Obispoensis

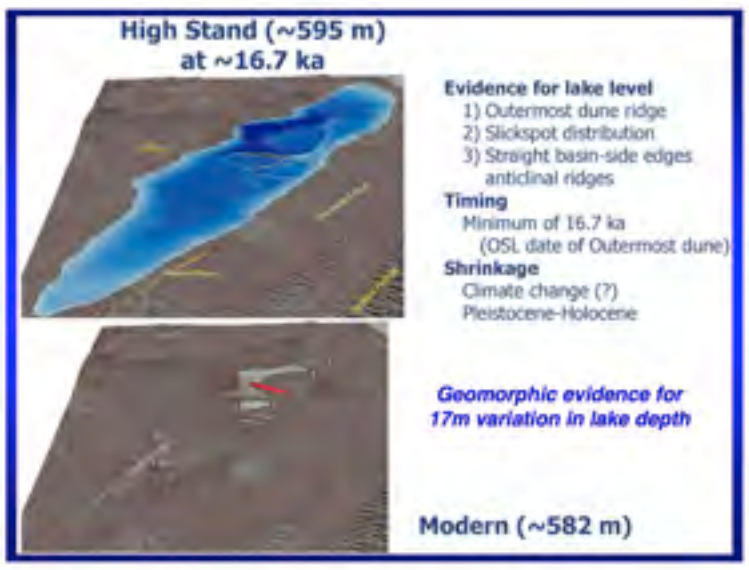
Newsletter of the San Luis Obispo Chapter of the California Native Plant Society

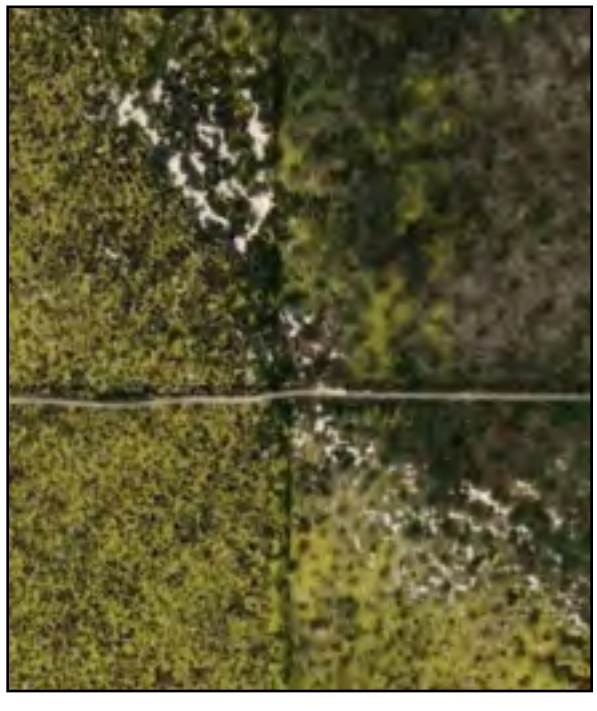
June 2022

Native Plants and Ancient Soda Lake shorelines by David Chipping

This month's cover is an April 2019 Google Earth view of Panorama Road's crossing of the valley floor within Carrizo Plain National Monument. Soda Lake Rd. is off-picture to the left, and Elkhorn Rd. is off-picture to the right. The brown coloration is the area in which the rare Jared's peppergrass (*Lepidium jaredii* subsp. *jaredii*) is found growing on extremely alkali soil. The yellow areas are largely composed of goldfields (*Lasthenia* sp.), which can be seen on both sides of the valley. The yellow band is bordered on the uphill side by a dark band of the saltbush (*Atriplex)*. The brown area in the northeast quadrant is grassland, and the coloration of the grasses and the *Lepidium* suggest that the photo is taken at the tail end of the spring flowering season.

(Above, left) Cover of a Powerpoint by the Geological Research Group. (Right) A slide from that Powerpoint showing identification of slickpots and erosional features considered as evidence of a high stand for the lake. (Below, left) A slide showing the suggested high stand from 20.000 years ago.





During the Ice Ages, rainfall was much higher across the west, and lake levels were higher. A research group has worked on identification of the height and age of past high stands of the lake. They conclude that the highest detected stand was 20,000 years ago at an elevation of 1,938 feet, and another at 1,919 feet about 10,000 years ago. The researchers suggested that a zone of white, bare soil 'slickspots' could be traced along the flanks of the valley, although they make no suggestions as to how the slickspots formed.

The Google Earth picture on the cover shows that vegetation probably marks the extent of the high lake stands. The *Lepidium* and *Lasthenia* zones might mark, respectively, long term submergence under salty water and shorter submergence under fresher but still salty water. The 'slickspots' run along the *Lasthenia-Atriplex* boundary. There are a couple of hypothetical origins for the slickspots, ripe for CNPS exploration. One might be an effect of fresh rain water percolating downslope and being forced to the surface as it encounters the very salty groundwater underlying the older lake floor. The other is generation of a microhabitat between a shrub zone and more open *Lasthenia* habitat downslope that facilitates animal activity.

An interesting observation is that the vernal pool complex on Belmont Trail in California Valley lies at the 1,935-1,940 ft .elevation of the proposed higher stand of the ancient lake. These pools were always a 'stop' on CNPS field trips to the Carrizo Plain, but have been severely damaged by track vehicles that seem to be associated with development on an adjoining parcel.

The photograph to the left shows slickspots as white patches along the *Lasthenia-Atriplex* boundary.

and speaking of *Lepidium jaredii* by David Chipping

Jared's peppergrass *Lepidium jaredii* subsp. *jaredii* has an extremely limited distribution. The greatest concentration is southeast of Soda Lake in the Carrizo Plain where it forms brightly colored stands on the lowest portions of the valley floor. It has also been found along Belmont Trail in California Valley. Calflora notes locations near Keck's Corner on Highway 46 and also north of Coalinga. The pale to medium yellow flowers show the typical four petals of the mustard family. At Panorama Road the *Lepidium* population transitions laterally into a *Lasthenia*-dominated plant population.

(Above) Two photos of *Lepidium jaredii* by George Butterworth showing the flowers and seed capsules of the plant.

(Above) Looking east from Panorama Road toward the Temblor Range over the mass of yellow *Lepidium* .Note the brighter yellow color of the *Lasthenia* zone as a thin line just below the hills. Photo: D. Chipping

Jared's peppergrass (*Lepidium jaredii* subsp. *jaredii*) is named by Mary Brandegee after Lorenzo Dow Jared. Lorenzo Dow Jared (1832-1909) was listed as a plant collector by Mildred Mathias in her history of early botanic exploration. Historian James Smith describes him as a San Luis Obispo surgeon and amateur botanist. The plant was described by Mary Katharine Brandegee from the California Academy of Sciences. Born Mary Katharine Layne on October 28, 1844 in Tennessee, her family moved to California in the Gold Rush as farmers in Folsom. When her first husband died of drink she married Townshend Brandegee, an engineer and plant collector in 1889, and they walked from San Diego to San Francisco on their honeymoon collecting plants. Mary became a plant collector and herbarium worker at the Academy, becoming the curator of the herbarium in 1883 and starting the Bulletin of the California Academy of Sciences. Impatient with the prevailing process of sending California plants east to the nation's leading botanist Asa Gray for formal description, she moved that process in-house. In 1891 she took a pay cut to bring botanist Alice Eastwood into the Academy, and retired two years later. She and Townshend retired to San Diego where they established the city's first botanic garden.

Mary Brandegee. Photo: Wikipedia Commons

Mildred E. Mathias 1989 The Fascinating History of the Early Botanical Exploration and Investigations in Southern California; Aliso: Volume 12 | Issue 3
James P. Smith Jr., 2017, Botanist and Plant Exploration on the Pacific Coast of North America: A Bibliography: Humboldt State University Digital Commons

Chapter Monthly Meeting Thursday June 2nd, 7pm (via Zoom)

June Speaker Presentations from our 2021-2022 McLeod Scholarship Recipients

Register in advance for this meeting:
https://cnps-org.zoom.us/meeting/register/tZMuf-GprzsiGdAMpxUlQR7C6QuTuQurfG91
After registering, you will receive a confirmation email containing information about joining the meeting.

How Invasive Species and Soil Chemistry Shape the Vertic Clay Endemic Annual Plant Communities of the San Joaquin Desert

Emma Fryer is conducting research at Cal Poly with Dr. Nishi Rajakaruna on the assembly of the vertic clay endemic flora of the San Joaquin desert. The San Joaquin Desert hosts a community of annual flowering plants that are largely endemic to vertic clay soils, and which occur in a distinctive patchwork-like pattern in good bloom years. These blooms, which have drawn much attention in the past ten years, form a pattern of color that reflects the heterogeneous pattern of soil texture and chemistry across the landscape. Through a combination of greenhouse studies and fieldwork, the ways in which invasive annual grasses and competition have combined with soil properties to shape this community of unique annual plants can be determined. The diverse ways those factors combine to determine the niche of each species provides insight into this community assemblage, species' adaptations to chemically and physically harsh soils, and the effect that invasive annual grasses are having on the many rare species found within the San Joaquin Desert.

Despite extensive study of the flora and ecology of extreme substrates (e.g., serpentine) in California, there has been essentially no research on the diverse flora of vertic clay substrates, nor this form of edaphic endemism.

Habitat and Life History Divergence of a Rare Serpentine Ephemeral, *Erythranthe serpentinicola*

Annie Zell is conducting research with Dr. Dena Grossenbacher at Cal Poly, focused on the habitat and life history divergence between sympatric (co-occurring) populations of the seep monkeyflower complex *(Erythranthe guttata*). Specifically, Annie is studying how co-occurring populations of *Erythranthe serpentinicola* - a rare annual – and *Erythranthe guttata* - a common perennial - remain as distinct species. While answering basic biological questions about the phenotypic, phenological, and physiological divergence between these two closely related species, Annie has located several new populations in San Luis Obispo County and possibly found evidence for hybridization.

MISSED THE MEETING? VIEW RECENT CHAPTER MEETINGS AND SPEAKERS ON YOUTUBE AND SUBSCRIBE TO OUR CHANNEL
https://www.youtube.com/channel/UCNjrsrrwy14IzB3-tMn_7nw

The little mustard that ~~could~~ is finally quitting

or...never, ever, weed-whack *Brassica tournefortii*

If you remember from last month, I told the story of a volunteer Sahara mustard (*Brassica tournefortii*) that started putting out flowering stems after the December 2021 rains, and had persisted in putting out flowering stems as we prepared the May issue. In the intervening month I continued to cut flowering stems which were produced at a rate of 1-5 stems per day. It was never watered. The photograph shows its last hurrahs just before we produced this issue, still putting out a stem every couple of days but now clearly nearing death. Speaking purely from the Darwinian point of view, this plant is one tough customer. David Chipping

(Left) Photo taken May 15 (Right) Photo taken April 15

FIELD TRIP TO THE NORTH COAST SATURDAY JUNE 11

Recurve Flats and Coastal Prairie Restoration Field Trip.

Join Melissa Mooney and Mindy Trask on a Saturday field trip to the north coast of San Luis Obispo County. We will visit two spots north of Piedras Blancas: (1) A Caltrans coastal prairie restoration site north of Arroyo del Oso (near the old motel); Mindy Trask discussed this site at our March meeting; and (2) Recurve Flats north of Arroyo de la Cruz. If time permits, we will trek out to the Pt. Sierra Nevada dunes (this is optional). Rare plants we might see include Hickman's onion, adobe sanicle, Arroyo de la Cruz manzanita, and maritime ceanothus, in addition to yellow mariposa lily, club-haired mariposa lily, and Kern brodiaea.

Carpooling is encouraged, as parking is limited at both sites. For those traveling from the south, we will meet at the entrance to Morro Bay High School (N of Morro Bay Motel 6) 298 Atascadero Rd., at 8:30 am. For those traveling from north county, we will meet at Shamel Park, 5455 Windsor Blvd., in Cambria at 9:15 am. This will likely be the last restroom stop. From here, we will carpool and head north to our sites. Please be prepared for wind or fog, poison oak and ticks. Bring a lunch, sunscreen, jacket, hat, and water. We should finish up by 2 or 3 pm. Light hiking over uneven terrain. Please Note: <u>All participants will be required to sign a liability waiver the day of the field trip.</u>

Those ancients among us might remember actor Jack Webb in the long-running 1950s-1960s TV series *Dragnet*, where the TV promo had Webb saying "Just the fact's Ma'am". An early supporter of CNPS, especially because it did not yet exist, Webb visited Recurve Flats and warned of the abundance of this non-native plant. Truth or Fiction? You decide on the Recurve Flats field trip where *Linum bienne* is exceptionally abundant this year. This European native is considered to be the forebearer of cultivated flax, created from fibers in the plant stem.

A Good Day on Cerro Alto by Susi Bernstein

I may be one of the few people in our chapter who had never hiked Cerro Alto off Highway 41, but this was finally rectified on April 20 and now I understand what I've been missing. In short, it was glorious, possibly the best walk my husband and I have ever taken.

The trail begins along a flowing Morro Creek under a cool riparian canopy with a strong scent of bay laurels (*Umbellularia californica*), but winds its way to the top through coastal scrub and then chaparral. The trail narrowed as we gained elevation, and in some places I felt like I was practically up to my neck in dense, tall chamise (*Adenostoma fasciculatum*), but it should be noted that the path was well-maintained and wide enough so that we didn't brush up against shrubs (including poison oak [*Toxicodendron diversilobum*]) as we walked. We made our way very slowly to the top – the speed set by a steep trail (1600 ft elevation gain from the trailhead 2.75 miles below) and a well-situated bench halfway up that was hard to leave, but also due to the rich diversity of plants lining the path, many of them in bloom when we visited. So many good distractions as we paused to catch our breath: yellows of bush poppy (*Dendromecon rigida*), poppies (*Eschscholzia* sp), and golden yarrow (*Eriophyllum confertiflorum*); orange from sticky monkey-flower (*Diplacus aurantiacus*); purple wooly blue curls (*Trichostema lanatum*); dark pink to red of chaparral pea (*Pickeringia montana*), hummingbird sage (*Salvia spathacea*) and warrior's plume (*Pedicularis densiflora*); light pink to white of pitcher sage (*Lepechinia calycina*), coast morning-glory (*Calystegia macrostegia*) and old man's beard (*Clematis lasiantha*). Smooth bark of madrone (*Arbutus menziesii*) and frequent white gooseberries (*Ribes* sp.) and red manzanita (*Arctostaphylos* spp.) berries also called for our inspection. A singular, magical plant right along the path stopped us in our tracks; I believe it was the chaparral broomrape (*Aphyllon tuberosum*).

One of the best parts about this walk was the number of good vantage points along the way showing where we had been and where we were going. Different plant communities intercepted by the trail were easy to spot from these views, and sometimes we were pointed in a direction where you felt quite alone in nature with no evidence of civilization in sight. We did finally make it to the top of Cerro Alto with its spectacular panoramic view of the coastline and Santa Lucia Mountains, and we had it all to ourselves to enjoy. Unfortunately, there is no satisfactory photo from the summit to share, but maybe that will encourage you to visit and see for yourselves.

(All photos by S. Bernstein Clockwise from top left. On the Trail, *Clematis lasiantha, Dendromecon rigida, Lepechinia calycina, Aphyllon tuberosum, Arctostaphylos obispoensis*)

Learning to Use Calflora in the Field by Cindy Roessler

*****This article includes many hyperlinks which you can click if you want to directly try functions on the Calflora website at your own pace.** It's like a paint-by-number exercise - you try it, you get better, soon you are making your own art. Calflora also has Help pages, **instructional videos** on their YouTube channel, and extra Tools. Experiment by clicking the Calflora title on the top, or look for the menu buttons on the left-hand side or top of the Calflora web pages, pop-up Options boxes, pull-down menu boxes, and colorful hyperlinks.***

Several SLO chapter members and a Santa Cruz CNPS member hiked Morro Bay State Park on May 6 to test Calflora in the field after the online presentation by Executive Director Cynthia Powell at the May general membership meeting. **Calflora.org** is a website and digital library of more than 8,000 plants and 3.1 million observations in California's wildlands. Many of us use it regularly on our home computers to determine the range and specific locations of a plant species, compare photos to help with identification, and quickly link to additional details in the Jepson eFlora.

On this CNPS-SLO field trip (the first in nearly 2 years because of COVID uncertainties), we tested Calflora's abilities to generate plant lists for a specific hike, assist with in-field plant identification, and we downloaded new observations with photos to the Calflora database. Ms. Powell was not able to attend the field trip due to cold symptoms but we appreciated her cautiousness in these days of COVID and we hiked onwards without her - after all, some of the best lessons are from your mistakes especially when there is a lot of blue sky and laughing involved.

From the Quarry trailhead off South Bay Boulevard, we hiked approximately 2 miles with great views of Morro Bay and the local volcanic-plug Morros including Morro Rock, Black Hill, Cerro Cabrillo, and Hollister Peak. A good description of this hike to Portola Point in Morro Bay State Park, including a handy map, is at Hikespeak. Heading in a northeasterly direction out of the parking lot, the beginning of the hike on Quarry and Live Oak Trails passes through coastal dune scrub and annual and native perennial grasslands with a nice diversity of native plants.

Between us, we brought and tested several printed or electronic plant lists for this hike:

- A printed version of the Dr. Keil list for the entire Morro Bay State Park which is one of 34 popular hike destinations on the Finding Plants in the Wild page on the CNPS-SLO website. Note that when you select the "PDF" button after each park name, you get a list that is organized by Genus-species and prints out in a nice format for marking in the field.

- One can also select the "CALFLORA" button after each park name on the Finding Plants in the Wild page and get an illustrated plant list on the Calflora website where it can be reorganized in many different ways in the "Options" box such as by plant family or bloom period. Look for the Options box in the upper right-hand corner of Calflora's Illustrated Plant List page; sometimes it loads a few seconds after the list loads. Because of the size of the photos, this is usually a better option on your home computer than on your cellphone. The Options box also allows you to create a list with "No photos", then push the "Display" button, and you now have a list that can be printed out or saved with your preferred Options.

- The What Grows Here function on Calflora allows you to zoom into a particular area of interest on a map of California and generate a plant list for just that area. Or you can enter the name of a park or geological feature in the "Location" box on the What Grows Here page and get a specific list of observations reported on Calflora for that location. Try "Morro Bay State Park 2" in the "Location" box for this particular hike; don't forget to select the "Search" button to get your new list to load up. The "Tools" button on the top of the page has more options for organizing your list including "Printable version of this list" that creates a handy list without photos that you can print out or save and transfer to your cellphone. I used this function to create my own customized list limited to just the area surrounding our actual hike route rather than all of Morro Bay State Park and organized it by family without photos . . . and then I FORGOT this 22-page list at home on my desk. But that's okay because I saved it on my Calflora account and as you will see at the end of this article, this hike-specific list is now available for anyone to use.

At the turnoff to Portola Trail, we passed through an oak woodland and then switchbacked up to the 329-foot Portola Hill with maritime chaparral where, with cautious adventure and mindful steps, we found rare Oso manzanita shrubs. Can't remember the species name of this rare 1B.2 plant? Just click the "Name Wizard" button on Calflora's Search for Plants function, enter just the first few letters "Oso" in the common name box, and a short list of related plant names automatically shows up including the scientific name for Oso manzanita - *Arctostaphylos osoensis*.

CONTINUED NEXT PAGE

CONTINUED FROM PREVIOUS PAGE
In a previous visit to Morro Bay State Park, Dave Krause found a beautiful stand of Oso manzanitas near Crespi Trail, and if you want to visit this stand, you can find its general location by using Calflora's Observation Search function, zoom the map to the general Morro Bay area, enter "Arctostaphylos osoensis" in the Scientific Name box, click the "in map area" button, click the "Search" button, and then look for Krause's name in the "Observer" column of the table. By clicking the purple pencil icon on the left-hand side of the table next to the Krause's observations, you can zoom into the general location of his observations along Crespi Trail.

There were some lovely dark red paintbrushes blooming along the Portola Trail, so we checked our various printed and electronic lists, photos and records of other Calflora observations in the general area, and we determined it was coast Indian paintbrush (*Castilleja affinis* ssp. *affinis*) which Krause recorded on iNaturalist (and per Powell's presentation, we could choose to pull this iNat observation into Calflora). On Portola Hill, we enjoyed the views of blue Morro Bay and grey Hollister Peak from the top-of-the-hill bench, until we were distracted by a tiny pink-flowering spineflower at our feet. Check out the Observation Detail we submitted to Calflora of this *Chorizanthe* and see if you agree with our tentative identification. I also entered a nearby spineflower into Caflora and then per Powell's guidance at our meeting, submitted it to the "Plant ID Help" group to ask for help on its identification.

While making our way along the trails at a botanist pace, we asked several other groups about their hiking experience. They were primarily hiking for the views or for the local rock-climbing opportunities but once they learned that we were plant nerds, they immediately asked questions about the attractive wildflowers they saw on their hike. We were happy to help them with common names and interesting facts about the local wildflowers and pollinators. When we asked them where they usually look for information on plants they see on hikes, they said they ask their friends or might try one of the cellphone applications they had heard about that can identify a plant by taking a photo. If any of you have tried these cell phone plant ID apps, you know they can be hit or miss although iNaturalist's apps are improving (see discussion on CNPS Facebook group here). This gave us the idea that it would be nice to make easy-to-use wildflower guides for specific trails available to more hikers. Hmmm, can Calflora help us generate such lists and share them? What if we post a link to our new illustrated plant list to the Portola Point hike at popular SLO hiking websites or provide a QR code link on bulletin boards at trailheads? The return to the parking lot along South Bay Boulevard via the south end of Live Oak Trail is not as interesting for native plants as the northern half of this loop, but it gave us a chance to wind down and reflect on our new Calflora skills and ambitions.

Some tips to using Calflora in the field:

- Before you go out, check what information is available on Calflora for your hike location - a list may already be available on our chapter website at Finding Plants in the Wild, or by using the What Grows Here function on Calflora.
- Print out or download your hike plant list to your cellphone (such as onto Dropbox or Evernote apps). Or make yourself a totally new list on Calflora here and access it in the field on your cellphone.
- If you are going to record observations in the field, make sure to download Calflora's Observer Pro cellphone application, and sign in to your account before heading out in case you don't have cellphone coverage on your hike. You can collect Calflora information in the field and review previously downloaded or printed plant lists even without coverage.
- Adding observations to Calflora is one of the top ways Powell recommends we can improve Calflora. Another way is to join the Plant ID Help group in Calflora and help other members with plant identification.

Your SLO CNPS Board of Directors has been talking about how to safely restart field trips. One thing that is clear is that we need more hike leaders. Is there a particular hike that you like to share with people and would you be willing to be a leader? Don't worry that you have to be an expert - the Field Trip Committee can guide you through the logistics and we always have helpful members join us on hikes. And with Calflora, we can easily help you generate a plant list to use on your hike. Look for future requests for hike leaders.



(Left) View Eastward on Quarry Trail toward Hollister Peak. (Center) Some people still use *Jepson* in the field (Right) On top of Portola Hill
Photos by Cindy Roessler

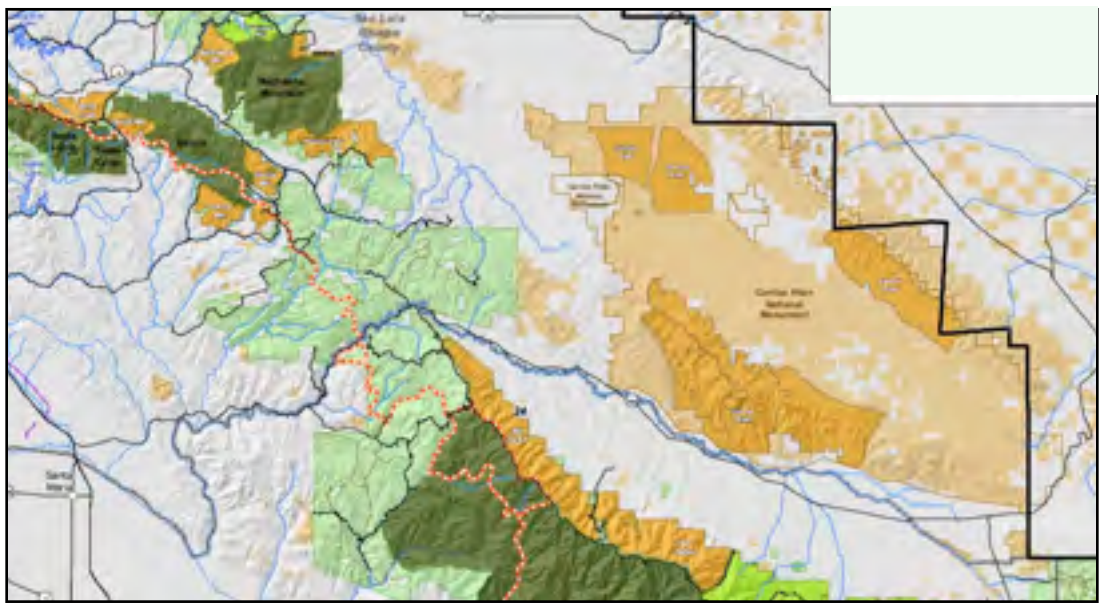
Central Coast Heritage Protection Act Progress by Neil Havlik

Third time is a charm? Congressman Carbajal's Central Coast Heritage Protection Act has again passed the House of Representatives and is awaiting action in the Senate. It is hoped that this time the measure will pass the Senate and go to the White House for the President's signature. Senator Padilla has introduced companion legislation in the Senate and this is one reason for optimism. It is believed that the legislation will be rolled into a larger bill regarding the public lands and it will be passed into law this summer or early fall.

The Act includes designation of wilderness for three areas within Carrizo Plain National Monument: the clay dunes and other lands surrounding Soda Lake; a portion of the Temblor Range on the eastern side of the Monument; and the main ridge and summit of the Caliente Range. The latter has been a Congressionally-designated Wilderness Study Area for thirty years!

These areas all have certain unique qualities which warrant wilderness designation. The clay dunes around Soda Lake are rare in the United States, and are the remnant of the old lake bottom of a Pleistocene lake that was fifty times the size of Soda Lake today. The Temblor Range includes a unique vegetation type known as Upper Sonoran Sub-Shrub Scrub (USSSS or U4S) which is only found in the Temblors and more sparsely in nearby ranges. And the Caliente Range includes an ancient juniper woodland, some of whose trees are a thousand years old!

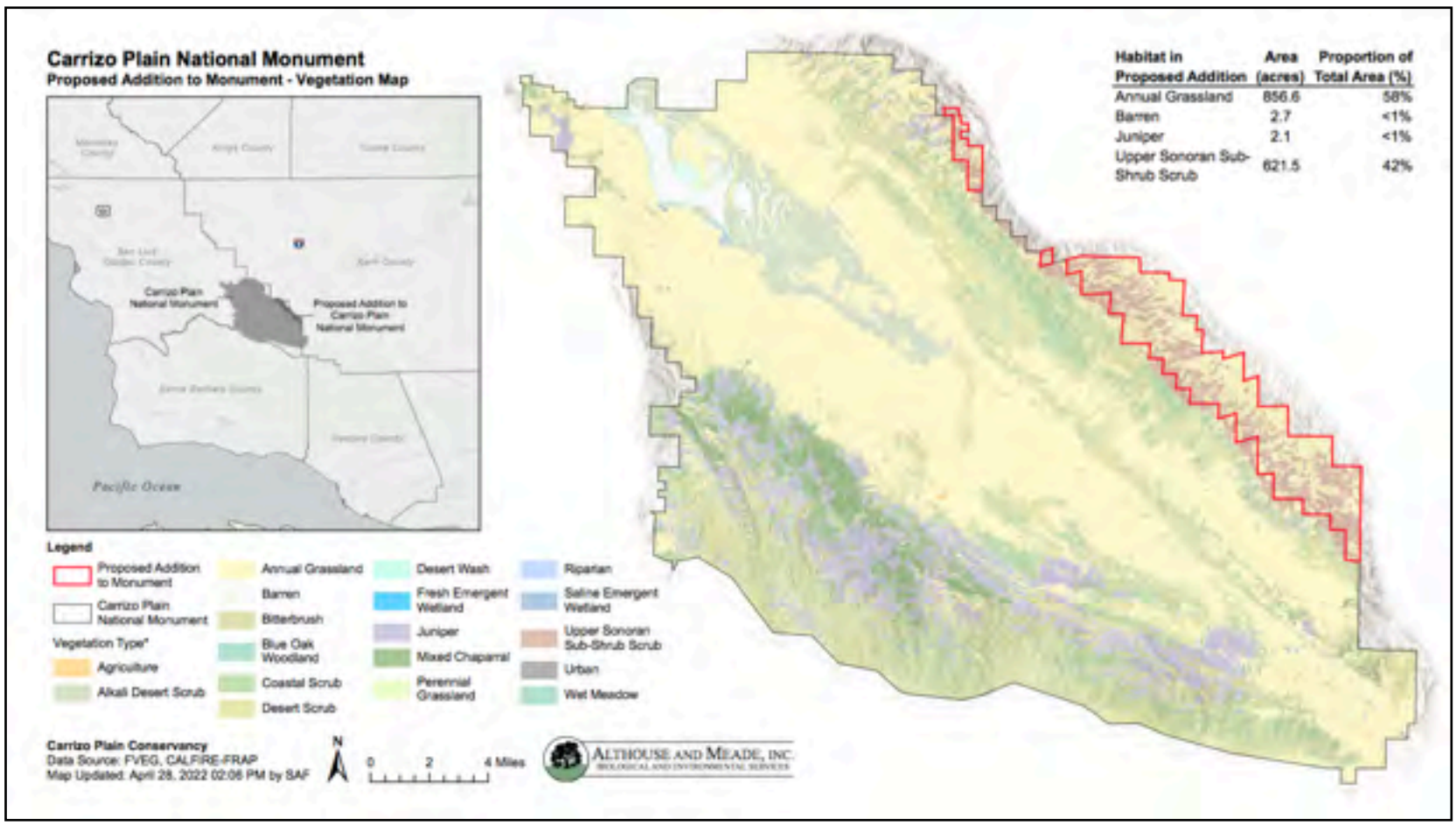
The Act also includes numerous additions to Wilderness and Wild and Scenic River designations in Los Padres National Forest. It is an effort worthy of conservationists' support.



Proposed Wilderness Areas? This screen shot shows part of the map covering proposed protected areas under the Central Coast Heritage Protection Act. BLM ownership is pale tan, and proposed wilderness additions are deeper tan. U.S. Forest Service lands are pale green, and existing designated wilderness is deep green.

Monument Expansion?

CNPS-SLO and the Carrizo Plain Conservancy are heading up an effort to expand Carrizo Plain National Monument on the east, by adding about 16,000 acres on the east side of the Temblor Range. This area, with its northeast facing slopes, is well vegetated with the U4S and is ecologically similar to the Monument. This expansion, marked in red in the map below, would match the Monument on the southwest side, where it includes almost the entirety of the Caliente Range.



CNPS Job Openings from State Office

The California Native Plant Society is seeking a Publications Editor, a Rare Plant Scientific Coordinator, and a Vegetation Intern.

The Barbara Rice Vegetation Intern is a temporary part-time to full-time position that will work with CNPS vegetation and rare plant scientists to explore and understand California's native plants along the coast of Humboldt, Del Norte, and Mendocino counties. The internship, established in the memory of avid botanist Barbara Rice, will provide hands-on practical experience focusing on native vegetation and rare plants to an entry-level botanist interested in conservation, government, and/or consulting. The deadline to apply is May 31, 2022.

The Rare Plant Scientific Coordinator will be responsible for developing status review documents utilized to formally add, delete, or change plant information in the highly esteemed CNPS Rare Plant Inventory. The coordinator will also develop scientific rare plant accounts for an agreement with the U.S. Forest Service to identify potential Species of Conservation Concern. The deadline to apply is May 31, 2022.

The Publications Editor is an experienced editorial professional, modern storyteller, and advocate for California's native plants that will conceive, develop, and edit CNPS publications content. The editor will ensure CNPS's publications adhere to the highest editorial, stylistic, and journalistic standards while helping more people appreciate the value, beauty, and significance of native plants. The deadline to apply is June 10, 2022.

A Plant Q/A

Judy Johnson-Williams asks: *"I collected some lovely white lupine (possibly Lupinus microcarpus), with a column of white flowers in ranks like Chinese Houses and yes, with permission and planted it out. I got purple flowers, more like the Silver Bush Lupine. So what happened here: hybridization, soil conditions, careless gardener?*

I'm an avid novice (gardening natives in 4 states over 3 decades, both coastal and inland in CA). I now live and garden in Atascadero, where I'm re-wilding my property using mostly local seeds and plants I've started from clippings (again, with permission). I've had some successes (lupine, red maids, hummingbird sage) and some losses (coffeeberry, penstemon, milkweed) and, no, I don't know why."

Dr. Dirk Walters responds: "*If the seed was collected around the Pozo area, the seed might be genetically modified by a cross between the white colored Chinese houses-like inflorescence form of small-fruited lupine (L microcarpus) with the red form of small fruited lupine. The red form of small fruited lupine has an inflorescence that is more like the typical lupine, such as the bush lupine. Small fruited lupine is variable and both forms probably occur together in the Pozo area.*

An answer to the second question might reside in the extreme genetic variability of most California native plants. It is this genetic variability that makes growing natives such an art. It also explains why California native plants are relatively rare at nurseries.
Growers plant lots of seed or make lots of cuttings, plant them out but only a few survive to saleable age. A story … I tried for many years to get succulent lupine (Lupinus succulentus) to grow in my yard. It's a local weed along roads in my neighborhood here in San Luis Obispo. Then a few years ago a single succulent lupine plant grew from seed I assume I had been planting in my yard. I left it alone and it set and dispersed its seed in my yard. The next year I had three plants. In each year after I got more and more succulent lupine plants. Now, its practically taking over my wildflower garden and I collect seed from it to donate to the Chapter seed sales."

Editor's note: You can ask questions like this on the chapter's Facebook page (https://www.facebook.com/CNPSSLO)

Participate in Calflora's 8th Annual May Photo Contest!

Your photos will automatically be entered if submitted as a Calflora plant observation by May 31. Get out in May and take new photos of the spring bloom. You can also dust off and submit photos from your older analog collections by creating Calflora observations from them.
INSTRUCTIONS CAN BE FOUND AT THE CALFLORA WEBSITE
https://myemail.constantcontact.com/May-Photo-Contest.html?soid=1101318247526&aid=nHKxTF93czU

Amazing Trees by John Doyle (Horticultural Chair)

For many of us, trees are a wonderful part of who we are. We have fond memories of climbing, viewing, watching wildlife in them or planting a tree. Trees have given humans: food, warmth, shelter, airplanes, paper, furniture, baseball bats, pencils, rulers, you get the gist of it. Yes, they are essential to our everyday lives.

However, we, as a human race, are decimating large tracts of vegetation throughout the world. (Some conservative estimates of 2 hectares a minute are bulldozed in the Amazon alone.) Each year, in the U.S., fewer trees are planted than are removed. New development (for houses), disease, fire, agriculture and a slew of other causes decrease their numbers directly, increasing unfavorable conditions leading to hotter temperatures, erosion, greater evaporation, and less food and habitat for fauna.

So to make a better world, what can we do? Why start planting trees, of course. If one were to ask a first grader the value of a tree, they might reply: it gives a place for birds to nest. It creates shade. Animals get food from them like acorns or fruits. When an adult with a sizable brain is asked the value of a tree they might reply: they sequester and hold carbon, they stabilize soils, they support ecosystems, or, they are a huge link in the chain of all life on Earth. Both replies are correct and give us answers which seem only logical, if not ridiculously simplistic.

Human expansion isn't just removing trees, but swaths of million year old habitats filled with great diversity of intertwined fauna and flora. A study published in *Nature* conducted at Yale University (Crowther/Glick, 2015), based on satellite imagery and tree density surveys, estimated the Earth was losing approximately 15 billion trees per year. Trees seeded themselves naturally or were planted by humans at a rate of 5 billion per year - a deficit of 10 billion trees. A recent article in the New York Times (March, 2022) highlighted New York city's efforts to increase the number of trees within its five boroughs. They stated the benefits to the city (sequestering water runoff and CO2, lowering summertime temperatures, reducing stress, increasing oxygen) would have short and long term positive effects. The city has set a goal of planting another one million trees by 2030.

As CNPS members, we know the impact of improving, saving and protecting our environment. Whether it's your backyard or the hills in our county or the world; you can make a difference by planting a tree. As a landscape design and build contractor, I have planted thousands of trees/plants (fortunately part of my job). Currently, I have one gallon CA native trees (Oaks, Monterey Cypress, Cal Walnut, Cal Buckeyes, Cottonwood, Prunus) available free for planting. Keep on planting amazing trees!

SLO County Inland Oak Woodland Ordinance Chapter 22.58 County Code

2.58.040 - Clear-cutting of Oak Woodlands.

A. Prohibition on steep slopes. Clear-cutting of Oak Woodlands on slopes of 30 percent or greater is prohibited on any site in any land use category, except for the following: 1. As specified in an approved Oak Woodland Management Plan, pursuant to Section 22.58.070. 2. To establish a fence line, where the amount of tree removal is the minimum necessary to install adequate fencing.3. To create a fire break or conduct a prescribed burn in consultation with or as required by Cal Fire or other applicable fire agency with fire safety jurisdiction.

B. Clear-cutting of Oak Woodland on slopes of less than 30 percent slopes. Clear-cutting of Oak Woodland on slopes of less than 30 percent is allowed as follows: 1. As allowed as a component of the granting of a Minor Use Permit or Conditional Use Permit, pursuant to Section 22.58.050 for an allowed use as identified in Table 2-2 or for the harvesting of wood where no land use is proposed. 2. As specified in an approved Oak Woodland Management Plan, pursuant to Section 22.58.070. 3. To establish a fence line, where the amount of tree removal is the minimum necessary to install adequate fencing. 4. To create a fire break or conduct a prescribed burn in consultation with or as required by Cal Fire or other applicable fire agency with fire safety jurisdiction.

22.58.050 - Permit Requirements.

A. Clear-cutting of one to three acres of Oak Woodland. Minor Use Permit approval is required to clear-cut between one (1) and three (3) acres of a Site's Oak Woodland over a ten year period. Clear-cutting shall be cumulative where clear-cutting may not exceed the maximum allowable by this section during one event or multiple events occurring over a ten year period.

B. Clear-cutting of more than three acres of Oak Woodland. Conditional Use Permit approval is required to clear-cut more than three (3) acres of a Site's Oak Woodland over a ten year period. Clear-cutting shall be cumulative where the clear-cutting may not exceed the permitted amount during one event or multiple events occurring over a ten year period.

C. Removal of Heritage Oaks. Minor Use Permit approval is required to remove any Heritage Oak.

22.58.060 - Oak Woodland Management Plan.

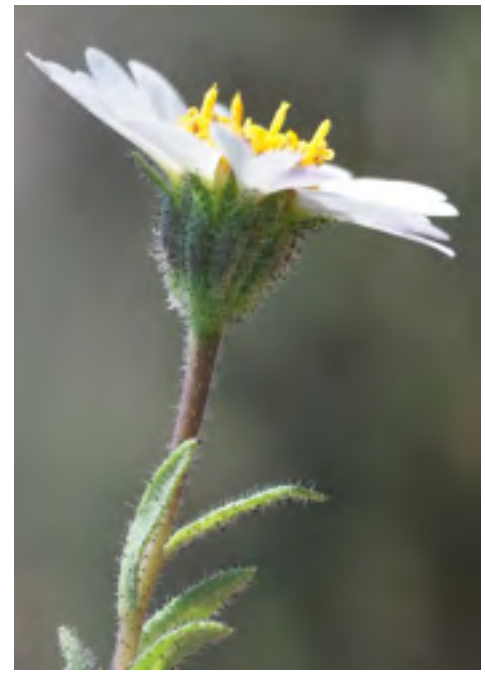
An Oak Woodland Management Plan may be used to allow clear-cutting of Oak Woodland. Plans shall be administered by the landowner or land manager. The cumulative amount of clear-cutting allowed in an Oak Woodland Management Plan, as defined by this ordinance, shall not exceed 5 percent of a Site's total Oak Woodland Canopy, or result in the conversion of the Oak Woodland for an allowed use as identified in Table 2-2, without an approved land use permit pursuant to Section 22.58.050.

Layia erubescens, a proposed split from *Layia glandulosa*

Bruce Baldwin has just published a proposed new species of *Layia* in the January-March 2022 edition of Madrõno. It is distinguished from *L. glandulosa* in having its ray flowers turning pink with age, a very strong smell, deeply lobed proximal leaves, and pappus scales narrowly-attenuate and 0.8-0.13 mm wide.

The plant distribution ranges from the stabilized dunes of Los Osos, the Oceano Dunes to the Oso Flaco Lake area, and hills south of Santa Maria including the Burton Mesa.

I went through all of my *Layia glandulosa* labeled photos from the coastal region, and found just one that showed the pink coloration (photo right). I took other photos at that time, so photo on the right shows some other features of a less senile plant, and which matches the botanic illustrations in the Baldwin article. David Chipping

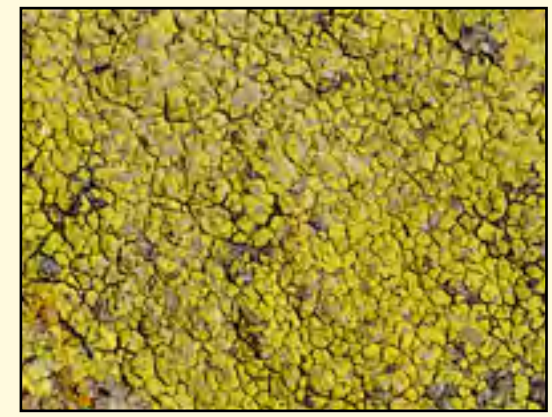


Preserve the Reserve page on the CNPS website

We have just heard that the Draft EIR for the badly conceived **Dana Reserve Project** in Nipomo has been delayed until mid-June. An informational article on the project can be found at our chapter website on the home page**:** **https://cnpsslo.org/**

Lichen of the Month: Gold Cobblestone Lichen
Pleopsidium chlorophanum

This crustose lichen is found growing on rock outcrops in Harmony Headlands State Park, Rinconada Mine, Valencia Peak, and Santa Margarita Lake. It appears to be widely spread throughout the West. (photo by D. Chipping from rocks at Harmony Headlands State Park)



Editor's End Note

This will be the last newsletter until the October issue, although it is possible that something might arise requiring your attention and actions. Due to continued COVID-related uncertainty, the Chapter Board decided against having in-person general meetings until at least the start of 2023, and therefore communication by newsletter, Facebook, and email will continue to be important. Our next general meeting will likely be Thursday, October 6 via Zoom, but we may have an in-person picnic on Sunday, October 2 before that. At the moment this is still in the planning stage, but we are determined to have a real social event and will keep you informed over the summer.

and just one more End Note...
enjoy your summer!

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

President
Melissa Mooney
mjmoon@charter.net

Vice President
Kristen Nelson
kmnelson.nativeplants@gmail.com

Secretary
Cindy Roessler
skantics@gmail.com

Corresponding Secretary
Cindy Roessler
skantics@gmail.com

Treasurer
David Krause (805) 927-5182
dkincmbria@aol.com

Chapter Council Rep.
Melissa Mooney
mjmoon@charter.net

Chapter Wholesale Contact
Linda Chipping (805)
528-0914
lindachipping@yahoo.com

Conservation
David Chipping
(805) 528-0914
dchippin@calpoly.edu

Education
OPEN
YOUR NAME HERE?

Field Trips
Bill Waycott (805) 459-2103
bill.waycott@gmail.com

Retail Sales Manager
OPEN
YOUR NAME HERE?

Historian
Dirk R. Walters (805) 543-7051
drwalters@charter.net

Invasive Plants Control
Mark Skinner
mskinner@coastalrcd.org

Membership
LynneDee Althouse
LynneDee@althouseandmeade.com

Rare Plant Coordinator
John Chesnut (805)
528-0833
jchesnut@slonet.org

Legislation
David Chipping (805)
528-0914
dchippin@calpoly.edu

Newsletter Editor
David Chipping (805)
528-0914
dchippin@calpoly.edu

Photography
Photo Curator
David Chipping (805)
528-0914
dchippin@calpoly.edu

Horticulture & Plant Sales
John Doyle (805) 748-7190
doyle5515@sbcglobal.net

Publicity & Web Master
Judi Young
judi@judiyoung.com

Hospitality
OPEN:
YOUR NAME HERE?

Chapter Publications
Matt Ritter
mritter@calpoly.edu

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

Protecting California's Native Flora since 1965

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
P.O. Box 784
San Luis Obispo, CA 93406

Print, Clip & Mail

Join Today!

- □ *Student / Limited Income $25*
- □ *Individual $50*
- □ *Plant Lover $120*
- □ *Supporter $500*
- □ *Patron $1,000*
- □ *Benefactor $2,500*

I wish to affiliate with the San Luis Obispo Chapter

Inquiries:
Phone: (916) 447-2677 Fax: (916) 447-2727 (State)
e-mail: cnps@cnps.org (State)

Websites:
Websites: www.cnps.org (State) & www.cnpsslo.org (Local)

□ New □ Renewal □ Gift

Name _____

Address _____

City _____

State _____ Zip Code _____

Telephone _____

E-mail_____* NEEDED FOR NEWSLETTER

Please make your check payable to CNPS and mail to:
attn Membership, California Native Plant Society, 2707 K Street, Suite 1, Sacramento, CA 95816-5130

GIFT MEMBERSHIP RECIPIENT

Name _____

Address _____

City _____

State _____ Zip Code _____

Do you want CNPS to send gift recipient a postcard identifying you as giftor □ Yes □ No