and today the fast growing trees are almost as high as the previous generation (photo C). These young trees already have seed cones, so the grove is preparing for the next fire.



Observation 2: In some areas there was a type-conversion of species within shrublands. For example, at the point where the Rattlesnake Flats Trail approaches the southern rim of the Coon Creek valley, a shrubland that was mostly chamise (*Adenostoma fasciculatum*) with a scattering of other species (photo D) was burned to the ground, with resprouting from the burned stumps evident a few weeks after the fire (photo E). However *Ceanothus thyrsiflorus* var. *griseus* appears to have drowned the chamise. While the species was present before the fire as a minor constituent of the chaparral, it has now become the dominant cover.



.....and speaking of *Ceanothus thyrsiflorus* var. *griseus*

Dr. Keil notes that this *Ceanothus* variety, also known as Carmel Ceanothus, is localized within SLO County in the San Luis Range, especially in the Coon Creek watershed where the plants may be the largest specimens in existence. After the fire described on the previous page, there was a marked increase in the number of plants between Bridges 1 and 2 on the Coon Creek Trail.



9/2011 before fire



8/2013 shortly after fire

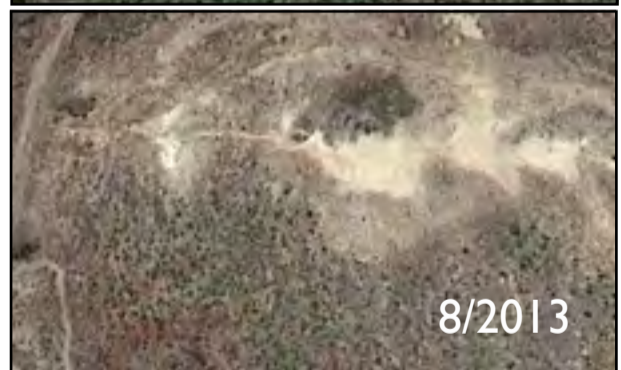


2/2021 last year

In some cases recovery from the Coon Creek fire has been incomplete. The three photographs on the left are of a portion of the Rattlesnake Flats Trail east of the Coon Creek parking lot where the trail was rerouted after the fire. The trail originally climbed up the crest of a ridge covered in *Arctostaphylos pechoensis*, a local endemic manzanita that is an obligate seeder which does not stump-sprout after fire. The top 'before' and the middle 'just after' views on the left show the verdant shrub cover completely removed, and work starting on the current trail alignment. Due to the prevalence of dry years since the fire, mortality of seedlings has been high, although the population will be sustained as can be seen in the 2021 photograph.



9/2011



8/2013



2/2021

The three photos (top side is west) on the right show an increase in invasive Veldt grass that has inhibited the return of shrubs to the ridgeline on an unofficial trail to the top of Valencia Peak. Veldt grass creates a significant demand for the scarce available water in the soil-poor slope. It is also possible to see a 'dozer-line' cut during the fire fighting on the top side of the central photo, that the line is still visible in 2021. DHC

Spring Update on your Chapter's Plant Communities Committee

By Mindy Trask

Hikers last month at the popular Johnson Ranch open space witnessed a small group of mature adults setting out measuring tapes and furiously taking notes while pondering what appears to be an unexceptional-looking grassy field. They were clearly not a college class, and no one was wearing official-looking uniforms so probably not park employees either. Several of the hikers stopped to inquire and learned that the group was made up of volunteers with the California Native Plant Society, gathering information on native plants in our area. I am one such member of that group: the Plant Communities Committee of the CNPS-SLO chapter. We chart out unique habitats throughout SLO County and gather valuable information that the State office of CNPS uses to update the Manual of California Vegetation Online. It's the very definition of citizen science. We follow the CDFW/CNPS Rapid Assessment/Relevé protocol to collect plant community data, with an emphasis on rare natural communities. That common-looking grassy field was dominated by purple needlegrass (*Stipa pulchra*), a native bunchgrass community categorized as rare by CDFW. Whether or not that community really is rare is not at discussion here, although our group may be helping to provide CDFW and CNPS with data to categorize the status of natural communities in California.

Already this year, we have characterized 11 different vegetation stands, including: (a) shrub communities along West Cuesta Ridge dominated by the rare Bishop manzanita (*Arctostaphylos obispoensis*); (b) forest communities dominated by Monterey pine (*Pinus radiata*) near Cambria; and (c) a combined forest-shrub community dominated by knobcone pine (*Pinus attenuata*) and the rare Santa Lucia manzanita (*Arctostaphylos luciana*). We have also sampled different types of native grasslands on serpentine hills surrounding SLO. The CDFW/CNPS Rapid Assessment/Relevé protocol involves characterizing the physical and biological features in a stand of vegetation, such as topography, soils, fire history, bioturbation (AKA animal disturbance), and coverage of plant species. Personally, I just love following the protocol and collecting the data on vegetation cover, in particular. I love the challenge of not only identifying all species in the plot but also estimating ground cover of an individual plant species over a 100-square meter herbaceous plot or 50-meter diameter circle of dense woodland. Part of the challenge (and fun for me) is figuring out where we should collect data and determining if a stand of plants is worthy of consideration as a true community or merely a component in a broader community. The method provides guidance that a true community has a distinctive assemblage of species that present a characteristic appearance based on size, shape and spacing of the plants and is repeated on the landscape. We also get to philosophize about the human nature to put boxes around natural phenomena.

Our core group this year includes your chapter president Melissa Mooney, your chapter secretary Cindy Roessler, botanist extraordinaire Melinda Elster, native plant lover Bob Hotaling, and yours truly. We get assistance from other CNPS members like past-president Bill Waycott and other local botanists. If you want to join us, we plan to go out at least monthly through the growing season this year, on the 3rd Saturday and whenever we have time for more. There may be short hikes, sometimes in challenging terrain, but our main goal is to collect data so it's not a typical CNPS or Sierra club type field trip. We welcome people who have a keen interest in developing their botanical skill and citizen science. Contacts are Melissa Mooney (mjmoon@charter.net) or Mindy Trask (mindymmt@gmail.com).



Photo: Cindy Roessler and Bob Hotaling in a purple needlegrass stand at Johnson Ranch open space. (Photo by Mindy Trask)



Photo: Mindy Trask in a Santa Lucia manzanita stand on East Cuesta Ridge. (Photo by Melissa Mooney)

Editor's Note: If you enter "CDFW-CNPS Rapid Assessment/Releve Field Protocol" into a Web search engine you will find that all the details and data fields are explained in a 14 page PDF. You will also find the data entry forms.

Seed Exchange News

by Marti Rutherford

Will we have a seed exchange this year? The seed exchange has been held before the October meeting in the past. I don't know if the virus is done with us and whether we will be meeting in person in the fall. But let's get ready. Seeds are starting to mature.

Our seed exchange is intended as an opportunity to share seeds from the native plants in our gardens. You do not need to bring seed to participate. Our objective is to encourage the planting of natives for all the benefits that doing so brings. If you enjoy growing plants from seed, give natives a try. They are different than the vegetables that are commonly grown. Some are easy, some are not. There is excitement in seeing those first few seeds germinate, and if it is a difficult or precious seed it is all the more exciting.

I have a gentle reminder that it is illegal to collect on property other than your own without permission. And please, if you are lucky enough to have rare plants growing on your property, do not collect for the seed exchange.

There is another reminder that needs to be stated. Some plants hybridize easily. Seeds collected in a garden with multiple species of the same plant cannot be considered 'pure'. Therefore these seeds should not be used for restoration projects. Seeds from cultivars probably cannot be expected to grow like the cultivar. An example is the very beautiful *Penstemon heterophyllus* Margarita BOP. Plants grown from those seeds can only be considered *Penstemon heterophyllus*. But those plants are beautiful too, and if we get some variation, it just makes things more interesting.

Obviously, to have a seed exchange we need people out there observing their plants and collecting the seeds at the right time. If you would like a refresher or some guidelines on how to do that, go to the resources page on our website <https://cnpsso.org/resources/growing-natives/>. I am beginning to collect some of the earlier flowering plants like Tidy Tips and Cream Cups. The Baby Blue Eyes plants look like some of the pods are just beginning to dry. The challenges of growing plants for seed collections on my property have continued with a chicken who likes the buttercup seeds and the winds which have been so strong lately that the *Layia* seeds are often gone before I get the mature ones harvested. But I have a few. I am hoping that many others will have some as well.

There will be more details on how the seed exchange is conducted as the time nears. In the meantime, get out there, observe your plants and, if so inclined, collect seeds.

The little mustard that could, and we wish it couldn't or....never, ever, weed-whack *Brassica tournefortii*

If you live in Los Osos, you will be aware of programs to get rid of this highly invasive weed, and have probably noted its life-cycle in nearby yards. It develops a basal rosette of coarse leaves early in the rainy season, then sends up several flowering stems with tiny yellow flowers. After flowering, the basal rosette of leaves withers away quickly. The stems dry while supporting many branches with abundant seed capsules, each containing 1-3 seeds. The whole process takes a couple of weeks. My neighbor had a massive infestation, and one plant had sneaked across the property line. Rather than pull it, I wondered how long it would persist if I cut off the flowering stems, in emulation of weed-whacking. The plant got started after those December rains and is still going strong after four months. The basal rosette remains unchanged, but the plant sprouts one, two or three new flowering stems every couple



of days and is still going strong. The narrower photo on the right shows numerous flowering stems that appeared in 24 hours of the last bunch being pinched off. Just like the *Little Engine That Could*, this Little Plant that Could, looks like it will keep on going until it can finally set seed. DHC

Invasive Species Report- Mark Skinner

On April 6th, 2022 the **Weed Management Area/Central Coast Invasive Species Action Network** held an on-line meeting to discuss the big picture of invasive plant species in San Luis Obispo County. Chaired by Jon Hall of the Land Conservancy of SLO County, eighteen participants chimed in on their projects and how they are doing. Here is a snapshot of projects:

For two years SLO County Agricultural Commissioner's weed crew has focused efforts to control a large population of artichoke thistle at the Mainini Ranch, located in the Chorro Creek Valley. In addition, the SLO CAC treated these weed species this past quarter: Yellow Starthistle: 204.18 acres across 35 locations; Castor bean: 11.08 acres across 7 locations; Jubata grass: 72.14 acres across 14 locations; Artichoke thistle: 130.53 acres across 24 locations; Rest harrow (*Ononis repens*): removed 20 small plants at 1 location.

California State Parks has been eradicating Scotch broom (*Cytisus scoparius*) at Hearst Castle from 1995 to 2012 with help from CalFire. Led by Bob Conlen, there has been annual follow up in the eradication effort. Thanks Bob!

The Land Conservancy of SLO County has been working on Cape Ivy and Giant Reed (*Arundo donax*) removal in the San Luis Obispo Creek watershed. Jon reports that *Arundo* has been reduced by 88%. The Land Conservancy is also removing European beachgrass and Purple ragwort (*Senecio elegans*) in the Guadalupe-Nipomo Dunes National Wildlife refuge.

California State Parks and Coastal San Luis Resource Conservation District is also working on eradicating European beachgrass, *Carpobrotus* ssp. and *Senecio elegans* from the Guadalupe-Nipomo Dunes in the State Parks portion. They just completed a Veldt grass eradication project including 380 acres near the Phillips 66 refinery and 58 acres at Coreopsis Hill.

Finally, we heard from Cal Poly that there is a Tree of Heaven invasion at Cal Poly. Cal Poly would be a good place to focus on invasive species eradication.

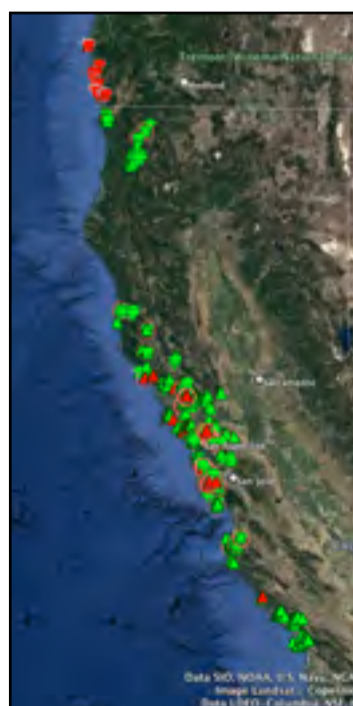
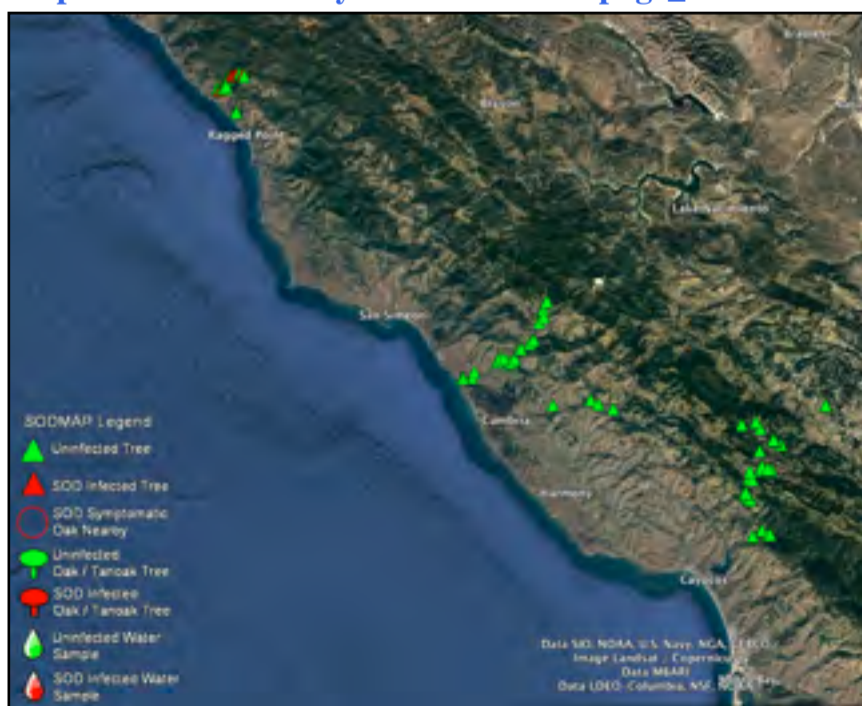
Reminder: Sudden Oak Death Blitz - Cindy Roessler

Sudden Oak Death Blitz - reminder and final call for citizen scientists. If you are interested in tracking the health of oaks and California bays in SLO County, join the SOD Blitz April 29 to May 1. No experience necessary, we provide short online training, advice as needed, even recommended places to survey. It's outside, it's fun. Go to this SLO SOD Blitz registration site to get full details: <https://surveys.ucanr.edu/survey.cfm?surveynumber=37011>

Sudden Oak Death Blitz Google Earth Maps

You can download Google Earth KMZ files from UC Berkeley Forest Pathology & Mycology Lab, showing the state of infection, that will run on your phone and enable you to relocate past sample sites.

https://nature.berkeley.edu/matteolab/?page_id=755



Photos left and center: Results of the 2021 Blitz showing uninfected samples (green) and infected sample (red). The right photo shows infected samples from the Salmon Creek Drainage just north of the county line in Monterey County.

RENEWED CALL FOR COMMITTEE MEMBERS!

Did you know that our chapter supports student research through an annual scholarship program? The **Malcolm McLeod scholarship fund** is one way in which our chapter supports young botanists and ecologists by providing direct funds to students for research projects. Each June, our annual scholarship recipients present their work as part of our regular speaker series. In 2022, our chapter is going to revise and update the scholarship guidelines for the Malcolm McLeod scholarship, with a primary emphasis on ensuring access to more diverse projects and students at our local university and community colleges.

If you are interested in participating in committee discussions that will inform these revisions to our scholarship guidelines, please email kmmnelson.nativeplants@gmail.com.

FIELD TRIPS ARE STARTING UP AGAIN

May 6 – CalFlora techniques field trip (location to be announced) with Cynthia Powell and co-lead Cindy Roessler; contact Cindy (skantics@gmail.com) for details.

June 11 – Recurve Flats and the San Simeon Coast with Melissa Mooney; contact Melissa Mooney (mjmoon@charter.net) for details.



CNPS post-fire field trip to Coon Creek 2014

TWO POTENTIAL CHAPTER eBOOKS IN THE WORKS



As you may know, the Chapter just republished an expanded hard copy version of the *Wildflowers of the Carrizo Plain* with 96 plant photos. This publishing choice was made as interest in the Carrizo Plain has produced a sufficient potential demand to offset the high cost of printing.

However it was decided that making a hard copy version of Malcolm McLeod's *Wildflowers of Highway 58* could not be justified on the basis of expected sales, and so that project was put on hold.

As result, David Chipping has been assembling a downloadable PDF, using Dr. David Keil's plant lists from Calf Canyon, Shell Creek, and Red Hill Road. The draft eBook currently has 300 species, and is being extensively edited by Dr. Keil who has substituted better photographs and either removed or added species to the book.

The other eBook would have an even smaller sales market at retail outlets, and thus is being worked on as another eBook. It is the *Wildflowers of the San Simeon Coastal Strip*, covering the ocean bluffs from San Simeon Creek to San Carpoforo Creek. Like the Highway 58 book, it is being size-scaled to be used on phones and tablets in the field, although it has never been field-tested. Using plant lists from Dr. Keil and from 'Doc' Miller, we have about 180 species and do not expect to add any more. Neither Dr. Keil nor any other capable botanist has looked at the book, and I am sure there are currently some identification errors to be found, or better photographs to be contributed.

As there is a proposed field trip to this area on June 11 (see above) some of you might want to upload this document to your electronic device and see if it works in the field. The current highly compressed file size is 4 MB. Contact David Chipping at dchippin@calpoly.edu if you want to field test this beta version. Neither of these eBooks has internal button navigation guided by flower type and color, but plants are arranged more or less by color.

Although the ultimate fate of these publications will rest with the Chapter Board, I expect they will appear on the chapter's web site. As we have a significant income stream from George Butterworth's excellent eBook *Plants of the Carrizo Plain*, we might, or might not, ask for a small donation to help offset the costs of our web site.

NOTES FROM THE SACRAMENTO OFFICE

Following Fire with Jose Esparza Aguirre

With nearly 90,000 observations now recorded, the CNPS Fire Followers initiative is one of the most exciting community science efforts in California. CNPS Community Science Coordinator Jose Esparza Aguirre is leading the effort by inspiring people across the state to track the native flora growing in the wake of wildfires. While wildfire can be devastating, some native plants need wildfire to germinate and thrive, often emerging as swaths of beautiful wildflowers and bright green regrowth in a fire's footprint.

"The year 2020 was one of the most catastrophic and historic years for fire in California, and 2021 was severe too," Jose says. "Although the fires from these years were traumatic for people, we are visiting the burn areas to better understand the relationship between native plants and fire."

Jose emphasizes that anyone can be a fire follower by uploading observations of plants in post-burn areas onto iNaturalist. Once the observations are recorded, CNPS staff and volunteers can compare them to observations taken before the fires to see what's coming up and how fire intensity and burn severity may affect regrowth. "We couldn't do this kind of data collection without citizen scientists," he adds. "This project is really accessible in a way that the outdoors haven't always been historically. We try to limit as many barriers as possible." Click here to find out more about fire followers and learn how to become a community scientist.

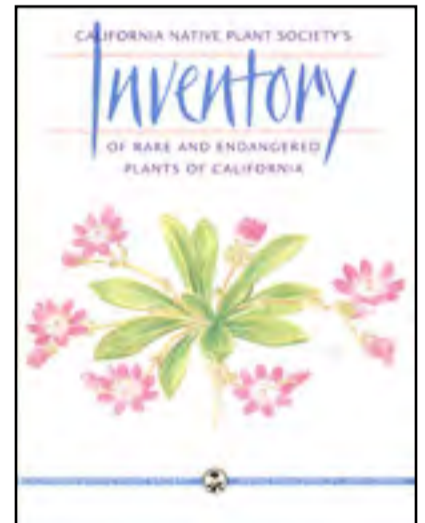
https://www.cnps.org/fire-followers/get-involved?utm_source=april_eneews&utm_medium=email&utm_campaign=fire_follower

Get to Know the CNPS Rare Plant Inventory

Want to help conserve California's amazing rare plants? Check out the latest blog post by CNPS Rare Plant Program Director Aaron Sims and Rare Plant Botanist Ellen Dean for an introduction to the online CNPS Rare Plant Inventory, California's go-to resource for rare plant profiles and rarity rankings. In this helpful post, they walk through the ways the Inventory can be used by people from a variety of fields. Read it to learn more! Note that the hard copy is now out-of-date, and the web site should be used.

A direct link to the Inventory can be found at

<https://www.cnps.org/rare-plants/cnps-inventory-of-rare-plants>



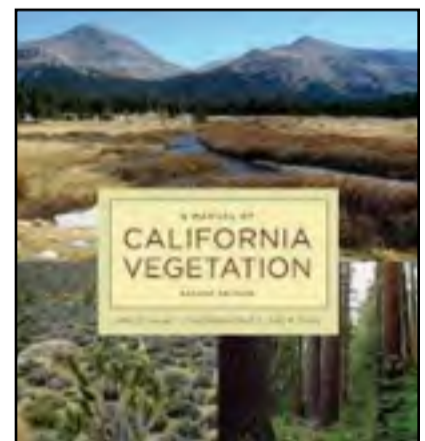
What is a Vegetation Alliance?

Alliances are commonly used in vegetation mapping and represent a category of vegetation classification.

An alliance describes repeating patterns of plants across a landscape. Each alliance is defined by plant species composition, and reflects the effects of local climate, soil, water, disturbance, and other environmental factors. For example, Mountain Whitethorn (*Ceanothus cordulatus*) Shrubland Alliance commonly occurs in the mountains of California after fire or other disturbance, and stands can transition to montane and subalpine forests of conifers that overtop the shrubs in time.

If you want to dive deeper into vegetation mapping, the *CNPS Manual of California Vegetation* (MCV) serves as California's standard for vegetation classification. It's used by biological consulting firms, planners, and state and federal agencies, including the California Department of Fish and Game, United States Forest Service, National Park Service, and United States Geological Survey. Note that the hard copy is now out-of-date, and the web site should be used.

A link to MCV is <https://vegetation.cnps.org/>



THE GOOD PEOPLE WHO MAKE THE CHAPTER 'HAPPEN' AND HOW TO FIND THEM

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WE ALWAYS NEED PEOPLE TO HELP OUT. OUR MISSION IS VITAL AND OUR FLORA IS AT RISK.

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The California Native Plant Society is a statewide non-profit organization of amateurs and professionals with a common interest in California's plants. The mission of the Society is to increase understanding and appreciation of California's native plants and to preserve them in their natural habitat through scientific activities, education and conservation. Membership is open to all. Membership includes the journal, *Fremontia*; the quarterly *Flora*, which gives statewide news and announcements of the activities and conservation issues, and the chapter newsletter, *Obispoensis*.



San Luis Obispo Chapter of the California Native Plant Society
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