Protecting the Diversity of our Native Plants

In 2018, CNPS and scientific experts from across the state’s universities, herbaria, and conservation organizations partnered with the state of California on a historic project to “Secure the Future of California’s Native Biodiversity.” At the time of the release of the completed Biodiversity Initiative, CNPS Executive Director Dan Gluesenkamp commented, “The finished plan is truly remarkable. It declares that native plants deserve the same protection as animals (finally!), and it mandates a set of ambitious projects - projects CNPS is already moving forward. Importantly, $2.5 million dollars were budgeted to support the Biodiversity Initiative via state agencies.”

As explained in the report, “California’s designation as a global biodiversity hotspot is based on the high diversity of native plant species. If we lose California’s native plants, the state’s ecosystems and biodiversity will suffer. Plants have generally received less attention than animals for conservation and protections. Therefore, while this Action Plan is about much more than plants, it draws attention to and directs state investment for native plants like no previous plan.”

You can read and download California’s Biodiversity Initiative Roadmap. This roadmap makes fascinating, and accessible, reading for anyone interested in biodiversity, California’s native plants, or their preservation. It provides a simple and useful introduction to biodiversity, which begins: “Broadly, biodiversity refers to the variety of life at all scales, ranging from genes to species to whole ecosystems. At a regional or state scale, biodiversity is the diversity of species, habitats and vegetation types.”

In an inspiring way, it describes the symbiosis of biodiversity and ecosystem health. “Healthy ecosystem processes sustain plant and animal biodiversity. Ecosystems are more stable and more resilient under changing climate when they have higher diversity of species.”

“The new reality of climate change requires a systemic approach that considers the connections and linked relationships across all elements, abiotic and biotic, of our State. These include the work of pollinators, nitrogen fixing bacteria, soil mycorrhizae, animals to spread seeds, and other intricate connections throughout food webs...This system-wide perspective is essential for the survival of California’s species and biodiversity wealth.” The roadmap identifies specific actions for the state, and its partners, to take to understand, protect, and manage California’s native plant biodiversity through preserving, improving and increasing ecosystems. These span from surveying and mapping California’s vegetation, to developing guidelines for native plant use in all State landscaping projects, to finding ways to keep working land viable and productive.
across generations, to accelerating the pace of storing native plant seeds in seed banks, and establishing September 7 as California Biodiversity Day. Read the roadmap to learn the full range of initiatives.

P.S. The State has also advertised for a new Biodiversity Coordinator. (Please help spread the word, so they hire someone amazing!)

Science Updates: Growing Native Plants is for the Birds … and the Bees!

Two new research studies published in 2018 demonstrate the importance of growing native plants to sustaining biological diversity, whether in our gardens, in public and commercial plantings, along roads and highways, or adjacent to crops.

Backyards Need 70 Percent Native Plant Species
The first study, ground-breaking work by Doug Tallamy and other scientists at the University of Delaware and the Smithsonian Institution, found that non-native plants in backyard gardens endanger insectivorous birds (which include over one-third of native bird species in the U.S.). Most plant-eating insects can eat only species with which they have coevolved; non-native plants often are toxic to them. Fewer insects mean reduced survival numbers for most bird species, which feed protein-rich insects to their young even if their primary diet is seeds or fruit. (See University of Delaware article.)

“The UD and Smithsonian research found the key threshold is 70 percent. If the yard has more than 70 percent native plants biomass, chickadees have a chance to reproduce and sustain their local population. As soon as the number of native plants drops under 70 percent, that probability of sustaining the species plummets to zero. To promote sustainable food webs and support wildlife, urban planners and private landowners must prioritize native plant species.”


Which Native Species Best Support Beneficial Insects?
The second study was by UC Davis researchers who tested California native plant species (and one non-native) to determine which species best supported beneficial insects. These plants enhanced integrated ecosystem services, attracting pollinators while reducing the need for pesticides and herbicides. The researchers identified 42 California native plants and one non-native that excelled in attracting and supporting beneficial insects. See the article on “The Big 43” (page 3) for more information on this research.

These plants can play similar roles in home gardens, whether the goal is to attract pollinators to your vegetable garden, create wildlife habitat, or restore the native ecosystem.

Plants that are locally native are specifically adapted to our climate and soils, and thus can thrive with less water and care than plants from other regions. Locally native plants have co-evolved with local beneficial insects, and provide the right food and habitat to sustain an integrated ecosystem. Redbud found that 32 of the 43 plants in the UC Davis study are native to Nevada County, Placer County, or both, but 11 are not.

Because of the clear advantages of local native plants, we created an adapted list that includes the 32 local natives from the study plus recommendations for additional local native plants. We chose plants with similar characteristics to those that were not native here. See page 3 for a link to Redbud’s list of local natives.
The Big 43: The California Native Plants, Plus One, Studied in UC Davis Research
By Kathy Keatley Garvey

When you're thinking of what native California plants to establish in your pollinator garden, this is a great list. "The overall aim of our study was to identify California native plants, and more generally plant traits, suitable for coordinated habitat management of arthropod pollinators, herbivores, and natural enemies and promote integrated ecosystem services in agricultural landscapes," wrote pollination ecologists from the Neal Williams lab at the University of California Davis—Ola Lundin, Kimiora Ward and Professor Williams. 

![Eriophyllum lanatum, Woolly Sunflower](image)

"More specifically we ask (a) which native plants among our candidate set attract the highest abundances of wild bees, honeybees, herbivores, predators, and parasitic wasps, (b) if the total abundances of arthropods within these functional groups across plant species are related to the peak flowering week, floral area, or flower type of the focal plant species, and (c) if the total abundances of arthropods within these functional groups are correlated to each other across plant species."

How did they select the plants? "Selected species were forbs that were drought-tolerant, native to California (one exception), and as a group, covered a range of flowering periods throughout the season," they wrote. The one exception: *Fagopyrum esculentum*, or "domestic buckwheat." Although it's a non-native, it was introduced elsewhere but naturalized in the wild.

Their selections were also based on several other factors:

- indications that they could be attractive to bees based on being listed as nectar and pollen plants for honeybees (Vansell, 1941)
- being recommended as pollinator plants (Xerces Society, 2018)
- being listed as associated with bees in Calflora (2017) or based on earlier collected data on bee attractiveness (Williams et al., 2015).

A further criterion that restricted selection was that "plant material needed for propagation be commercially available either as seeds or plug plants." The exception: *Antirrhinum cornutum*, commonly known as spurred snapdragon, for which seed was hand-collected. They excluded plants that are major weeds of crops or pastures. They noted that *Amsinckia intermedia* (Eastwood's fiddleneck) and *Calandrinia menziesii* (red maids) can be desirable components of wildlands, but become minor weeds in certain situations (UC IPM, 2018). See the full article and complete list of plants.

Redbud’s adapted version of “The Big 43” list identifies local native plants that can be used as alternatives to non-local species: 43 Local Native Pollinator Plants.

Upcoming Redbud Events

- **Feb 23**  **Bryophyte Workshop/Field Trip.** Jim Shevock will lead this workshop on identifying bryophytes; participants learn key characteristics for several bryophytes and then identify the species.

- **Feb 27, Wed.** “Treasure in the Foothills: Lava Caps,” Jennifer Buck-Diaz, CNPS Ecologist. First event in Redbud’s 2019 Passionate About (Native) Plants Speaker Series! Placer County Library, 350 Nevada Street, Auburn. 7 p.m. to 9 p.m. Socializing 6:30.

- **Apr 24, Wed.** “Of All the Gall!” Charles Dailey, Sierra College Faculty Emeritus. Oaks, wasps and galls of the world, especially those in California. What benefits and problems do they bring? Madelyn Helling Library, 980 Helling Way, Nevada City. 7 p.m. to 9 p.m. Socializing 6:30.

- **Spring.** Propagation Group events will include a softwood cuttings clinic in May; the full 2019 schedule will be out soon. Because of space constraints, most propagation group events are limited to CNPS members only. For more information or to receive announcements, contact nativeplanthelp@redbud-cnps.org.

- **June 26, Wed.** “Insect and Plant Life-Cycle Disruption from Climate Change & Other Factors” Art Shapiro, UC Davis Professor Emeritus & Professor Matt Forister, U Nevada Reno. Placer County Library, 350 Nevada Street, Auburn. 7 p.m. to 9 p.m. Socializing 6:30.

- **Oct 5**  **REDBUD’S FALL NATIVE PLANT SALE!!** Save the date! The plant sale committee will meet this spring to plan for sale. Connect at volunteer4redbud@gmail.com.

Other Events of Interest

- **Feb 12**  **“Water and the Environment,”** Dr. Ted Grantham. Sierra Streams Institute, Sierra College Nevada County Campus, 250 Sierra College Drive, Multipurpose Center, Building N-12. 6:30-7:30 p.m., meet & greet 6 p.m.  [https://www.sierracollege.edu/events/upcoming/2019/02/ncc-ss-ted-grantham.php](https://www.sierracollege.edu/events/upcoming/2019/02/ncc-ss-ted-grantham.php)

- **Mar 16**  **Seed Exchange**  Banner Community Guild, 12629 McCourtney Road, Grass Valley. 9 a.m. to 3 p.m. Redbud will have a table, seeds, & handouts. Multiple organizations will participate.

- **Apr 9**  **“Impact of a Warmer and Drier Future on Rangeland Ecosystems,”** Dr. Jeremy James, Director of UC Foothills Research and Extension Center. Sierra Streams Institute, Nevada County Campus of Sierra College, 250 Sierra College Drive, Multipurpose Center, Building N-12. 6:30-7:30 p.m.  [https://www.sierracollege.edu/events/upcoming/2019/04/ncc-ss-jeremy-james.php](https://www.sierracollege.edu/events/upcoming/2019/04/ncc-ss-jeremy-james.php)

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Eriogonum prattenianum, Pratten’s Buckwheat, which grows on lava caps

Galls on Valley Oak (Quercus lobata)
Speak Up About Placer County Development Proposals

The County has proposed developing 15-square-mile grassland and wetland prairie in Western Placer County, home to a rich diversity of flora and fauna, into a vast urban/industrial complex housing and employing over 150,000 people.

Attend Public Hearing Feb 14 on Draft EIR

Please provide comments on the Draft Environmental Impact Review (DEIR) by February 22nd. The Placer County Planning Commission Public Hearing on the DEIR is Thursday, February 14th at 10 a.m. in the Planning Commission Hearing Room, 3091 County Center Drive, Auburn, CA 95603. The hearing has been allocated 90 minutes. Please attend if possible.

To help you learn about the County’s plans and the response by the Alliance for Environmental Leadership (AEL), I am delighted to share with you the Citizen-Initiated Smart Growth Plan, fresh off the press!

You can read Placer County’s planning documents and DEIR for this project online. I suggest you go to the Table 2 in the DEIR, the summary, to get a sense of the size and impacts of Placer County’s proposal. You might find particularly important the Biological Section, in which are described the significant impacts that cannot be mitigated on rare plants, 7,000 acres of farmland, and the 13.9 square-mile vernal-pool complex.

All is not lost. Citizens have organized to analyze the proposed development site from a wholistic, interconnected, and science-supported perspective, because we feel that Placer County has yet to explore the full range of possibilities for the Sunset Industrial Area within their own conceptual framework.

Sunset Industrial Area

The location of the proposed Sunset Industrial Area (SA), as it is called by Placer County, the project’s applicant, is a highly dynamic site. The earth expands and contracts annually and forms vernal pools, the edge conditions vary with neighbors on all sides, and the acreage enables unique solutions for the regional job center. With so many dynamics, understanding and working with the site is critical and complex.

To meet today’s environmental challenges, planners and designers must become more scientific, collaborating and learning from consultants, and incorporating research and data into the decision-making process. Research in the natural sciences, social theory, and economics, to name a few fields, is burgeoning. These new research findings, together with the increasing capability to simulate and analyze effects of change, demand that design be science-supported, not just “the way we’ve always done it.”

The County’s Sunset Area Plan (SAP) unfortunately considers three massive projects within the planning area as an inseparable unit, while failing to consider better-suited locations for the proposed university or checking their design against their own objectives.
The County has long-established policy that the SA is a place reserved for industry and agriculture that suburban sprawl could not transgress. The promise by a property owner within the SA to donate 300 acres for a university has been too enticing for the County to resist. The donation comes with strings—many thousands of units of low-density single-family dwellings, sprawling across the landscape, as well as enormous infrastructure costs that cannot be repaid by the developer and thus must fall on the shoulders of current taxpayers.

Is the value of getting this land donation worth the costs to the health and wellbeing of thousands of families and the loss of many thousands of acres of carbon-sequestering land? To make this happen, jurisdictional lines have been moved and taxpayers have funded the upfront planning work for the developer’s design, at the cost of more than $6 million to date.

The Citizen-Initiated Smart Growth Plan

The Citizen-Initiated Smart Growth Plan (CISGP) seeks to diversify the conversation and right these wrongs. In this Phase 1 report, we have explored the region’s collective vision, brought the site to life by illustrating the seasonal changes of the natural systems in the prairie, and worked diligently to respect the community and the land.

The resulting citizen-initiated zoning plan enhances the County’s regional job center vision by providing employment and business opportunity comparable in scale to the County’s Plan. The CISGP also sets straight the job-house balance, enables public transit, and enhances quality-of-life and character-of-place values that are not a part of the County’s Plan.

The CISGP embraces the natural features of the Sunset Area and enhances or protects them based on scientific research and review. It incorporates equity from the core, through quality locations for all housing choices, mixed-use neighborhoods, and sustainable design standards that apply equally to blue- and white-collar working conditions. We have found that when we set out to grow smarter, many benefits arise from each element having various functions.

For example, the higher-density, mixed-use areas create walkable communities, have the ridership to support quality public transit, reduce household operating costs, and share public amenities across more people, enabling those amenities to be of higher quality. The Phase 1 of the CISGP is intended to lead by example, to show rather than tell the public the thought process behind planning.

It engages the reader in a critical discourse by illustrating the various considerations and by incorporating crucial excerpts of other documents. It is designed as a useful tool for quickly getting up to speed on the SA, assisting well-informed comments on the SAP DEIR, and bringing to the table a constructive conversation about what should be.

Phase 2 and 3 of the CISGP will continue to bring depth to this planning vision and layer in greater levels of refinement. As the Citizens’ Plan, Phase 1 inevitably becomes a sounding board for further ideas, a welcome collaboration for the next phases of the project.

The collaboration of many organizations and individuals made this project possible. We need diversity of thought and resilience to face new challenges.

Your help is needed now!

Sincerely,
Leslie Warren
Advocacy Chair, CNPS Redbud
Chair, Alliance for Environmental Leadership
Find your place in Redbud!
Whatever your interests, there is a place for you in Redbud. Together, we accomplish great things! Best of all, you will get to know great people who care about our native plants. (Contact Jeanne Wilson, president@redbud-cnps.org.)

Current Openings

Volunteer Coordinator: Critically needed!!! Coordinate recruitment, assignment, and recognition of volunteers, primarily for annual Plant Sales. Recruiting/organizing for Plant Sale takes place July through October. May recruit volunteers for other activities as needed. Maintain and update annotated lists of volunteer names and contact information. Use on-line application to sign up and schedule volunteers. Training available.

Education Chair: Plan and organize educational events and activities for all ages to introduce them to the beauty and importance of California’s native plants. Inform Board and membership about educational events/issues. Coordinate activities with other organizations for chapter, membership and the public. Manage Redbud grant programs for local schools and non-profits. Oversee scholarships for botanical research and training.

Co-Editor for Newsletter: With editor, prepare and publish four e-newsletters per year. Ideally, some experience in html, digital design, layout, copyediting (for digital version), or PDF editing (for print version).

Co-editor for Website: With editor, design, update, and maintain the Redbud Chapter web site. Prepare site for move to new format and content management system. Experience with using WordPress highly desirable.

Co-Chair, Plant Sale Committee: With other members of Committee, pick dates and book facilities for plant sales. Coordinate with Volunteer, Publicity, Horticulture, Publications, Education, Conservation, and Plant Science Chairs and with Treasurer in planning and holding plant sales.

President-Elect: Serve in training to become president. Learn the job of president from the inside, so you can move into the role with experience and assurance after a year of preparation. Assist with management and oversight of activities initiated by the chapter; in president’s absence, serves as chair of board and member meetings.

Join a Committee

Advocacy committee — Learn about key issues related to conservation, preservation, and restoration of native plants and plant communities/habitat; learn how to and makes comments on EIRs, development plans, and engage in effective advocacy in writing and at Board of Supervisor, Planning Committee, and other official meetings.

Native Plant Propagation group — Exchange seeds and plants, learn techniques for propagating native plants by seed and cuttings, hold workshops, grow plants for the sale.

Ethnobotany Chair/committee member — Learn and share information about how California native tribes used native plants for food, medicine, tools, basketry, and more; sponsor field trips and meetings.

We also have committees on Rare Plants, Conservation, and building a current Nevada County plant list.
Hangin’ at the Redbud Table

The Redbud Chapter-CNPS membership is well over 300 strong! Thanks to all of you who faithfully renew your memberships and attend the array of events scheduled monthly! Watch for our Redbud Table at local events, say hello to the volunteer, and offer to assist with this outreach to the community! To volunteer to table, contact Redbud’s Outreach Coordinator, Pamela Brillante, valle530[at]gmail.com.

Choose the Types of Emails You get from State CNPS and Local Redbud Chapter

Now you can select what kinds of information you want to receive from CNPS State and from Redbud. Look at the bottom of your Redbud Newsletter (or CNPS state email). Click “Subscribe.” You’ll see that you can choose to receive email on one or more topics:

- CNPS Statewide News
- Conservation
- Education
- Local Chapter News
- Native Plant Gardening
- Native Plant Science
- Plant Science Training Workshops
- Rare Plant Treasure Hunt

As a CNPS member, you are already signed up for Statewide News and for Local Chapter News. By making any selection, you then receive any relevant emails from Redbud or CNPS notifying you of upcoming events, opportunities for participation, and so on.
Your membership in the California Native Plant Society helps ensure that our vital work in conservation, education, horticulture, advocacy, and plant science continues to grow and flourish!

*We know you care about nature and native plants!*

[If you have received this message at multiple email addresses, you may simply click "Unsubscribe" at the bottom of the email in the mailbox where you do not wish to receive Redbud messages. Apologies!]