



CALIFORNIA NATIVE PLANT SOCIETY BULLETIN

Call to Action: Greening Renewable Energy in California CNPS members urged to contact policymakers

BY GREG SUBA

Two catch phrases—"33 by 2020" and "10,000 by 2015"—have triggered the rush to develop renewable energy generation throughout our state and across the nation. By 2015, federal agencies (primarily the U.S. Bureau of Land Management or BLM) must develop at least 10,000 megawatts of renewable energy generation on public lands. By 2020, California must generate at least 33% of its total energy production from renewable energy sources.

RENEWABLE ENERGY DEVELOPMENT AND PLANT CONSERVATION

Both initiatives promise a path to greener energy by moving us away from a fossil fuel-based energy grid. But they also carry with them the threat of terrible ecological losses, depending on where we choose to site projects and develop this energy. Not surprisingly, as soon as the initiatives were announced, there began a rush on the part of entrepreneurs to license, permit, build, and operate wind and solar projects throughout California.

A great many of the proposed projects are located in California's desert region. In part, this is due to the common misconception that the desert is a vast wasteland and of little value. It is also due to the topography and climate, and the fact that BLM owns much of the land. However, the desert represents some of the last wild lands on earth, where, in undisturbed places, ecological processes prevail as they have for eons, and where many proposed



Jim Andre

The Mojave's arid shrublands, with Coxcomb Mountains in the background. Recent studies indicate that desert ecosystems may rival CO2 uptake levels of forests and grasslands.

project sites would sever broad corridors between protected wild areas.

As of June 2009, a total of 64 wind energy applications (totaling 462,462 acres) and 65 solar energy applications (totaling 575,155 acres) have been submitted to the BLM for certification within the Califor-

nia Desert Conservation Area (CDCA). The extent and location of desert wind and solar project footprints have the potential to scrape, crush, and shade significant portions of habitat that is known to contain more than 300 rare desert plant species.

To minimize desert-wide impacts from renewable energy projects to the desert ecosystem and its inhabitants, two ecosystem-level site evaluation studies are underway by federal and state agencies. Details on how these two evaluation processes will be integrated, and when they will be completed are unknown. Nevertheless, existing applications continue to be "fast-tracked" by

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A Cost-Effective Approach to Controlling Invasive Plants Nine-county Bay Area initiative is model for nation

BY DANIEL GLUESENKAMP

Biological invasions are a significant and enduring global change. The Sudden Oak Death fungus and other pathogens are transforming forests, invasive plants are homogenizing natural communities, and invasive grasses have dimmed California's once grand wildflower fields. Each of us carries the memory of a wild piece of California we have seen lost to weedy invaders.

Fortunately, there are tools which we can use to save the remaining wild places. Early detection and rapid response (EDRR) is the most cost-effective approach for coping with biological invasions. EDRR is a "stitch-in-time" approach that proactively deals with infestations before they can grow into large and costly environmental threats. By

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From the Executive Director

In recent months there has developed a general consensus among the board and staff

that CNPS must ultimately grow and expand in order to achieve its vision. To accomplish this, the Society must make major infrastructure improvements. Over the spring and summer, three major projects were launched that will keep our technology up-to-date and provide us with the necessary tools to manage a more diverse and larger organization now and well into the future.

One is a full conversion and upgrade of outdated accounting software, and another is a full conversion and upgrade of our membership database management software. These projects, which



Greg Suba

CNPS administrative staff. Front row: Anna Ostrowercha, Cari Porter, Tara Hansen. Back row: Stacey Flowerdew, Jack Tracey. Missing: Greg Suba.

will greatly improve our administrative capacity, will require a significant amount of time and focus from the administrative team. Both projects will be completed by October 2009.

A third project—one that will be visible to CNPS members—is an upgrade to the main website's navigation and content. The navigation changes require the realignment of all program information on the website, a task that is being executed in stages on a test website over the summer.

Included in that upgrade is a major rewrite to the Horticulture program tab, which will be renamed "Growing Natives."

The updated program section will act as a portal of information on growing native plants, with redirects to chapter websites for regional plant lists and links to other resource sites on related horticulture and native plant gardening topics. You will see this first group of changes when you access the website on or after September 1. Additional changes to other programs will be planned in stages and will result in visible content updates on a quarterly basis.

Finally, Board member Brad Jenkins and CNPS Rare Plant Botanist Nick Jensen are working on a fourth infrastructure project that involves a major update to the online rare plant database. We are still working on funding and technical resources for this project, and hope to release the update on the main website over the course of the next year. ♻

Tara Hansen
Executive Director

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A Big Day for UC Merced

The four-year-old University of California campus at Merced received national media coverage on May 16, 2009. The event was the 2009 graduation ceremony at which Michelle Obama gave her first commencement address as First Lady of the United States. To hear her inspiring speech, go to www.youtube.com and search for "Michelle Obama UC Merced."

I had the pleasure and privilege of attending the ceremony as a VIP guest of the University of California administration. My invitation was acknowledgement of CNPS's pivotal role in negotiating a consensus footprint for the campus, which was eventually agreed to by the University, the federal regulators, and the environmental community. For a more detailed account of the species and habitat conservation benefits of the footprint, and how we achieved consensus, stay tuned for an article in the upcoming *Fremontia*, Vol. 37, No 3. ♻

Carol Witham
CNPS Vice President



CNPS Vice President Carol Witham was a VIP guest at UC Merced's 2009 graduation ceremony. First Lady Michelle Obama gave the commencement address. Photo courtesy of UC Merced.

Identifying Botanical Priority Protection Areas

Regional planning effort receives major boost from East Bay Chapter

BY HEATH BARTOSH

Located at the convergence of the North and South Coast Ranges, the Sacramento-San Joaquin Delta, and the San Joaquin Valley—lands that comprise the East Bay Chapter of CNPS—support a unique congregation of ecological conditions and native plants. Pushing against the botanical treasures of the East Bay are the pressures of a growth-based economy. From this juxtaposition of floristic protection and “civilized progress” the chapter’s Botanical Priority Protection Areas Project (BPPA) was conceived.

In January of 2006 the Bay Area Open Space Council (BAOSC) requested that our chapter provide them with a list of important botanical areas. These areas were to be incorporated into BAOSC’s Upland Habitat Goals Project, a project to preserve and protect ecological diversity in the nine-county Bay Area. Unfortunately we had but one day to accomplish this difficult task. At day’s end we had identified 15 areas of native plant diversity, all of which were threatened by potential land-use decisions.

This hasty effort got us wondering how we could look at these areas through a more objective lens using existing information. The chapter’s rare plant committee soon began mapping watershed-based boundaries of each protection area. From within these boundaries we began analyzing available spatial datasets such as botanical resource occurrences, substrates (soils and geology), wetlands, urbanized areas, and existing protected areas. The result of these analyses was a set of 15 maps that show all of these resources.

Then the chapter’s conservation committee began to share the concept in draft form with groups involved in local planning efforts. Lech Naumovich, the

chapter’s Conservation Analyst staff person, showcased the maps in forums such as the BAOSC’s Upland Habitat Goals Project and the Green Vision Group (in association with Greenbelt Alliance); East Bay Regional Park District’s Master Plan Process; and local municipalities. In the near future we hope that BPPAs will be incorporated into the East Alameda County Conservation Strategy, a regional planning effort currently being developed.

As we look beyond our Mt. Diablocentric world, we see that this project has utility statewide. Through our efforts, a model now exists for conducting and graphically representing GIS analyses of local botanical resources and significant habitats, disseminating this information to regional planning efforts and local environmental review processes, and securing grant funding for preparing and publishing a guidebook of priority areas.



Lech Naumovich

Vernal pool in the Springtown Alkali Sink, one of the 15 areas recommended for priority protection based on plant diversity and potential threats from development.

As a result of this collaboration, we have secured grant funding to prepare a guidebook for all of these BPPAs. Currently, the rare plant and conservation committees are assembling the guide. It will include each of the 15 BPPA maps, along with information and photos on the botanical hotspots, as well as threats, opportunities, and constraints unique to each area. As an enticement to professionals and lay people alike, we have invited botanically noteworthy guest authors to contribute their personal impressions of these areas and why they are important as native plant refugia.

With our guidebook, we hope to provide decision makers enough information to make botanically conscious land-use decisions so that our beloved botanical treasures will bend, not break, under the weight of California’s most enduring but ironically tragic character flaw—drawing many people to a place of beautiful but finite natural resources.

For information on this project or the guidebook, contact Heath Bartosh at hbartosh@nomadecology.com. 🌿

Heath Bartosh is rare plant botanist for the East Bay Chapter.



CHAPTER NEWS



SANHEDRIN CHAPTER:

Family Wildflower Day inspiring, engaging

On the Saturday before Mother's Day the Sanhedrin Chapter of



David Hulse-Stephens

Children are naturally captivated by flowers. This boy asked to borrow his mom's cellphone so he could take photos of all the ones he liked.

CNPS hosted our first Family Wildflower Day. We had three goals for this event: 1) to expose people to the beauty of wildflowers; 2) to engage families in learning about nature together; and 3) to increase the chapter's presence in the community. We accomplished all of these through the efforts of our small but diligent board by:

- advertising via radio, newspapers, posters, and email
- choosing an accessible location in a beautiful grove off a major highway
- offering free magnifying glasses to the first 50 participants, and cookies and lemonade for all
- providing personally guided wildflower walks on an easy one-quarter-mile trail

- helping participants use dissecting microscopes to view flowers close-up
- providing art supplies, and sample wildflowers for children to draw
- having available CNPS posters and information.

More than 60 people attended, including many happy, curious children. We kept the conversation at the level of common names and enjoyed sharing local information about plants and habitats. The adults were as curious as the children, and many had never heard of CNPS before but clearly loved plants and the outdoors. This was an opportunity for our chapter to connect with them. Our board ended the day with a feeling of success and ideas about how we could do it better next year. 🌱

Geri Hulse-Stephens, President
Sanhedrin Chapter

BRISTLECONE CHAPTER:

Summer Sojourn offers chance to learn about the flora and ecology of the Great Basin

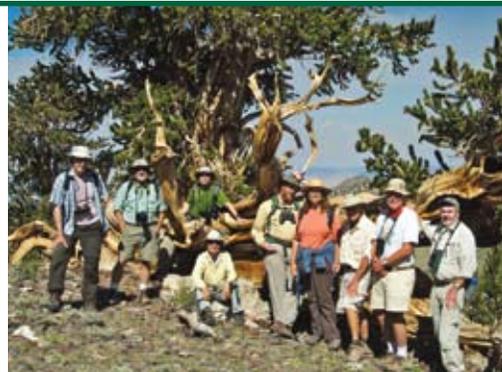
The Bristlecone Chapter held its second biennial Summer Sojourn in the White Mountains July 17–19, 2009. Forty-five plant lovers from throughout the state escaped the summer heat as they learned about the flora and plant ecology of high elevations in the Great Basin (in eastern California). Participants stayed at 10,200 feet at Crooked Creek Research Station, a field laboratory operated by the White Mountain Research Station (WMRS), University of California.

Lying in the rain shadow of the Sierra Nevada, the White Mountains are arid to semiarid yet support a rich flora of about 1,100 species. Eight field trips of varied difficulty provided participants an excellent opportunity to sample this diversity

and to compare plant communities across habitats and elevational zones. Also offered were evening programs on alpine plant ecology and the demography of bristlecone pine.

The chapter has a strong tradition of field trips; the sojourn continues this tradition and provides yet another opportunity for education and camaraderie. For eight years, the chapter sponsored a biennial spring sojourn near Big Pine, at the foot of the eastern Sierra Nevada range. Changing the venue to Crooked Creek kept organizers and participants from feeling jaded.

Group size is limited by the number of beds at the WMRS facility. This year's sojourn had a waiting list. The sojourn is



Steve Ingram

Summer Sojourn participants gather beneath a 3,000-year-old bristlecone pine on Campito Mountain. The field trip was led by chapter member Steve Ingram.

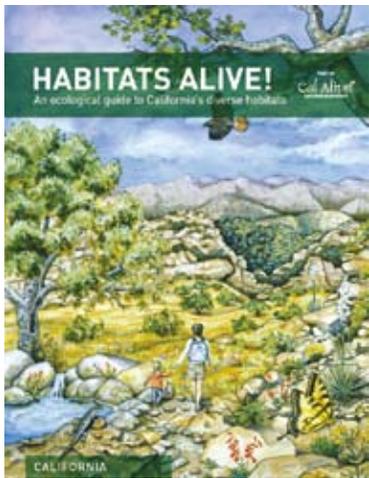
not a money-maker for the chapter. WMRS charges a standard amount per person per night for lodging and meals, a cost that the chapter passes along to participants. No other fees are assessed. Organizers, field-trip leaders, and speakers volunteer their time. 🌱

Jan Bowers
Bristlecone Chapter

Habitats Alive

An ecological guide to California's diverse habitats

California is one of the world's most geographically and biologically diverse regions, but this diversity is under constant threat as a result of human activity. *Habitats Alive!*, a 2009 joint publication of Rancho Santa Ana



Habitats Alive! is a valuable resource both for teachers and students, and for all those who want to learn more about California's varied habitats.

Botanic Garden (RSABG) and the California Institute for Biodiversity (CIB), is designed to educate children and adults about 53 different California habitats, from montane chaparral to desert wash to rocky intertidal.

It includes details on where each habitat can be found, how it got there, local plants and animals, and resources for further investigation. It also contains additional information on plant and animal adaptations, human footprint (of both present-day Californians and historical native American communities), climate, eco-facts, and what people are doing to protect these places. Teachers will likely find the publication a useful resource for the science curriculum.

Habitats Alive! is available from RSABG (www.rsabg.org) or CIB (www.calalive.org). 🌿

Lorrae Fuentes

Director of Education, RSABG

Calflora: Reporting Plant Observations

Calflora has simplified and enhanced its web-based tool for reporting plant observations. To view the user-friendly data entry page, go to: <http://www.calflora.org/add>.

This is one more step in Calflora's efforts to help CNPS chapters build a database and map of their local floras. Calflora is eager to work with any CNPS chapter or other group that would like help in using the new observation-reporting tool—along with What Grows Here (calflora.org/wgh) and Calflora's other existing services—to automate a flora project regardless of size.

Calflora is always free to anyone working on a CNPS-sponsored project. Please contact us at spprt@calflora.org if you have any trouble in registering or using the website. 🌿



Roy West

Calflora Managing Director

In Appreciation: Willa May Lowary

Bear Valley is one of her "special" places

Willa May Lowary believes strongly in educating children about native plants and wildlife at an early age, while they are impressionable and open to learning. A long-time CNPS member and supporter, she is a founding member of the Sacramento Valley Chapter, and was actively involved in its activities. She fondly recalls many CNPS field trips and activities as far back as 1968, as well as talks by George Ledyard Stebbins, one of the leading evolutionary biologists and foremost botanists of the twentieth century. Though she is less active now at age 92, she still considers herself a strong supporter of CNPS.

After serving in the Navy, Willa May

attended college on the GI Bill. She was hired by the State of California as a seed botanist, where she worked for 28 years. When her job required her to visit Bear Valley in Calaveras County and she came upon its multicolored fields of poppies, she quickly grew to love the place—and talks fondly of the area before development brought about many changes. She maintains a slide collection of flowers and landscapes from her many visits to Bear Valley and other locations.

Her involvement with botany and CNPS enriched her life, and she has chosen to leave a lasting legacy by naming CNPS in her estate plans. CNPS recognizes this commitment by Willa May



Jack Tracey

Willa May Lowary

and others through our Legacy Circle. For more information on estate planning, contact Jack Tracey at 916-447-2677, ext. 202. 🌿

Jack Tracey

CNPS Development Director

Call to Action (from page 1)

state and federal agencies on a pace that may certify projects well before either ecosystem-level evaluation plan is ready.

WHAT CNPS IS DOING

To provide native plant conservation guidance to responsible agencies and project applicants, Nick Jensen, CNPS Rare Plant Program Botanist, has worked with Jim Andre and Tasha La Doux of the University of California's Granite Mountains Desert Research Station to develop a database that locates where rare desert plant occurrences and renewable energy project applications intersect. This information will help CNPS and others identify and rate levels of potential impacts to desert flora, and develop appropriate conservation strategies for given species and projects.

At the same time, CNPS will continue to advocate that projects be located on alternative sites when their development is likely to destroy pristine desert habitat. CNPS will continue to participate in a coalition of conservation groups whose goal is to identify previously disturbed desert areas where utility-scale renewable energy projects would pose fewer impacts, and urge industry and agency decision makers to use these sites instead. In addition, when appropriate, CNPS will continue to provide public comments during hearings on the siting of individual projects.

WHAT YOU CAN DO

Write a letter to your state legislative representative, your congressional representative, and Senators Feinstein and Boxer voicing concerns that desert

renewable energy projects are likely to cause tremendous losses to desert flora and fauna. Tell them a reasonable siting process needs to be developed that protects sensitive plant and other biological resources *before* applications are accepted for large, utility-scale energy projects. Also write letters to your local newspaper, city council members, and county supervisors.

Please visit the state website (www.cnps.org) and click on Conservation/Current Issues for a list of talking points to use in your letters, to read comment letters that CNPS has recently submitted regarding desert renewable energy development, and to stay abreast of our ongoing efforts. ♻️

Greg Suba is CNPS's new Conservation Program Director.

Invasive Plants (from page 1)

acting early we efficiently prevent the environmental and economic damage caused by harmful invaders, and we can use less intrusive techniques. This allows us to dramatically reduce the planning and resources required to control large, established invasive plant populations.

The Bay Area Early Detection Network (BAEDN) is an exciting new initiative that builds an EDRR system to serve the entire nine-county San Francisco Bay Area. The group unites and coordinates the EDRR efforts of dozens of agencies, hundreds of professional land managers, and potentially thousands of volunteers. BAEDN partners work together to develop a scientifically rigorous list of the most harmful invasive plants, train each other in detection techniques, and make detections and report them to the online website. Then they prioritize individual patches so that the most dangerous outbreaks can be removed before they spread and cause harm. We remove the easiest and most harmful first, while removal is cheap and before ecosystems are harmed.

In spite of all this progress, most of the

work is ahead of us and we really hope that you will join the effort. If you live in the Greater Bay Area, visit the BAEDN website (<http://BAEDN.org>) and tell your friends about this exciting collaboration. If you live in other areas of California, you may want to consider exploring the possibility of starting a similar network closer to home.

Invasive weeds are important, not because they are out of place but because the worst of them can destroy the ancient biodiversity of the places we love. Humans have introduced these species, and humans have disrupted ecosystems so that weeds can thrive. We have a responsibility to right what we have wronged, and to use our heads so that our actions are strategic and effective. Your help can really make a difference. ♻️

Daniel Gluesenkamp, Ph.D., is director of habitat protection and restoration for Audubon Canyon Ranch's 29 properties, and a past president of the California Invasive Plant Council.



BAEDN is seeking potentially problematic plants early in the invasion process, such as these incipient infestations of (clockwise, from top left): Canary Island St. John's wort (*Hypericum canariense*), licorice plant (*Helichrysum petiolare*), pine echium (*Echium pininana*), and Mexican feathergrass (*Nassella tenuissima*).

Gardening With Natives

A bit of ingenuity and horticultural knowledge makes it easy to combine natives with nonnatives

BY DAVID FROSS

Most California gardeners have remnant landscapes—some portion of their garden that reflects the desires and choices of a previous occupant or the requirements of a city arborist. The landscapes and gardens we cultivate are usually filled with species from climates and habitats strikingly different from California's.

How do we combine our native species with the often peculiar and varied generic landscape of the state? For instance, suppose you inherited a massive American sweet gum (*Liquidambar styraciflua*) planted in the backyard by the previous homeowner 40 years ago. Being native to the eastern United States, it would not have been your choice, but its shade is so valued on long summer afternoons. Or perhaps a carefully tended bed of camellias comes with your new home, a testament of the original gardener's long admiration of the genus, but also not a match with your wish for a native garden. Do you remove this touching bit of local history and surrender the shade of the sweet gum or the color of the camellias? Seeking compromise may be the better solution.

The celebrated diversity of our flora provides species and cultivars suitable for most any landscape or garden function. Adding California natives such as giant chain fern (*Woodwardia fimbriata*), alum-root (*Heuchera maxima*), and yerba buena (*Satureja douglasii*) to the camellia border would not fundamentally change the care or maintenance routine of the planting. Established urban and suburban trees, like American sweet gum, lemon-scented gum (*Eucalyptus citriodora*), and Peruvian peppertree (*Schinus molle*) present challenging environments for gardeners. However, any

number of native species make suitable choices planted in their understories. Slender field sedge (*Carex praegracilis*), woodland strawberry (*Fragaria vesca*), and Catalina perfume (*Ribes viburnifolium*) all perform admirably in these difficult sites.

How many California native plants does it take to make a native garden—one live oak (*Quercus agrifolia*), five sand mat manzanitas (*Arctostaphylos punila*), or a meadow full of slender field sedge (*Carex praegracilis*)? We need not remove all remnant elements of our gardens and landscapes to make them authentically "native." Is it even advisable, economically or ecologically, to remove a utilitarian ground cover planting like rosemary (*Rosmarinus officinalis*) that is effectively providing erosion control on a steep exposed bank?

A color preference for yellow in this mass of blue flowering rosemary could be satisfied with flannel bush (*Fremontodendron 'Ken Taylor'*), California buckwheat (*Eriogonum fasciculatum*) would create butterfly habitat with late spring flowers, and textural contrast might be added with the large silver-gray leaves of Saint Catherine's lace (*Eriogonum giganteum*)—all native plants. All of these choices, and many others, are fitting combined with rosemary because of their similar growing conditions: they tolerate drought, love sun, and prefer rocky, well-drained soils.

The essential criterion for success is com-



David Fross

The native western redbud combines well with rockrose, rosemary, and butterfly bush, all nonnatives, because all thrive in similar growing conditions.

patibility. It can be as odd or as natural as one can imagine: a well-watered lawn drains into a drift of deer grass (*Muhlenbergia rigens*); a specimen chalk dudleya (*Dudleya pulverulenta*), the focal point in an eclectic succulent collection; or a persistent matilija poppy (*Romneya coulteri*) crashing through the garden as if suggesting it is a suitable match for anything.

Star jasmine (*Trachelospermum jasminoides*), oleanders (*Nerium oleander*), and six packs of annual color continue to flow freely from our garden centers into the cultivated California landscape. As unlikely as it often seems, we can match and complement this bewildering collection of species simply by combining them in our gardens with compatible natives that reflect the horticultural beauty and diversity of the California flora. 🌿

David Fross is owner of Native Sons Wholesale Nursery, teaches horticulture at Cal Poly State University, and is co-author of *Ceanothus*, and *California Native Plants for the Garden*.

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(Details available at: <http://cnps.org/cnps/admin/cc/>)

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 CALIFORNIA NATIVE PLANT SOCIETY

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