



# CALIFORNIA NATIVE PLANT SOCIETY

## *San Diego Chapter Newsletter*

### LIVE ONLINE

## The Flora of Caspers Wilderness Park

### July 16, 2020; 7-8:30 pm

In Spring 2020, teams of local botanists began a focused study of the plants of Ronald W. Caspers Wilderness Park ("CWP" or "Caspers"). CNPS-Orange County and CNPS-San Diego chapters will co-sponsor an online meeting where team members will present some of their findings. The lineup looks like this:

- **Introduction, moderation, & wrap-up: Robert L. "Bob" Allen**, M.S. (Adjunct Professor of Biology, Santiago Canyon College & Orange Coast College; Research Associate in Entomology, Natural History Museum of Los Angeles County; Research Associate, Rancho Santa Ana Botanic Garden; Horticultural Consultant; Author, Wildflowers of Orange County and the Santa Ana Mountains)
- **Elora Camacho - Recording data & pressing plants**
- **Cem Cizem - Rare & unusual species**
- **Maddy Letterman - Plant communities & lilies**
- **Megan Peukert - Salvia**
- **Louis Truong - Live-forevers & dodders**

The largest of Orange County's parks, CWP is a wilderness preserve of 8,000 acres in the foothills of the Santa Ana Mountains. The entrance is on Ortega Highway, about 6 miles northeast of Interstate 5 in San Juan Capistrano. Long known for its abundance of native habitats, plants and animals, it's long been a beloved destination of naturalists, biologists, and hikers. Surprisingly, 2020 has been a very good year for wildflowers.

For more info, turn to page 2 and/or visit: <https://www.cnpsd.org/events/2020/7/16/cnps-orange-county-amp-cnps-san-diego-live-online-the-flora-of-caspers-wilderness-park>

### TWO WAYS TO WATCH

**1) Zoom:** To watch the presentation on your computer or phone via Zoom you must register in advance

at this link. Registration on Zoom has a capacity so register now for the best 'seats'. You do not need a Zoom account to register or watch the presentation. Register here: [https://us02web.zoom.us/webinar/register/WN\\_AKSJHKueQkWaFPn4Ok5hlw](https://us02web.zoom.us/webinar/register/WN_AKSJHKueQkWaFPn4Ok5hlw)

**2) YouTube:** If you want to watch the presentation without registration it will be live streamed to BugBob's WildWorld YouTube page beginning at **7:00pm**. There is no limit to participants viewing the presentation on YouTube. BugBob's WildWorld YouTube: <https://www.youtube.com/channel/UCL-amXHBcKhzp9b7L1OIGtA>

Questions for the presenter will be selected by a moderator from the chat and comment sections of both Zoom and YouTube.

## RARE PLANTS

### Tefulio Summit

Here are a couple of photos of the San Diego County endemic *Hulsea californica* (San Diego alpinegold) we found at San Felipe Valley's Tefulio Summit. Its California Rare Plant Rank is 1B.3.



Photos by Justin Daniel.

These plants are about 1.8m, which is 50% taller than the 1.2m height range described in the Jepson. I spent a beautiful day with the Volcan Mountain Foundation, Larry Hendrickson, and Fred Roberts.

~ Justin Daniel, President

## MESSAGE FROM THE PRESIDENT

We're a Society based on a mutual love of science, artful appreciation, and community well-being, so I hope the best of good vibes and camaraderie to every CNPS member and friend in these difficult months. In all honesty, these times are rightfully difficult and uncomfortable as we are facing so many different problems from the pandemic, environmental degradation linked to callous, unsustainable development and carbon emissions, social inequities and racial injustice, rising and present neo-fascism, and invasive species whose species count rise in San Diego and Imperial County every year. These topics are all being explored and handled in the ways that CNPS and the Chapters can, and that means careful evaluation and respectful implementation of our core goals when we move forward. Because we are facing societal issues that have been willfully pushed aside or ignored for decades, and in many cases centuries, I'll say that the connective thread between all of them is relatively unfettered extraction of resources, rooted in a long culture of exploitative colonialism. What CNPS has always stood for is the nurturing and protection of California's places and plants and their defenders. We're founded on principles that promote community well-being, and that means standing up for justice, environmental or otherwise. That's why our state headquarters recently issued a solidarity statement with Black Lives Matters, and why we as a community of diverse California native plant lovers are doubling down on our work to ensure that Black and brown people feel safe and at home in California's conservation movement.

During the last Chapter Council meeting, we passed a "Carbon Neutrality Goal for 2030", aiming to conduct operations in balance with our carbon footprint. With all the resources coming online, we're meeting that goal quickly, but it'll take us all working together to make it a reality. Staff is welcoming a Conservation Analyst who begins in July. We'll provide more detail / links when available, but she's going to really help achieve our goals across the County and State combatting leap frog development that imperils rare native plants. The Staff positions still available are for Assistant Rare Plant Botanist, Associate Vegetation Ecologist, and Campaigns Engagement Manager, so if you are out of work or looking to work alongside excellent people, please check that out! <https://www.cnps.org/about/jobs>

Finally, two major things: This July, we are opening up limited in-person committee meetings to members in regards to restoration activities. We'll be limiting attendance in accordance with guidance from Staff, State and County requirements and requiring sign-ups for participation. Other committee level events are still essential volunteer personnel only until further notice. That said, it is obvious at this point that Covid-19 is being managed in a piecemeal fashion across the U.S. and I ask that you place the safety of you and your loved ones above attending any risky events. Despite all our precautions, the risk is now part of our environment for the foreseeable future. We are doing our

best as a Board to still provide events like our October Plant Sale in ways that best minimize that risk and still provide you with quality interactive experiences, healthy seeds and plants, and more knowledge than you might shake an ocotillo branch at.

Stay safe and informed,

~ Justin Daniel, President CNPSSD

## BOARD MEETING

**Wednesday, July 1, 6:30 – 9:00ish p.m.** The meeting will be via Zoom. To add an issue to the agenda, or to get the link to the meeting, please email [president@cnpsd.org](mailto:president@cnpsd.org).

### June 3 Board Meeting Summary

To conform to the directive from the CNPS office, this meeting was held via Zoom. The Chapter Board voted to approve the following items:

- Andrea Rae was approved as a board member (in place of Josué Campos) and as the Chapter's new Treasurer. Josué will continue as Rare Plant Survey chairperson and, hopefully, CNPSSD will be able to survey in spring 2021.
- Explore the option of having a garden tour in spring 2021, and have it coordinated with a potential spring plant sale.

Other discussions that did not require voting included revisions to the Board Handbook; the Annual Activities Report that was submitted to CNPS Staff on May 31; when Chapter meetings may resume in Balboa Park and how we can physically distance at the meetings (guidance will likely be handed down from CNPS Staff and possibly by the State); and the Fall Plant Sale that is scheduled for the end of October (October 30 & 31, depending on Covid-19 guidance).

Upcoming activities:

- Earth Day in Balboa Park - October 15
- Fall plant sale - October 30-31
- Spring plant sale - April 10

~ **Bobbie Stephenson**, Chapter Secretary/Newsletter Editor

**Continued from p.1**

### **LIVE ONLINE: The Flora of Caspers Wilderness Park**

The study is the brainchild of **Dr. Mike Simpson**, recently retired Professor of Botany at San Diego State University, who now lives in San Juan Capistrano. Such a study of the plants of an area is termed a "flora" or a "floristics project". The goal of the CWP flora was to visit as much of CWP as possible, documenting the plants there with field notes, specimens (called "vouchers"), and photographs.

Team members include **Mike Simpson**, **Rebecca Crowe** (UC Irvine), **Ron Vanderhoff**, **Fred Roberts**, **Kyle Gunther**, **Emile Fiester**, and **Bob Allen**. Bob leads a team of his former Botany students, called BugBob's Flying Circus. Current participants include **Elora Camacho**, **Cem Cizem**, **Maddy Letterman**, **Kristin Oelkers**, **Megan Peukert**, and **Louis Truong**.



The study is in its early days, but some results are ready to share. Vegetation types at CWP include coastal sage scrub, alluvial scrub, riparian, grassland, oak woodland, & chaparral. Uncommon, rare, and sensitive species include California juniper, Venus's looking glass, many-stemmed live-forever, Catalina mariposa lily, and intermediate mariposa lily. Some of the just-plain-cool plants include climbing milkweed, 7 species of phacelias, charming centaury, leather root tea (imagine an ephemeral perennial pea up to 3 meters tall with beautiful flowers!), 9 species of lupines, and San Diego sedge. Let's not forget the abundance of monkeyflowers there: hairy bush, coastal bush, southern bush, scarlet, wide-throated, seep, slimy, and downy.



Photo by Joseph Sochor.



Photo by Bobbie Stephenson.



(Above) Close-up showing 4-petaled flower, stamens, and 4-branched pistil. (Below) Seedlings in my yard. Photos by Bobbie Stephenson.



especially in the garden. Many seed-eating birds, such as Lesser Goldfinches, enjoy the seed.

A couple of years ago a seed germinated (I don't know where it came from) among some day lilies that persist next to my house. I let it grow and last year it bloomed and spread seed into my front yard. Many of them germinated and this year I have a lot more plants to enjoy (my yard is not yet filled with plants). **Joseph Sochor** says he planted a package of seed several years ago, they all germinated, and now he has to weed some of them out each year. **Vincent Bellino** asked me to please advise homeowners of the invasive nature of Hooker's evening primrose, so be forewarned. I am not overwhelmed with them yet, so I guess one person's bane can be another person's boon!

Hooker's evening primrose tends to grow in moist wild places, but can be somewhat drought-tolerant,

~ **Bobbie Stephenson**

Chapter Secretary/Newsletter Editor

## GARDENING WITH NATIVES

### Gardening Committee Meeting July 8, 6:30 pm

This will be an online Garden Committee Meeting. Interested persons should email [gardening@cnpssd.org](mailto:gardening@cnpssd.org) to request the link.

### Hooker's Evening Primrose (*Oenothera elata* ssp. *hookeri*)

The range of Hooker's evening primrose in the wild is along the coast from San Francisco south through San Diego and into northern Baja. Reddish wand-like stems up to 5+ feet high hold the 2- to 4-inch wide yellow flowers at their tips. This biennial starts as a basal rosette (see photo in next column), and grows rapidly when it is ready to bloom.

### Mail Order Seeds from our New On-line Store & Website

[www.canativeseeds.com](http://www.canativeseeds.com)

or, to find out more, contact **Cindy Hazuka** at [seedsandbulbs@cnpssd.org](mailto:seedsandbulbs@cnpssd.org).

# Seed Collection: A “Hindsight is 2020” Series

## ARTICLE THREE: Targeting Genera

We’ve gone over the quick, simplified discussion on ethical collecting practices to seed collection and processing methods for California Native plants in general over the past two months. Hopefully, anyone following along to this point has a number of favorite species in mind and likely already have the dried fruit or pods in a paper bag or have sorted and labeled the lots. If not, remember that leaving a collecting trip empty handed is not a bad thing in the grand scheme of things.

For species like California poppy you might have at this point realized they are both simple to collect and also surprisingly explosive (dehiscent). Dried fruits of *Eschscholzia californica* may ‘pop’ in your hand when you pull them off the stalk, scattering seeds everywhere and leaving you with the curled carpel ‘straw’. Once you get the mature green to browning pods into a loose paper bag to let them dry, you’ll find out over the next few days that they pop in the bag and do most of the sorting for you. Every year at this time, my dog becomes suspicious of all paper bags, eyeing them warily for the next pop. Once the bag finally calms, pour out the seeds through a colander and you have California poppy seeds ready to be stored in a cool, dry place, sown directly outside for next year, or shared with your neighborhood.

Below, fruit types are used to group genera and families that have similar collection and treatment methods. Where genera or families are not listed below and where exceptions apply, there are many great resources to help narrow your focus. If the links below don’t provide the answers you are looking for, become a member of the San Diego CNPS discussion group and join a wonderful community eager to answer questions. As a science based organization, your research, stories, pictures, and volunteer hours contribute mightily to our goals of better documenting and educating our neighbors about the intrigue and benefits

of native flora. Here are some more great rabbit holes:

<https://www.inaturalist.org/>

<http://www.sdplantatlas.org/>

<http://tchester.org/plants/index.html>

<http://www.sci.sdsu.edu/plants/plantsystematics/studentresources/PlantSystematicsLinksStruwe2011.pdf>

<https://www2.palomar.edu/users/warmstrong/termfr1.htm>

To help differentiate and Identify Families, and to focus then down into genera, follow this great guide:

[http://www.sci.sdsu.edu/plants/plantsystematics/studentresources/Struwe\\_50\\_MajorTempPlantFamilies2016.pdf](http://www.sci.sdsu.edu/plants/plantsystematics/studentresources/Struwe_50_MajorTempPlantFamilies2016.pdf)

If you cannot find seed on a healthy plant during the correct season, it may mean it is a male plant. Do your research and keep looking!

### **Dry, Hard Pods & Capsules:**

Some of the simplest seeds to collect are easy to find pods that dry on the plant. The fruit waits through the summer until winter storms, high winds, ravenous birds, or a periodic brushfire cracks them open. Snip or carefully break the cyme of the dry pods into a bag with site data and pics already noted. Avoid any that are molded, holed, or already ripped open by birds since these are likely to contain spores or insect larvae. Carefully check for worms, mites, ticks, spiders, and caterpillars, which are common. Processing is usually done with a mortar and pestle or by rubbing the pods vigorously between rubber soled sandals to break the pods and release the seeds when they are too tough for gloved or bare hands.

The dry pod producing plants are some of the most popular landscaping and nectar producing native plants and include (in no particular order): snapdragons (*Antirrhinum*), larkspur (*Delphinium*), beardtongues (*Penstemon*), bush penstemon (*Keckiella*), bee plant (*Scrophularia*), bladderpod (*Peritoma*), bignonia (*Chilopsis*), liveforever (*Dudleya*),

deerweed (*Acmispon*), ocotillo (*Fouquieria*), blazing star (*Mentzelia*), miner’s lettuce (*Claytonia*), paintbrush (*Castilleja*), monkeyflower (*Diplacus*), columbine (*Aquilegia*), oceanspray (*Holodiscus*), cottonwood (*Populus*), alum root (*Heuchera*), tobacco (*Nicotiana*), thornapple (*Datura*), violet (*Viola*), creosote (*Larrea*), cocklebur (*Xanthium*) & blue eyed grass (*Sisyrinchium*).

### **Papery & Dehiscent Pods & capsules:**

The main difference between hard pods and papery, thin seed pods is the texture and thickness of the pericarp. A few hard pods have mechanisms that “explode” when conditions are right. Timing is important with these genera and families because the mature seeds are only available for a limited period. Heat, herbivory, rain, wind, and dry conditions are factors for these fruits that trigger release of their seeds nearly all at once. Plan to check on and collect these within three to four weeks after blooming ends and always prior to a forecast for high wind or rain events. It may take extra visits, but if too late, you’ve likely missed the season entirely for that location. You may collect mature pods that haven’t opened yet and dry them in a paper bag, though the greener fruits will yield fewer mature seeds. Some genera are included here with samaras that fall away easy, like maple, often into a stream or pond. Some, like agave and yucca, produce fruits that are targets for larvae and may take all summer to dry completely. Others have seeds that easily fly away on parachute tufts, like milkweed. Others simply open when with the lightest touch, making collecting them a delicate exercise. Thankfully, once collected, these require very little processing or easy processing to clean them.

These include onion (*Allium*), milkweed (*Asclepias*), mustards (*Brassicaceae*), catchflies (*Silene*), morning glory (*Calystegia*), spurge (*Euphorbiaceae*), locoweed (*Astragalus*), buckbrush (*Ceanothus*), fairyduster (*Calliandra*), redbud (*Cercis*), lupine (*Lupinus*), pea (*Lathyrus*), palo verde (*Parkinsonia*),



clover (*Trifolium*), vetch (*Vicia*), flax (*Linum*), mallow (*Malvaceae*), sand-verbena (*Abronia*), ash (*Fraxinus*), monkeyflower (*Erythranthe*), evening primrose, fuchsia, & sun cups (*Onagraceae*), peony (*Paeonia*), poppy (*Papaveraceae*), gilia (*Gilia*), maple/elder (*Acer*), iris (*Iris*), lilies (*Liliaceae*), orchid (*Orchidaceae*), brodiaea/blue dicks (*Themidaceae*), agave (*Agave*), yucca (*Hesperoyucca*), & beargrass (*Nolina*).

#### **Cones:**

These gynosperms are fairly forgiving on timing since seeds can take months to several years to develop. Collecting dry cones from the tree isn't always necessary, but preferred since dropped cones are immediately available for predation on the ground. Caution is advised in cases like *Pinus coulteri*, as the cones are known as 'widowmakers' for their ability to maim or kill when they drop from a great height. Cracking the dry cone is best done with pliers, but some open easier when placed in a low fire or allowed to dry in a low heat oven for a few hours or sunny windowsill for a few months. Use a solid box for these if taking the whole cone to avoid dropping pine sap.

Genera: pine (*Pinus*), juniper (*Juniperus*), cypress (*Hesperocyparis*), & cedar (*Calocedrus*).

#### **Dry Berries / Drupes:**

These fruit dry with little fleshy interior tissue (mesocarp), though they are covered by a skin (pericarp) like a berry. Collect when the fruit changes color to bright red or yellow-orange. When pressed and rolled between the fingers, the skin tears and the seeds fall away, often neatly. While these genera can be processed while still wet, waiting until these are fully dry helps to avoid odors, astringent juice, and extra work separating the seed from the 'chaff' material. Many of the following genera also should be approached with caution given the spiny leaves in barberries, prickles on roses, and poisonous compounds found in most nightshades. Use appropriate gloves. The color of these berries entice natural herbivory by birds, so acid treatment can help with breaking dormancy, though I've found that isn't required.

Genera: Barberry (*Berberis*), dogwood (*Cornus*), silk tassel (*Garrya*), wild rose (*Rosa*), & nightshade (*Solanum*)

#### **Stone fruit:**

Stone fruit here are nearly identical to dry berries and drupes except that the genera within Ericaceae have stones / nutlets that are either fused or free (a diagnostic characteristic). The seed resides protected within the hard shell that requires special treatment like heat/fire or acidic conditions to break dormancy. It is possible to speed the process by manually cracking the stones, but you will lose many viable seeds in this manner. These 'seeds' are most often sold as untreated, intact nutlets. Collect when bright red or brown. Withered fruit is fine to collect, but difficult to process.

Genera: Manzanita (*Arctostaphylos*), mission manzanita (*Xylococcus*), & summer holly (*Comarostaphylos*).

#### **Fleshy Fruit & Berries:**

These genera and families listed below have seeds covered by moist fleshy tissue and a thin skin or leathery rind, and here you'll find the most delectable native fruit. Not all are edible, despite their cousins being found on grocer's displays. Collect by hand or tongs when ripe. These are separated from dry fruits because they are much easier to process while wet. Forming a mash under water and straining the pulp away does wonders to separate these seeds. Gloves and sometimes tongs and masks are best used to harvest and process these. A small amount of liquid soap helps the washing process, though the separated seed should be completely rinsed and allowed to dry completely afterwards. Caution ought to be taken when harvesting bush rue / spice bush since it contains phytophototoxic oil compounds that develop a rash on sensitive skin when affected areas are exposed to the sun.

Genera & families: Cactus (*Cactaceae*), hackberry (*Celtis*), honeysuckle (*Lonicera*), snowberry (*Symphoricarpos*), gourds (*Cucurbitaceae*), gooseberry (*Ribes*), coffeeberry (*Frangula*), lemonade & sugarbush (*Rhus*), redberry (*Rhamnus*), strawberry (*Fragaria*), toyon (*Heteromeles*), cherry/apricot/almond

(*Prunus*), blackberry (*Rubus*), bush rue (*Cneoridium*)\*, desert thorn (*Lycium*), ground-cherry (*Physalis*), grape (*Vitis*), palm (*Arecaceae*).

#### **Asters:**

The massive family of Asteraceae contains just over 100 known genera within San Diego County alone. The compound inflorescence produces copious amount of dry nuts per head and many have a light fluff attached (pappus), which helps them to disperse in the wind. Exceptions here are bur-sage/ragweed (*Ambrosia*) and cocklebur (*Xanthium*), since they are treated better under other type descriptions here.

Collect the seeds after the head has begun to dry and the seed pulls freely from the receptacle. Place all of it into a large paper bag. Tarplants and other glandular species are sticky, so thin gloves are recommended during harvest. Separating the 'seed' from the chaff can be done with a light mashing between the hands to allow the fluff and seeds to fall into a bowl or tray. Blowing the collected mess with the correct pressure helps to separate it, though you'll have to experiment on what works best. Many final seed products will contain chaff as an unavoidable byproduct. Static electricity can help the process along by rubbing a plastic sheet with a cloth to create a charge. Overall, asters don't need a wash for cleaning, but they will need to be free of larvae and mold.

#### **Acorns & Hard nuts:**

These are staples of the ethnobotanical diet, loved by people and squirrels alike. Collect when mature and dry on the tree by hand or basket, or when green but has signs of changing color. Picking them up off the ground results in more failures given they are attacked by insects, mold, and rodents quickly after falling. The few that survive on the ground create more trees naturally, so it's best to leave these alone unless the ones on the trees are simply too difficult to reach. Toss those acorns that have visible holes or float to the top of a shallow bath. For walnuts, remove the leathery rind, which should easily split

from the nut by hand with little effort when ready for planting. Jojoba contains a waxy oil found to be very useful as a commercial product and the seed inside is edible with cooking.

Genera: Oaks (*Quercus*), walnut (*Juglans*), & jojoba (*Simmondsia*).

#### **Loose to compact achenes and grains:**

This last category is a bit of a catch-all, but are collected and processed in the same manner. The important things to remember when collecting and processing these families and genera is that some contain poisonous compounds, skin and mucus membrane irritants, spiny/Velcro-like inflorescence parts, and/or strong residual odors. All will leave an awful mess after processing. Borage family often has fine hairs. Celery family are often poisonous, difficult to ID, and can have obnoxious burs. The monocots here are particularly tough to ID, especially without all the parts of the plant.

Collect the whole inflorescence stalk (cyme) or panicle in the field when dry. Use caution on those like pitcher sage

as the seed can easily be knocked free and lost if handled too roughly. Test a cyme in your glove or hand by gently crushing the lot and sifting for seed. During processing, nearly all can be lightly crushed with gloves or hands or between two rubber sandal soles to make a dry aggregate that frees the seed from any attachments. The correct pressure is species specific, especially with grains. Screen the mixture to separate the fine dust and irritating fluff, seeds, sticks, and remaining flower parts. A magnifying glass is very useful for determining if the processing is working effectively on species that produce very small seeds, like spineflowers. A vacuum, mask, and moist towels are quite handy if processing indoors. For those seeds with tails, you can break the tails off by hand, but they fall away easily enough when gently crushed too.

Genera & families: Celery/carrot family (Apiaceae), sage (*Salvia*), borage family (Boraginaceae), saltbush (*Atriplex*), goosefoot (*Chenopodium*), pitcher sage (*Lepechinia*), mountain mint (*Monardella*), bluecurls

(*Trichostema*), ragweed (*Ambrosia*), skullcap (*Scutellaria*), wishbone bush (*Mirabilis*), sycamore (*Platanus*), linanthus (*Leptosiphon*), buckwheat (*Eriogonum*), spineflower (*Chorizanthe*), virgin's bower (*Clematis*), mountain mahogany (*Cercocarpus*), chamise & redshanks (*Adenostoma*), bedstraw (*Galium*), willow (*Salix*), vervain (*Verbena*), sedge (Cyperaceae), rush (*Juncus*), grass (Poaceae), & cattail (*Typha*).

Please share your findings and help to round out collecting knowledge. I've left out uncommon genera for the nursery trade, so if you don't see something you are looking for, as a Genera or Family, please ask! The more we know as a Society, the more we can refine our efforts to reduce waste all around.

**NEXT ARTICLE: Germination and Renewal.**



## CONSERVATION

### **Conservation Committee Mtg**

Contact [conservation@cnpsd.org](mailto:conservation@cnpsd.org) for information.

### **CNPS Carbon Neutrality Goal and Other Conservation News**

At its June 6, 2020 meeting, the Chapter Council approved the CNPS Carbon Neutral Goal. It reads as follows:

“CNPS’s goal is to become carbon neutral in its activities by 2030, meaning that our activities will, in net, add no greenhouse gases to the atmosphere every year. This goal encompasses work done by staff and volunteers, in activities, meetings, and events. Methods for reaching this goal remain to be determined as of the adoption of this goal in 2020, so successful methods, techniques, innovations, and programs will be freely shared within CNPS as a normal function of the society.

- “Justification for Goal: CNPS recognizes that climate change is a threat to the continued existence of at least some of California’s native plant species.

- “Currently, the damage caused by climate change ranks behind habitat loss and non-native invasive species in terms of the threat it poses to California native plant species. In coming

decades, climate change will merge with these other threats by making part or all of the current ranges of native plants unlivable for those species, forcing them to migrate or die. We want to avoid this future.

- California as a state has proposed to go carbon neutral by 2045 if not earlier. Experts suggest that we have at most 10 years to avoid locking the global climate into a 2°C warming over baseline, a level that will trigger long-lasting effects and take centuries, if not millennia, to undo.

- CNPS must do its part to protect California’s native plant species from climate change, just as we do our part to combat habitat loss and the spread of non-native invasives.”

Here are a few of the implications of setting this goal.

We’ve also known that climate change was a problem for about as long as CNPS has been around (Lyndon Johnson spoke to Congress about it in 1968). As we all know, we’ve done nothing to “bend the curve” on the rate of greenhouse gas emissions, so we’re now struggling with an increasingly drastic need to wean everyone off fossil fuels or suffer horribly with extreme weather and its consequences.

CNPS needs to change too, and that is really what this goal is about. CNPS was founded in the 1960s and has existed during a time when access to gas-powered vehicles was considered normal. A majority of our activities implicitly take access to private transport for granted, whether it's a meeting, a field trip, a work party, or a fundraiser like a garden tour or a plant sale. Now we collectively have to figure out how to do CNPS activities and be CNPS members without emitting greenhouse gases. No one thinks that will be easy, which is why we're giving ourselves 10 years to experiment and work things out. Transforming the way we do things will become part of our normal process.

Hopefully everyone will become involved. One method is to look at what we are doing now, during the coronavirus shutdown, and to see what particular methods (perhaps online meetings?) would be sustainable and useful in decades to come. The pandemic caused a major, if temporary, drop in greenhouse gas emissions. While CNPS cannot continue to operate in lockdown mode indefinitely, it is worth seeing what we can learn from this time, rather than trying to get through and forget about it as fast as possible.

There have been three dodges suggested by people to meet this goal, and unfortunately none worked. The first is to claim that American society will need to change to meet this goal, that CNPS will be carried along with it, and that therefore we don't have to do anything. To the extent that we will need things like better electric cars for field activities, this is correct. Based on America's multi-decade pattern of avoiding such changes, unfortunately the time for thinking others will do the work for us has passed. We all have to pitch in.

Another idea was to claim that, since we stop large acreages from being destroyed through conservation activities, therefore we can claim the greenhouse benefits of these areas and count that as making us neutral. There are a couple of problems with this. The big one is that atmospheric greenhouse gas concentrations are still rising. Conserving plants by itself is insufficient to decrease emissions, we actually have to decrease our own emissions. The other issue is that we do not own the lands we save. Just as we do not want other entities claiming our greenhouse gas reductions as their own, we cannot claim others' reductions to our credit.

The third idea is that we have no competence in decreasing our own emissions, so we should pay someone else to sequester carbon for us and call it even. There are two fundamental problems with this plan. One is that studies have shown that most such carbon offset schemes have been reported to not hit their goals. More generally, if the world had a sufficient supply of carbon sequestration, it would have soaked up all the greenhouse gases we've already emitted, and we wouldn't have a problem. If, instead, sequestration opportunities are sharply limited, then we need to work on cutting our own emissions, rather than continuing to emit and buying a carbon indulgence elsewhere.

Speaking of which, as you probably know by now, on June 12 the California Appellate court upheld a ruling by a lower court invalidating San Diego County's Climate Action Program. The

problem is CAP mitigation GHG-1, which allows developers to buy offsite mitigation for emissions they produce. In Otay Ranch Village 14, for example, offsets would be used to deal with 72% of the emissions the project would create. Hopefully the County will get tired of losing on this issue and start revising the CAP? I suspect they will appeal this ruling too, but I can hope. And it is worth considering whether it's hypocritical to demand that developers avoid carbon offsets, while embracing them ourselves.

Turning to General Plan Amendment (GPA) developments, I believe all of them plan to use carbon offsets while claiming they do not violate the CAP. Their dodge is that they do not follow the CAP, but rather follow interim advice issued before the CAP was certified. This interim advice happens to have wording identical to GHG-1, so the only way this dodge works is if environmental groups fail to litigate on it.

The two county GPA developments in the pipeline are Lilac Hills Ranch (LHR) and Otay Ranch Village 14. By the time you read this, we should know how the Board of Supervisors voted on Lilac Hills Ranch. This is the project you voted down in 2016. The developer had a parallel application in process, so they're taking it to the Supervisors in late June.

This decision poses an interesting quandary for the Supervisors, because the two most pro-development supervisors (Desmond and Gaspar) were elected by margins smaller than the margin that rejected LHR. In Gaspar's case, she was elected at the same time the LHR was rejected, and she's up for re-election this year. Do the Supervisors pass it and risk the voter's wrath, or reject it and risk their backers' wrath? It will be an interesting hearing. Some have suggested that LHR will be sent out for yet another round of EIRs, just to avoid deciding in an election year. That may be.

As for Otay Ranch Village 13, it goes to the Supervisors on July 8. If it follows previous decisions, the Supervisors will approve it 4-1 or 3-2, and environmental groups will litigate to stop it. One might hope that the Supervisors would look at the CAP ruling, decide not to appeal it again, and either scrap Village 13 or send it back for a supplemental EIR. They didn't do that with any other GPA, but it's possible they might change. Very unlikely, but possible.

If you want to write your supervisor and ask them why they're wasting money fighting a losing legal battles instead of grappling with climate change, please do so. After all, we're now grappling with it as an organization ourselves, so we have some moral standing to question them.

~ Frank Landis, Conservation Chair

## BOOK SALES

The Chapter currently has a limited number of books available for sale. If by the time you are reading this, Balboa Park has opened and we have access to the storage lockers, we will have the normal complement of books for sale. We can arrange to exchange payment for books or you can send a check to me made out to CNPS and I can mail books you

would like. Please email me at [booksales@cnpsd.org](mailto:booksales@cnpsd.org) or call at (858) 342-5246 to make arrangements if you would like to purchase some books. I was happy to have picked up Natural History of Anza-Borrego prior to the March meeting but the meeting was cancelled.

~ **Cindy Burrascano**, Book Sales Chair

### San Diego Chapter CNPS 6-9-2020 Books

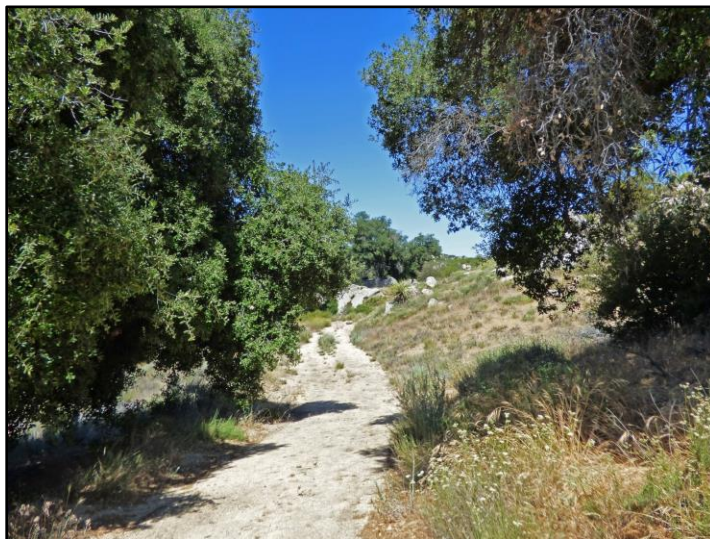
50 Common Insects Southwest	\$14
70 Common Cacti of Southwest	\$14
100 Roadside Wildflowers	\$ 9
A Is for Acorn	\$10
Art of Botanical Drawing	\$20
Atlas of the Biodiversity of CA	\$20
Baja CA Field Guide	\$37
Botany In a Day	\$33
Butterflies of SD County	\$40
Cactus Country	\$ 9
CA Bees and Blooms	\$30
CA Foraging	\$27
CA Native Gardens A Month-By-Month	\$34
CA Native Landscape	\$41
CA Native Plants for Garden soft cover	\$29
CA Plants	\$33
Chasing Centuries	\$29
Chia Café Collective Cooking the Nature Way	\$24
Coachella Valley Wildflowers	\$10
Coloring Native Desert Indian Ethnobotany	\$ 9
Coloring Native Chaparral	\$ 9
Delfino Cuero	\$14
Desert Insects & Kin of S CA	\$45
Desert Walk	\$20
Designing CA Native Gardens	\$42
Drought Defying CA Garden	\$21
Early Uses of CA Plants	\$20
Eat Mesquite	\$18
Ethnobotany Project	\$25
A Field Guide to CA Lichens	\$35
Field Guide to Grasses of CA	\$29
Field Guide to Manzanitas	\$30
Fire, Chaparral, and Survival	\$20
Gardner's Guide to CA Wildflowers	\$14
Gardening with Less Water	\$16
Gottlieb Garden	\$25
Hiking Joshua Tree Natural Park	\$16
How to Build Paths, Steps, and Footbridges	\$22
Hummingbird Plants of Southwest	\$20
I Can Name 50 Trees	\$11
Indians of the Oaks	\$14
Indians Uses of Desert Plants	\$15
Intro to CA Beetles	\$43
Intro to CA Chaparral	\$29
Intro to CA Desert Wildflowers	\$21
Intro CA Plant Life-Ornduff	\$15
Jump	\$18
Kumeyaay Ethnobotany	\$33

Paintings from the Land of Sunlight	\$16
Law' Guide to Nature Drawing & Journaling	\$44
Lizard Coloring Book	\$ 9
Malki Museum's Native Food Tasting	\$ 6
Medicinal Plants of So CA	\$15
Mojave Desert Wildflowers	\$11
Native Shrubs of So CA	\$12
Natural History of Anza-Borrego	\$42
A Natural History of Sonoran Desert	\$32
Naturalist Guide to the Hidden World of Pacific NW Dunes	\$27
Oh Say Can You Seed	\$11
Parry's CA Notebook	\$27
Plant Galls of CA	\$29
Prickly Pear Cookbook	\$18
Quail-friendly Plants of Baja CA	\$43
Roadside Geology Along the Sunrise Highway	\$14
Roadside Plants of So CA	\$16
SD County Native Plants	\$35
SD County Native Plants 1830s	\$11
Secrets of Oak Woodlands	\$19
Tending the Wild	\$38
This Land: A Guide to Western National Forests	\$27
Torrey Pines, Native Plants of 4th Edition	\$41
Vascular Plants of the Cuyamaca	\$ 5
Why OH Why Are Deserts Dry	\$11
Wild Suburbia	\$20
Native Plants Live Here Sign Large Spanish	\$24
Bee Sign	\$24
Hummingbird Sign	\$24
Monarch Sign	\$24

## NATIVES IN THE FIELD

### Chihuahua Valley

by Jürgen Schrenk





The Chihuahua Valley offers lots of trails; we revisited one where we expected a good wildflower display.



Soon after leaving the trailhead on Old Mitchell Camp Rd we were welcomed by (left) giant four o'clock (*Mirabilis multiflora*), followed by (below) California evening primrose (*Oenothera californica*).

(Below) While fringed spineflower (*Chorizanthe fimbriata* var. *fimbriata*) usually forms a dense carpet, it's a cute little plant when growing by itself.



We picked a view of Oak Grove Valley as our lunch spot.



(Left & below) Prickly poppy (*Argemone munita*)



## RELATED ACTIVITIES

### Cal-IPC Symposium Online

October 27-30, 2020

Recovery & Resilience: Confronting Fire, Weeds, & Forest Pests

Call for Abstracts now open! Deadline July 15

<https://www.cal-ipc.org/resources/symposium/>

A gathering online offers attendees an opportunity to stay safe, while connecting with community members from across the state and beyond to get updates on effective tools, relevant research, and strategic management approaches. In light of the online format, general submissions will be for a poster or a 5-minute "speed talk."

Cal-IPC welcomes presentations on all aspects of invasive plant biology and management, including:

- Invasive plant management projects to learn from
- Management tools and approaches – mechanical, chemical, biological, cultural...
- Mapping and prioritization
- Restoration and recovery in diverse habitats – forests, grasslands, wetlands...
- Fire ecology and post-fire recovery
- Ecology – plant traits and communities
- Outreach, communication and volunteers
- Diversity and inclusion in land management
- Other invasive species – nutria, feral pigs, shot hole borers...
- and more!

Their Student Presentation Contest invites undergrads, grad students and recent graduates to enter with a chance to win a monetary reward for the top paper and top poster. Learn more about the Cal-IPC Student Section.

### 2020 Photo Contest

Are you in the field? Take pictures! Stuck indoors? Now's the time to sort through your backlog of pictures. Either way, your photos help tell the story of restoration work. Get ready to submit your best images to **Cal-IPC's 2020 Photo Contest** when it opens in July.

The CNPS-SD Newsletter is generally published 12 times a year. The newsletter is not peer reviewed and any opinions expressed are those of the author identified at the end of each notice or article. The newsletter editor may edit the submittal to improve accuracy, improve readability, shorten articles to fit the space, and reduce the potential for legal challenges against CNPS. If an article, as edited, is not satisfactory to the author, the author can appeal to the board. The author has the final say on whether the article, as edited, is printed in the newsletter. Submissions are due by the 10<sup>th</sup> of the month preceding the newsletter; that is, July 10 for the August newsletter, etc. Please submit items to [newsletter@cnpsd.org](mailto:newsletter@cnpsd.org)

### CNPS-SD Activities Calendar July 2020

- 7/1: Board Meeting via Zoom, p.2  
7/8: Garden Committee Meeting via Zoom, p.3  
7/16: Caspers Wilderness Park via Zoom, p.1

## MEMBERSHIP APPLICATION

<https://www.cnps.org/membership>

\_\_\_ Student/Limited Income \$25; \_\_\_ Individual \$50; \_\_\_ Plant Lover \$120; \_\_\_ Supporter \$500; \_\_\_ Patron \$1,000;  
\_\_\_ Benefactor \$2,500; \_\_\_ Perennial Monthly Sustainer Memberships starting at \$5/mo provide much needed predictable  
income for our programs. Your indicated gift will be automatically repeated each month. Pls see  
<https://www.cnps.org/membership> to sign up for this membership level.

Name(s): \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_ e-mail: \_\_\_\_\_

Mail check payable to "CNPS" and send to: CNPS, 2707 K Street, Ste 1, Sacramento, CA 95816-5113.

## CALIFORNIA NATIVE PLANT SOCIETY

San Diego Chapter  
C/o San Diego Natural History Museum  
P. O. Box 121390  
San Diego, CA 92112-1390



July 2020 Newsletter

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