

Carpenteria

CNPS SEQUOIA CHAPTER



March 2018
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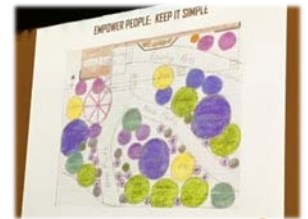
CONFERENCE GO AND TELL

California Native Plant Society Conference 2018: Adapting to a Changing California

--Brooke Nelson

Nearly 1,000 native plant enthusiasts attended the California Native Plant Society Conference February 1-3, 2018 at the Los Angeles Airport Marriott. The conference is held every three years and draws attendees from throughout the state.

Topics included climate change, grasslands, oaks and oak rangelands, chaparral, restoration, plants and pollinators, seed banking, emerging tools in conservation science, horticulture as part of conservation, land management, fire and native plants, Baja California endemics, pathogens and pests, citizen science, marketing native plants for conservation, invasive plants, and equity and inclusiveness.



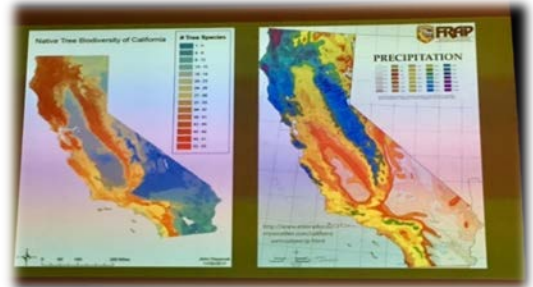
In his talk, "Restoring Nature's Relationships," opening plenary speaker and author Doug Tallamy, Ph.D. underscored native plants' key role in sustaining insects and birds. Tallamy encouraged attendees to think of plants as bird feeders, noting that 432 species of North American birds, or one-third of North American bird species, are at risk of extinction.

Insect host plants are vital to the nesting success of songbirds, since baby birds cannot eat seed and depend on larvae and caterpillars. Non-natives do not support insects or the birds that eat them because native species have not had time to evolve to eat non-natives.

"Foraging hubs" are plants that serve as key sources of food, with 5% of genera producing 73% of the food. Native oaks and willows top the list of insect hosts, followed by prunus, cottonwood, alder, birch and pine. An oak tree can host 500 species of caterpillars, while a non-native ginkgo biloba might host five species and a Japanese zelkova hosts none, Tallamy said. Native viburnum hosts 103 species, while the non-native Japanese pieris hosts three.

Tallamy urged homeowners and landscape planners to choose plants with foodwebs in mind, to create corridors connecting natural areas, to reduce the area in lawn, and to transition from alien ornamentals to native ornamentals. "Plants are not decorations," said Tallamy. "Our landscapes must support life, sequester carbon, clean water, enrich soil, and support pollinators."

Managing climate change was a frequent session topic. Speakers noted that while native oaks have evolved to withstand drought, they are dying and failing to regenerate because they cannot cope with the increasing number of extreme heat days. The majestic valley oak was once one of California's most widespread oaks and is now the state's second rarest oak due to landscape transformation. Blue and Engelmann oak are not regenerating, said Tom Gaman of the California Wildlife Foundation.



Some botanists are researching “assisted gene flow:” transferring climate-resistant genetic material from trees, such as valley oak and giant sequoia, that are surviving on the ‘front lines’ of climate change to groves likely to suffer climate change in the future. UCLA Biologist Victoria L. Sork’s team collected 11,000 valley oak acorns from groves throughout California to test their varying responses to heat and drought.

“When should managers get acorns? What if local trees are no longer adapted to the changing conditions?” asked Sork. “If we lose oaks in California we’ve lost biodiversity. We need to do local climate-based models for where to collect seeds. Do we want to maintain genetic structure vs. long-term success of oak restoration reforestation projects? Local may not be better.”

Blair McLaughlin of Hampshire College and David Ackerly of UC Berkeley called for increased protections for emerging refugia, such as some areas in the San Francisco Bay area, which are already home to dry-adaptive native species. As climate change intensifies, xeric-adapted species and habitats in heat-ravaged areas such as southeastern California will disappear first. Noting that acorns cannot survive in seed vaults, speakers urged decision-makers to take xeric-adapted species’ seed material from front-line habitats and plant them in regional refugia to rescue their genetic diversity before it is lost.

The San Joaquin Valley is at risk of shot hole borer infestation, first detected in Los Angeles County in 2003, as the sesame seed-sized beetle loves heat and riparian/irrigated trees. The beetle produces fusarium as its food source, which blocks the tree’s vascular system and leads to dieback and death. “All of our native riparian trees can be attacked, and it is mostly human spread,” by transferring vegetative material, said Sabrina Drill of UC Cooperative Extension, Los Angeles. Shot hole borer is devastating riparian habitats and the birds and fish that depend on them in San Diego and Orange County, and no pesticide is registered for use in riparian areas.

Speakers also discussed best management practices to halt the spread of phytophthora from nursery stock. Measures implemented at Rancho Santa Ana Botanic Garden in the past three years include: steaming pots and soil, bleaching surfaces, replacing wood benches and tables with metal and plastic, and getting plants off the ground.

As California’s population becomes more diverse, speakers underscored the importance of broadening the audience for conservation and native plants by allowing children to experience nature and reaching out to underrepresented communities. UC California Naturalist program staffers presented on community stewardship for native plants. “We cannot protect and restore California’s unique ecology without an environmentally literate, engaged public,” said Marisa Rodriguez of the UC Naturalist program.



Minority students need paid internships, noted Antonio P. Sanchez of Rancho Santa Ana Botanic Garden. Internships facilitate outreach, promoting from within, and a mentoring culture. Native plant awareness events should reach beyond the botanical to appeal to minority groups’ interests, such as a native food symposium or sage festival, he noted.

In her talk on marketing natives, “Engaging People Who Think They Aren’t Interested in Native Plants,” the Theodore Payne Foundation’s Lisa Novick suggested talking about iconic forests at risk, native plants as food, or their favorite fauna. “You have to start with what people love, like butterflies and birds,” she said. Ninety percent of leaf-eating insects eat only native plants, and native plants host 35 times more caterpillars than non-natives, Novick said. “Do you notice that you don’t see many butterflies anymore, and if you do, they’re cabbage whites, which are from Europe? If you plant native plants, life comes back.”

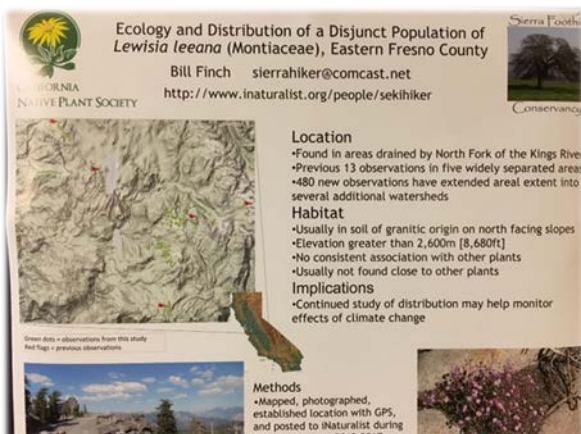


Novick suggested engaging people with brief sound bites, using billboards, costumes, signs and songs, explaining the plant-animal-insect relationships that have evolved over many years, and offering actionable steps to transition to native landscapes. “Talk about what people really care about, like food. Elderberry is one of our state’s best trees for birds, but you can use it to make elderberry crostata. You can use sage for tea or eat native grapes. Make it fun!” Rather than urge a skeptical homeowner to tear out their entire lawn, suggest that they start with five native plants. Appealing to property values or the need to save water is less effective, especially with wealthy homeowners. “If they can afford it, they think it is right. People have plant blindness. California-friendly landscape advice has not distinguished between natives and plants from the Mediterranean or other parts of the world. People no longer know the natural systems of where they live. You lose the nature of where you live if you lose the native plants.”

Online platforms are enabling more horticulture fans to become citizen scientists. Technology and citizen science initiatives are assisting mapping and plant protection. These include remote sensing, satellite, helicopter and drone surveys, and online tools:

- PlantID.net
- ArcGIS Online
- Databasin.org
- CollectorApp
- Aerulean.com (database of plants correlated with butterfly species),
- Calflora and CALINVASIVES
- Audubon’s Plants for Birds
- CAplantrescue.org (seedbank collections database)
- CALeDNA Program (UC-backed citizen science initiative for soil sampling, photos and observations for biodiversity monitoring)

Newly launched programs for expanding native plants’ appeal include the California Botanical Society’s Botany Ambassador program, which aims to inspire future botanists and improve the communication and professional skills of current botany scholars in college. The recently created Native Plant Conservation Campaign is a native plant society for the United States, with 51 affiliates representing 250,000 plant enthusiasts.



Fresno-area attendees of the 2018 conference included Bill Finch of the Sierra Foothill Conservancy, who contributed a poster on quill-leaf lewisia (*Lewisia leeana*), in eastern Fresno County. Madera-based Xerces Society/USDA Pollinator Project Kathryn Prince spoke on “Using Citizen Science to Understand and Protect California’s Imperiled Pollinators.” Other valley-based speakers included Jon Keeley of the US Geological Survey in Three Rivers, Melanie Baer-Keeley of Sequoia and Kings Canyon National Parks, and Mitchell Coleman and Brandon Pratt of California State University, Bakersfield. Two Tree Fresno board members attended.

Abstracts of each session are available on the CNPS website: <https://conference.cnps.org/technical/abstracts/>

Upcoming Events and Classes in 2018

•April 11-12, Vernal Pool Landscapes: Past, Present, and Future

Location: Chico, CA

- Scholars, agency representatives, and other professionals will present research and case studies regarding plant and animal species dependent on vernal pool landscapes, conservation efforts, legal cases, and management techniques.
- Field trips will take place on April 13, but the number of participants is limited.

To see cost and to register go to <http://www.aqualliance.net/>



Photo: Sarah Bryant, Tree of Life Nursery

•March 17, 9:30am Essential Garden Design

Location: Tree of Life Nursery, 33201 Ortega Highway, San Juan Capistrano, CA 92675

- Will teach you how to create a thriving and enjoyable native garden with a focus on the winter season.
- Field trips will take place on April 13, but the number of participants is limited.

Cost: Free

For more information visit <http://californianativeplants.com/march-events/>

THE SCIENCE OF PLANTS

Scent of Fear

--Jane Pritchard

The South African flower *Ceropegia sandersonii* attracts its primary pollinator, *Desmometopa* flies, with the scent of fear in that it chemically mimics a honeybee being attacked. Western honeybees (*Apis mellifera*) release pheromones during a predator attack. The carnivorous *Desmometopa* flies eat the bees' guts.



-*C. sandersonii*- Marc Altenloh

Odors put out by the flower and by alarmed bees have several compounds in common, a mixture only found in *C. sandersonii* and *A. mellifera*. The flies enter the flower and are trapped inside. Next day the flower wilts and the fly escapes only to be duped by another flower to complete the fertilization. Many flowers lure pollinators with false promises of sweet nectar, sex, or rotting flesh, but these flowers use the smell of fear.

Source: Current Biology 26, pgs. 2787–2793, October 24, 2016



-*Apis mellifera*- wikipedia



-*Desmometopa* sp.- Valter Jacinto

Membership

John LuValle

Thanks to new and renewing members.

If you require corrections or additions to your membership information, contact John LuValle at jluvalle@mcn.org.

The Sequoia Chapter serves Fresno, Madera, and Kings counties.

The IRS considers dues in excess of \$12 per year and all gifts to CNPS as tax deductible. Renew your CNPS membership online using a credit card. As an option, renew automatically year after year. It is quick, easy, and convenient, and reduces renewal-mailing costs. Visit www.cnps.org and click on the JOIN button.

Next Newsletter: April 2018

Send newsletter suggestions to Laura Castro at lacastror@outlook.com. The deadline for submissions to the next newsletter is **Wednesday, March 28, 2018.**



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THE CALIFORNIA NATIVE PLANT SOCIETY



RENEW

Membership includes the quarterly CNPS journal, *Fremontia*; the quarterly *Bulletin* which gives statewide news and announcements of activities and conservation issues; and our chapter newsletter, *Carpenteria*.

I wish to affiliate with the Sequoia Chapter.

Name: _____
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<input type="checkbox"/>	Student, Limited Income	\$25
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Make your check payable to "CNPS" and mail with this form to:

New Member Renewing Member

California Native Plant Society
 2707 K Street, Suite 1
 Sacramento, CA 95816-5113

The California Native Plant Society is a statewide nonprofit organization of amateurs and professionals with a common interest in California's native 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, science, and conservation.

CARPENTERIA

March 2018

CALIFORNIA NATIVE PLANT SOCIETY SEQUOIA CHAPTER

c/o Jeanne Larson ♦ 3457 Redlands ♦ Fresno, CA 93726

GARDEN NEWS

--Jeanne Larson

The blooms on the bees bliss sage (*Salvia leucophylla* x *S. sonomensis*) seem untouched. In the past two years, bees have declined in my yard, and even with the warm weather have been sparse on the bees bliss. Powder blue ceanothus (*Ceanothus arboreus*) is just ready to bloom, and one stalk is barely open. I will be watching to see how much bloom occurs. The Cleveland sage (*Salvia clevelandii*) looks great and the Mexican bush sage (*Salvia leucantha*) is sending up flowering stalks.

Mexican bush Sage is from Baja California, and is tenderer to frost than the woodier sages. It also needs to be cut back heavily to look best in the spring. My fairly large patch had only been pruned half way. There was new growth with the unseasonable warm weather. While the unpruned area was not hit by the frost, the new growth is cooked.

My “weedy” patch of maidenhair fern (*Adiantum* sp.), with some protection from the tall Camellias (*Camellia* sp.), seems almost untouched. Even after being burned, it always comes back readily. The ‘Pacific Coast Iris’ have some tip burn, but I think that was from the once-a-week watering in my sandy soil. The germinated wildflowers are only surviving from drought because I am hand watering them with pre-shower water.

It will be interesting to see, if we get some reasonable rain in March, how the herbaceous native annuals revive.



Salvia clevelandii- Aaron Schusteff