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CALIFORNIA NATIVE PLANT SOCIETY
BULLETIN

Changing Seasons – From the new editor

After the birth of my son Sylas four years ago, life's focus became clearer. As has always been my habit, family time is often spent exploring. Play time around the house involves building forts and hiking trails in our redwood forests, planting and tending a garden, as well as wild harvesting various berries–salal (*Gaultheria shallon*) being his favorite.



Photograph courtesy of Allison Poklemba

Michael and his son in Humboldt's redwoods.

With these experiences–and others further from home–Sylas has quickly picked up on his parents' interest in natural history and, particularly, plants. He understands phenology by way of his spring birthday, occurring when the flowers start to bloom and birds start to sing. He now even has a favorite plant–the redwood–because they are the "TALLEST IN THE WORLD!"

For the past 25 years I have been a science educator, focusing my daily lessons on a lost art–connecting students with the natural world. I worked as an environmental educator in Tulare and Los Angeles counties where I took children from across these areas on week-long adventures. As a classroom-based educator in Humboldt County for the past 10 years, I have continued to offer place-based activities as part of daily lessons.

Providing authentic experiences in nature has become my life's top-level goal. As my wife and I have watched Sylas grow, we have grown with him and as he interprets the natural world, we get to re-interpret it along with him.

I will continue to inspire future generations of naturalists to become better prepared to interpret their world, ask questions, and find new answers. This is also why I was so excited to begin work as the editor of Fremontia and the Bulletin. Both will have an enhanced focus on interpreting natural history through experiences with native plants. I look forward to this journey and appreciate your feedback.

Michael Kauffmann
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Oaks and Agriculture at odds in SLO

The drone of heavy equipment is not unusual in the rural community of Adelaida west of Paso Robles, where farmers regularly work the land to reap harvests of walnuts, barley, safflower and more recently, wine grapes. But the din coming from Sleepy Farm Road this spring didn't sound like the ordinary tractor, and indeed it wasn't. It was the sound of bulldozers toppling thousands of oak trees, many clinging to steep hillsides, to make way for a vineyard and a six million gallon agricultural pond.

The owners of neighboring properties sprang into action to garner public support to stop the destruction. A flood of complaints to County officials resulted in the issuance of a stop work order on June 9th. The local press and social media picked up the story and it soon went national. Local residents descended on the County Board of Supervisors during public comment on June 16th and urged passage of an oak protection ordinance. The Supervisors scheduled a special meeting in mid-July to consider an urgency ordinance prohibiting clear cuts of oak woodlands. When the day arrived, the urgency ordinance passed with 4 of 5 supervisors in favor. In mid-August, the supervisors voted unanimously to extend it until April 2017. They also directed staff to bring back a permanent ordinance to protect oak woodlands by this date and report progress in January 2017.

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From the Executive Director

Hunting the wild *Monardella*

The furnace days of August may be the worst time to search for a spring-flowering plant, especially in the scorched almond-orchard wastelands near Turlock. Consider the fact that the plant is listed as extinct, and then you understand why my family cringes when I say "let's go look for *Monardella leucocephala*!"

Monardella are beautiful mints worshipped by pollinators and compulsively tasted by botanically-minded hikers throughout California. *Monardella leucocephala* was last collected by the legendary botanist Beecher Crampton on the ancestral Crampton family ranch in the waning days of "old California." Since Crampton's 1941 collection, millions of humans moved to California and bulldozers leveled the vast Central Valley sand dunes this plant once blessed. I believe this plant deserves to be rediscovered. I feel it deserves to be remembered. I relish the chance to search for it, to honor its memory, and to recommit to saving other plants from the same fate.

So this is why I hijacked the beginning of our family trip to Rock Creek with a detour through agricultural wastelands, zig-zagging through a transformed landscape, across the sweet sandy soils that our *Monardella* once occupied. Here, any areas not covered with crops or sprawling development were dominated by European grasses. Most of the time we were certain that no natives lived within miles of our location.

That said, we found a few isolated patches of the past that may yet hold a surprise: *Artemesia*-stabilized blowouts along the Old Santa Fe railroad, *Grindelia*-rich roadcuts, and arroyos too rugged for plow and harrow. Such refugia are rare and may not escape destruction much longer, but so long as they persist we can find seeds for restoration, raise local natives for gardening, and even hope that "extinct" plants might endure. The CNPS dream lives even our most altered landscapes.

Driving slowly, peering through orchards and poking around roadside trash dumps, I marveled at how California changed in the 75 years since Crampton last vouchered the plant. Checking sandy spots along abandoned fences, I thought of how the Governor's train will turn these sleepy farm towns into Bay Area bedroom communities. Spotting the tenacious natives that persist in this wonderful valley, I realized that these are still the early days of California and much of our story lies ahead.

We drove west toward Delhi, the last known locale for *Monardella leucocephala,* chasing a spectacular sunset. We arrived in the dark, too late to search this most important location. As I turned the car and drove east, finally beginning our family vacation, a full moon rose over California's wild Sierra Nevada and I started making plans to return and search again...

Dan Gluesenkamp
CNPS Executive Director



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Saving the Lassics Lupine

Anyone who has had the pleasure of seeing the Lassics lupine (*Lupinus constancei*) up close knows that it is among the most attractive of all the California lupines. The striking white, pink and rose flowers—contrasting with its silvery-white foliage on the barren rock slopes where it occurs—is simply magnificent. Endemic to less than four acres on the upper slopes of the Lassics Mountains in eastern Humboldt County, it depends on sufficient snowpack and shelter from summer heat to survive. The Lassics Mountains are widely known for their exceptional botanical diversity and rare species associated with the ultramafic (high in magnesium and iron) soils.

The CNPS North Coast Chapter has been active in conservation efforts aimed at the lupine for more than 20 years, including several cost-share agreements with the U.S. Forest Service, and assistance in inventory, monitoring, and other tasks. Based on annual monitoring conducted since 2005, the population of mature Lassics lupine has declined from more than 600 in 2014 to roughly 130 in 2016. An estimated 580 seedlings germinated this year but, based on historical data, 95 percent of those are not likely to reproduce.

Extensive research by US Fish and Wildlife Service and U.S. Forest Service scientists has indicated a variety of factors responsible for this decline, including seed predation by small mammals due in part to forest and chaparral encroachment into its open habitat. Since 2003, most of the physically accessible reproductive plants have been caged to prevent seed predation. A population viability analysis conducted in 2012 suggested the caging was critical to stabilizing the species in the short term.



Stunning flower of the Lassics lupine.

Changing climate, however, poses a new threat to the species. Drought over the past five years, the virtual absence of winter snowpack, unusually high summer temperatures in 2014 and 2015, and the Lassic Fire of 2015 have pushed the Lassics lupine to the brink of extinction.

Virtually the entire distribution of the species is within the 7,000-acre Lassics Wilderness, managed by Six Rivers National Forest. Surrounding the wilderness is either private property or National Forest timberlands which severely limits the feasibility of allowing lightning-caused fires to burn naturally. After decades of fire suppression, manual treatment followed by routine prescribed fire is needed to restore and maintain much of the Lassics lupine habitat. That same habitat offers the species the best available refuge from climate extremes.

Although multiple policies allow and often mandate the Forest Service to take specific action to conserve this species, Six Rivers National Forest has neither implemented habitat restoration nor aggressively pursued recovery actions. Over the past decade the U.S. Fish and Wildlife Service and CNPS have repeatedly asked the Forest Service to give priority to saving this species. These requests have been ignored, ostensibly due to conflicts with wilderness values and forest priorities or lack of funding. As a result, a petition to list the lupine as Federally Endangered was filed in January 2016. This listing would force the survival of the species to be considered in any actions taken by the Forest Service, and would require development of a formal recovery plan for the species.

To help spur the Forest Service into action, we petitioned for State listing in July. Not only could this lead to increased potential for funding from the State, but Federal guidance on management of wilderness areas recognizes an important role for state decisions affecting fish and wildlife resources in wilderness. As the trustee agency for fish and wildlife resources statewide, we believe the California Department of Fish and Wildlife has a shared responsibility for saving the Lassics lupine. On September 13 the USFWS announced a positive 90-day finding for Federal listing (i.e., the species may warrant listing as endangered), and opened a 60-day public comment period.

Dave Imper
CNPS North Coast Chapter
visit **blog.cnps.org** to learn more

Photographs courtesy of Dave Imper



Lupinus constancei in the Lassics Wilderness.

OAKS VS. AGRICULTURE *continued from page 1*

The urgency ordinance requires authorization from County Planning for the removal of up to three trees on smaller properties and up to five per cent of the canopy on larger parcels in the unincorporated inland areas. Exemptions are provided for public utilities, public safety, fire clearance and conservation easements that include woodland management plans. Anything above these thresholds requires a permit and environmental review. A minor use permit is required for the removal of up to ten percent of the canopy. A conditional use permit is required for removal of more than ten per cent and an Environmental Impact Report is required for more than twenty-five per cent.

Meanwhile, the owners of Justin Vineyards & Winery and its parent corporation the Wonderful Company (a conglomerate which includes FIJI Water, Justin Wines, Landmark Wines, Hopkiln Winery, POM Wonderful, Teleflora, Wonderful Almonds, Pistachios, Halos and Scarlett grapefruits) issued a mea culpa, saying they were ashamed, sorry and "asleep at the wheel". They offered to "make things right" by donating the denuded property to a local nonprofit and planting 5000 oak trees. The idea that such actions could offset the destruction of a mature oak woodland was met with considerable skepticism, as was the notion they were "asleep at the wheel" when it was revealed the company had cleared 100 acres of trees on a nearby parcel just four years earlier.

The San Luis Obispo chapter of the Native Plant Society has been actively working with County representatives, as well as concerned citizens, environmental and agricultural groups through this entire process. Chapter leaders quickly organized an adhoc committee to work on the issue and went on to meet individually with supervisors, submit written comments on the draft ordinance, provide interviews to local media, encourage CNPS members to make their voices heard and provide testimony in public hearings. In the months ahead, the chapter will continue to play an active role in the development and implementation of a permanent ordinance to protect our oak woodlands. The final result will inevitably represent a compromise between the goals of conservation, agriculture and property rights that is essential to win the support of adherents from all groups and secure passage.

— **Holly Sletteland**
CNPS San Luis Obispo Chapter



Oak woodland along Sleepy Farm Road before the destruction (from Google Earth).



Anonymous Photographer

Buldozers in action, destroying the oak woodland.



Anonymous Photographer

The aftermath.

CNPS Summary of the 2016 Legislative Session

An important part of the CNPS Conservation Program is legislative advocacy. Each year, CNPS identifies bills relevant to native plant conservation, and tracks their progress over the course of the legislative session (January - August). Often CNPS engages with bill authors to promote, amend, or oppose draft language as bills navigate through committees and to a vote.

Below is a summary of the bills CNPS followed most closely this year. The bills passed unless otherwise noted:

- AB 1958 (Wood) creates an exemption to the requirement to complete a timber harvest plan (THP) for cutting commercial timber, when the cutting of timber is done specifically to restore and conserve California black or Oregon white oak woodlands and associated grasslands in northern California.
- AB 2029 (Dahle) increases the stump diameter limit for trees removed in the name of fire safety (also a THP exemption) from 24" to 26." Other onerous provisions were removed via amendments.
- AB 2087 (Levine) a new law defining Regional Conservation Investment Strategies (aka Regional Conservation Frameworks) as a new flexible tool to obtain voluntary and innovative conservation is pending the Governor's signature. The full value and impact of this approach will depend on how it's eventually implemented.
- SB 32 (Pavley) & AB 197 (Garcia) set a strong new goal for reducing greenhouse gas (GHG) emissions: 40% below 1990 levels by 2030.
- SB 859 (Senate Committee on Budget) passed as a companion to AB 1613 which appropriates GHG Reduction Funds. In one provision of a long bill, the biomass industry attempted to weaken restrictions and increase the biomass feedstock which could be generated from clear cut areas. They got some of what they wanted but were prevented in doubling the amount from clear cutting (20% to 40%).
- SB 1340 (Wolk) pertains to water conservation & landscaping. The bill requires a local permit when existing landscaping is expanded/upgraded, triggering the provisions of the Model Water Efficient Landscape Ordinance. This fills a major gap in the new model ordinance which CNPS had a hand in making better for native plants.
- Coastal Commission – Several bills increasing transparency regarding the deliberations of the Coastal Commission failed – AB 2002 (Levine), AB 2628 (Levine), and SB 1190 (Jackson)
- CEQA – A bad budget trailer bill proposed by the Governor to authorize local housing projects to be approved for CEQA purposes 'by right' rather than through normal environmental reviews did not pass or even get much legislative attention. In addition, several other bad CEQA bills failed AB 1749 (Mathis), AB 1833 (Linder) and AB 2438 (Waldon).

Additional information regarding these and other bills is available on the Conservation pages of the CNPS website.

Vern Goehring & Greg Suba

Volunteer Recognition

At the September Chapter Council meeting in Morro Bay, Woody Elliott was presented with a State Volunteer Recognition Award. These awards are given to chapter members who dedicate a large amount of time to champion the mission of the California Native Plant Society, and who have consistently done so over many years. Woody has shown himself to be a great candidate for this award. This is a first for Mount Lassen Chapter.

Woody has been essential to Mount Lassen Chapter. Since 1991, he has led field trips, and been: President, Treasurer, Sales Chair, Publicity Chair, Secretary, Programs co-chair, Conservation Chair, and Website Administrator.


Woody Elliott

Woody initiated our email newsletter and website, and widely notifies many of special events. He attends conferences on plant conservation, is our liaison with local governments, represents CNPS in interactions and partnerships with other local conservation organizations. He often spends Saturdays pulling weeds or maintaining trails. In short, he participates in all aspects of what our chapter does and keeps abreast of State issues.

As Conservation Chair, Woody travels widely to understand and discuss projects that impact native plants, often surveying the areas himself. He spends hundreds of hours reviewing documents and advocating. His comments on proposals are clear, scientific, and on-point. He represents CNPS in our County's Habitat Conservation Plan process making sure plants are well represented. Indeed, he has become the face of plant conservation in our area.

A tireless, enthusiastic supporter of CNPS and our Chapter he helps with whatever our chapter needs and never misses an opportunity to encourage others to learn about and join CNPS. We are lucky to have him.

Catie Bishop
Mount Lassen Chapter

Baja California: Renewable Energy in Natural Areas

The CNPS Baja California Chapter shares the biodiversity of the California Floristic Province and the Sonoran Desert that ignores national boundaries. We also share common problems—including habitat loss, urban sprawl, and climate change. Recent proposals for renewable energy projects in Baja California exemplify how these issues are presenting new challenges on both sides of the border.

Renewable energy farms have been placed in natural ecosystems across the world. While positive results have been realized for energy production, environmental conditions and biodiversity have concurrently declined. A few years ago in Baja California a wind farm was developed by Sempra Energy, one of the world's largest energy companies. The farm currently maintains 40 wind turbines but plans are in the works to build over 1000 more. This growth will impact over 7000 acres of mountain habitat. The project is named Energia Sierra Juarez after the Sierra Juarez Mountains—one of Baja California's most endearing environments. The region is home to stands of chaparral, oak woodland and some of the last coniferous forests in the state.

The wind farm has been built on private or communal (ejido) land, providing economic benefits for the landowners but compromising the health of natural areas that benefit the whole region. Powerlines are essential for energy transport but can start fires—as has happened in California. Road building for the infrastructure of the power plant will degrade habitat health by vectoring nonnative species into the area while also increasing the risk of fires. Lastly, wind turbines are dangerous to large migratory birds, including the USA's and Mexico's national symbols, the Bald and Golden Eagle respectively.

A flawed environmental impact report prompted several environmental groups, led by our sister organization Terra Peninsular, to sue the Mexican government. The suit failed, it is speculated, due to the amount of money involved in the project and its benefits to the local economy in Baja California. This was a disheartening outcome. Sierra Juarez is not only valuable habitat but also offers important ecosystem services to the region, including being the headwaters of watersheds that feed Tijuana and Ensenada, as well as purveying a significant area for carbon sequestration. Adding to the insult, most of this energy will go directly to United States consumers across the border. It is inconceivable that Mexico will assume most of the environmental risks, while a foreign company will reap all of the benefits.

Not all the news is bad. A proposal for a new solar farm and a toxic dump containment site in a desert area with rich vegetation has recently been postponed. Close to Mexicali, a city with some of the worst air quality in the West, a network of environmental activists and academics discovered flaws with the EIR and sent it back to the drawing board. This has halted the project for now.

As a small environmental community in northwestern Baja California with limited resources, we have few options to properly assess these projects. We need allies across the border to provide access to the legal tools needed to protect the environment and quality of life throughout the entire California Floristic Province and beyond.

César García Valderrama
President of the California Native Plant Society Baja California Chapter



Habitat for the rare Rincon cypress (*Hesperocyparis revealiana*)



Photographs courtesy of Jeff Bisbee

Sierra Juarez Manzanita (*Arctostaphylos peninsularis* subsp. *juarezensis*).



Energías Renovables en Áreas Naturales de Baja California



Photographs courtesy of Reid Moran courtesy of the San Diego Natural History Museum

La sección Baja California de la Sociedad de Plantas Nativas de California comparten la Provincia Florística de California y el desierto de Sonora que a su vez ignoran los límites políticos. También compartimos problemas en común - incluyendo perdida de hábitat, crecimiento urbano y cambio climático. Recientemente propuestas para proyectos de energías renovables en Baja California ejemplifican como estos temas están presentando nuevos retos en ambos lados de la frontera.



Las granjas de energías renovables se han emplazado en ecosistemas naturales por todo el mundo. Mientras que resultados positivos han sido logrados para la producción energética, las condiciones ambientales y la biodiversidad han ido en declive. Hace unos años en Baja California, una granja eólica fue desarrollada por Sempra Energy, una de las compañías energéticas más grandes en el planeta. La granja actualmente mantiene 40 turbinas eólicas pero hay planes para colocar hasta 1000 en total. Este crecimiento impactará mas de 2,800ha de hábitat de montaña. El proyecto lleva el nombre de Energía Sierra Juarez precisamente por las montañas de Sierra de Juarez, uno de los ambientes más entrañables de Baja California. La región es el hogar de áreas de chaparral, encinales, así como los últimos bosques de coníferas en el estado.

La granja eólica ha sido construida en propiedad privada y ejidal, proveyendo beneficios económicos a los dueños pero comprometiendo la salud de las áreas naturales que benefician a toda la región. Las lineas de transmisión eléctrica son esenciales para el transporte de la energía pero también pueden iniciar incendios - tal como ha sucedido en California. La construcción de caminos para la infraestructura eléctrica degradarán hábitat saludable introduciendo especies no nativas, incrementando a su vez el riesgo de incendios. Finalmente, las turbinas eólicas son peligrosas para aves migratorias grandes, incluyendo los símbolos de México y Estados Unidos, el Águila Real y el Águila de Cabeza Blanca respectivamente.



Photographs courtesy of Martha Pineda

Un manifiesto de impacto ambiental con diversas imprecisiones motivó a varios grupos ambientalistas, dirigidos por nuestra organización hermana Terra Peninsular, a demandar al gobierno mexicano. La demanda, se puede especular, no prosperó debido a la cantidad de intereses económicos involucrados en el proyecto, así como los beneficios a la economía local de Baja California. Este fue un desenlace decepcionante. Sierra de Juarez no solo es hábitat invaluable, sino que también provee importantes servicios ecológicos a la región, incluyendo ser el origen de las cuencas desembocan en Tijuana y Ensenada, así como también ser un área vital para la captación de carbono. Agregando al insulto, esta energía irá directamente a los consumidores al norte de la frontera. Es inconcebible que las comunidades mexicanas asuman la mayoría de los costos ambientales, mientras que una compañía extranjera disfruta de los beneficios.

Sin embargo no todas las noticias son malas. La propuesta para una granja solar y un sitio de contención de desechos tóxicos en un área con vegetación significativa en el desierto ha sido pospuesto. Cerca de Mexicali, una de las ciudades con peor calidad de aire en el Oeste, una red de activistas ambientales y académicos descubrieron errores y omisiones en el manifiesto de impacto ambiental y el proyecto ha sido retractado. Esto ha detenido el proyecto por ahora.

Como parte de una pequeña comunidad ambiental en el noroeste de Baja California con recursos limitados, tenemos opciones limitadas para poder evaluar adecuadamente estos proyectos. Se necesitan aliados del otro lado de la frontera para poder accesar recursos legales con la finalidad de proteger el medio ambiente y la calidad de vida en toda la Provincia Florística de las Californias y más allá.

César García Valderrama
Director General en Nativ@s de las Californias A.C.
Presidente de la Sociedad de Plantas Nativas de Baja California

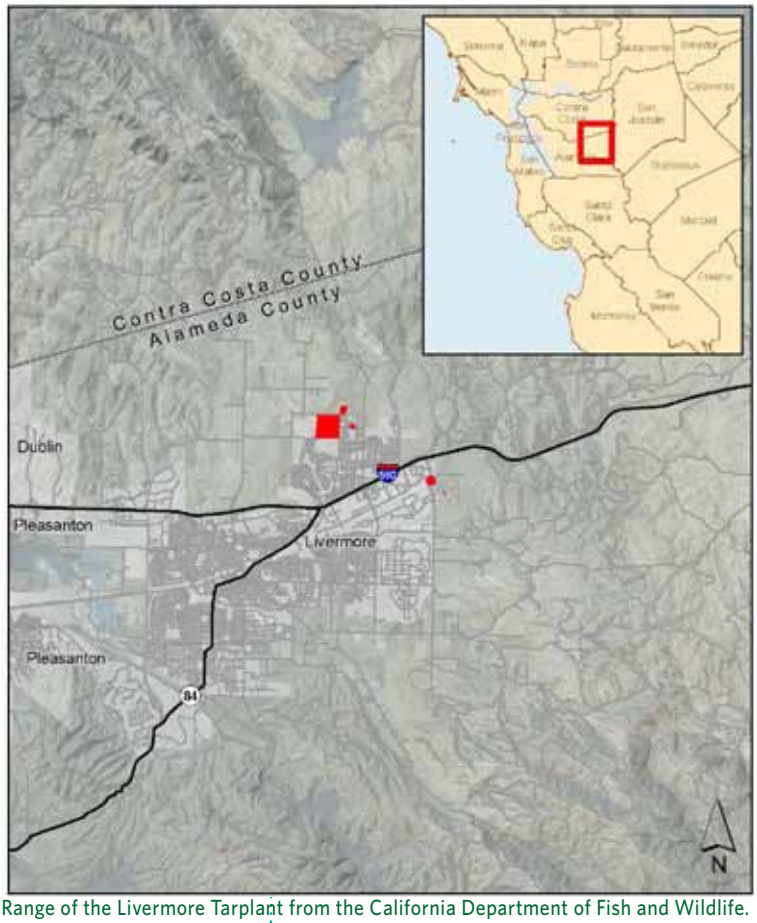
Livermore Tarplant

The California Native Plant Society (CNPS) successfully petitioned for endangered status for the rare Livermore tarplant (*Deinandra bacigalupii*), a species known to exist in only three locations within Alameda County.

Two years after Heath Bartosh, Rare Plant Committee Chairman of the East Bay Chapter of CNPS, petitioned the California Department of Fish and Wildlife (CDFW) to list this rare endemic species as endangered, the California Fish and Game Commission voted unanimously to grant the Livermore tarplant endangered status. The Commission praised the thoroughness and sound science that CNPS presented in the petition, and in two motions moved to add it to the list of plants declared to be endangered in California.

Livermore tarplant is the first plant in nearly a decade to be added to the California Endangered Species list.

First described as new to science in 1999, the Livermore tarplant is known from only three occurrences within 90 acres of the Livermore Valley in Alameda County. These occurrences are located in areas that are subject to frequent disturbance, including road construction, off-road vehicle use, and application of herbicides. These challenges, in addition to encroachment and competition by non-native species, threaten the survival of the plant. Fortunately, its new status as a listed species affords the Livermore tarplant the highest level of legal protection in California.



Range of the Livermore Tarplant from the California Department of Fish and Wildlife.

Protecting this plant may benefit the rare habitat where it grows as well. "This native plant species... is growing in specialized habitat," says Heath Bartosh. The sensitive alkali meadows and grasslands where it lives are also home to other California Rare Plant Rank species.

"On their own, individual plant species may seem insignificant to some, but they are part of a larger ecosystem in which other plants and animals rely," according to Aaron Sims, CNPS Rare Plant Botanist. "The life history of the Livermore tarplant is still being understood and protecting it from extinction will allow us to learn more about how it interacts with the ecosystem."

Stacey Flowerdew
Membership and Development Coordinator at CNPS


Photograph courtesy of Heath Bartosh

Livermore Tarplant (*Deinandra bacigalupii*).

Revisiting a Rare Plant Population Just in Time

After conducting a rare plant survey near Santa Ynez in June of 2016, I took the opportunity to revisit several of the occurrences of *Arctostaphylos refugioensis*, Refugio Manzanita. This species is classified as a rare plant, assigned to the CNPS California Rare Plant Rank 1B.2.

There are only 5 known occurrences, all of them at the upper end of Refugio Canyon and an adjacent ridge top in the Santa Ynez Mountains. Before my visit, there had been no recent reports for CNPS or the California Department of Fish and Wildlife's Natural Diversity Database (CNDDB) in over 20 years. So, needless to say, I decided to see how they were doing. I had last seen this species on a Botany class field trip taught by the late UCSB Professor J.R. (Bob) Haller. That was back in the early 1980s.

Populations of *Arctostaphylos refugioensis* are accessible along Refugio Canyon Road, from U.S. 101 to the south. Most of the plants grow on private property in Refugio Canyon, with the rest within the land administered by the Los Padres National Forest.

Happily, I found five healthy occurrences of *Arctostaphylos refugioensis*. I then photographed many of the plants and filled out a CNDDB Field Survey form. This allowed CNPS and the CNDDB to update the occurrence records for this rare shrub. While it is a priority for our Rare Plant Rescue project, another partner had planned to seed bank this species and so, unfortunately, I did not collect seeds during my visit.

Just one week later the Sherpa fire started in Refugio Canyon, burning much of the canyon and habitats to the east and northeast. How many of the *Arctostaphylos refugioensis* populations were affected is unknown as access to the canyon has been restricted only to residents. I will go back soon to see how the occurrences were affected. Our hope is that, even if the shrubs were consumed by the fire, they will return from seed and that some of those seeds can be banked as insurance against future disaster.

David Magney
CNPS Rare Plant Program Manager &
Chair of the CNPS Board of Certification

Photographs courtesy of Jeff Bisbee

Refugio Manzanita *Arctostaphylos refugioensis*



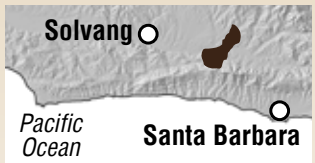




▲ gray-green leaves and densely-hairy stems

▶ red-tinged new growth and immature inflorescence

◀ habitat, Santa Ynez Mountains



FORM: erect, 2–4m **STEM:** twig (and immature inflorescence axis) densely short-nonglandular- and -long-glandular-hairy **LEAVES**: overlapped; petiole <2mm; blade 3–4.5cm, 2–3cm wide, wide- to oblong-ovate, glaucous, dull, glabrous or midrib ±hairy, base lobed, clasping, tip acute **FRUIT**: 10–15mm wide, spheric, glabrous; stones fused **HABITAT**: sandstone outcrops, chaparral; 300–820m **OBSERVATIONS**: 24km west of Santa Barbara on a ridge above Refugio Beach in the Santa Ynez Mountains **IDENTIFICATION**: dense, short and sparse long, non-glandular hairs and bright-green leaves; differs from all other auriculate-leaved species (except *A. gabilanensis*) in having large, spheric fruit with a solid stone; nearest auriculate manzanita species is *A. purissima* in the western end of the Santa Ynez Mountain; bright-red new growth in May **REMARKS**: the southernmost of the auriculate-leaved manzanitas on mainland California

A. refugionensis plate from *Field Guide to Manzanitas* by Backcountry Press (2015).

George B. Fell Award Recipient


Photograph courtesy of Michael Kauffmann

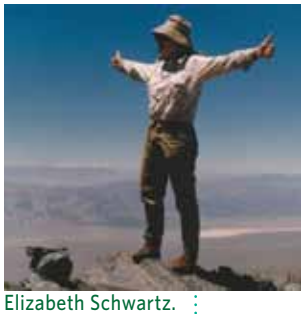
John O. Sawyer in the Trinity Alps.

The late Dr. John O. Sawyer will be receiving the Natural Areas Association (NAA) George B. Fell Award, the highest honor the NAA bestows, on October 20th in Davis, California. The award is reserved for exceptional career achievement and is given to an individual who exhibits the highest qualities of the profession and who has significantly advanced the identification, protection, stewardship and/or research in natural areas. It recognizes those qualities exhibited by George B. Fell, who showed lifelong dedication and commitment, creativity and the ability to forge new approaches that significantly advance natural areas protection. we nominated John and provided evidence of, and strong praise for, his accomplishments.

John Sawyer's exceptional career spanned over 40 years, both as a professor at Humboldt State University from 1966 to 2008, and after his retirement until he passed away in 2012. He was an ardent scientist and made many significant discoveries while traversing thousands of miles across the landscape to document the diversity of California's plants and vegetation patterns. John was a nationally recognized authority on plant ecology, conifers, and the flora of California – especially of the Klamath Region – and authored over 40 scientific publications and four books. One of his books, *A Manual of California Vegetation*, has been adopted as the state's standard for vegetation classification. Most recently, he contributed to *California's Botanical Landscapes*, a treasure trove of photographs weaved with prose on the diversity and natural history of our state's amazing vegetation. In the course of teaching field ecology and conducting research, he led thousands of students on ecological and botanical expeditions from the Pacific Northwest to the deserts of California. As a mentor and colleague he was an inspiration and many of his former students have gone on to productive careers within academia, consulting, land conservation and resource management. John was also an active member of CNPS at both the state and chapter level.

— Julie Evens and Todd Keeler-Wolf

Elizabeth Schwartz – In Appreciation


Elizabeth Schwartz.

The life paths that lead us to native plants are varied and often not straight-forward!

After studying Italian in Florence, Italy and philosophy at Columbia University, and then practicing law for 15 years, the call of the flora was too much.

Elizabeth ("Liz") Schwartz retired from her practice, took up the study of horticulture and became a Certified Horticulturist. This expertise led her to serve as Executive Director of the Theodore Payne Foundation for Native Plants and Wildflowers and as a Board President of the Southern California Horticultural Society. She presented lectures and wrote articles on native plants in many venues, was on the staff of the Botanical Garden at UCLA, and served on the advisory board of the Mediterranean Garden Society.

Liz also created a drought tolerant home garden that featured a favorite plant grouping – a Mexican palo verde (*Parkinsonia aculeata*) surrounded by some toyons (*Heteromeles arbutifolia*). She admitted that she was "happiest as a hands-on type of person." With interests in holistic health, it is not surprising that she was an avid gardener and that one of her passions was growing fruits and vegetables.

"My education as a gardener began with growing vegetables. I think it is important for everyone to try to grow some food. Edible gardening taught me the importance of soil..." she wrote in 1999. Of course, anyone interested in native plants soon learns of the importance of soil type.

But Liz also recognized that "native plants are wonderful for attracting wildlife and providing for their needs (including food and cover)."

She was also very aware that getting the message that native plants are valuable needs to be more widely spread. "Please, go out and be our ambassadors. A single simple action can start the ball rolling. Ask your local nursery to carry California natives..."

With her astrophysicist and environmentalist husband Benjamin Zuckerman, the couple traveled worldwide and hiked together, often to remote parts of southern Utah and the Grand Canyon. Sadly, Liz died suddenly on August 12, 2015 while hiking in Arizona. She was 66.

A lifetime is never long enough. Please, go out and be our ambassadors.

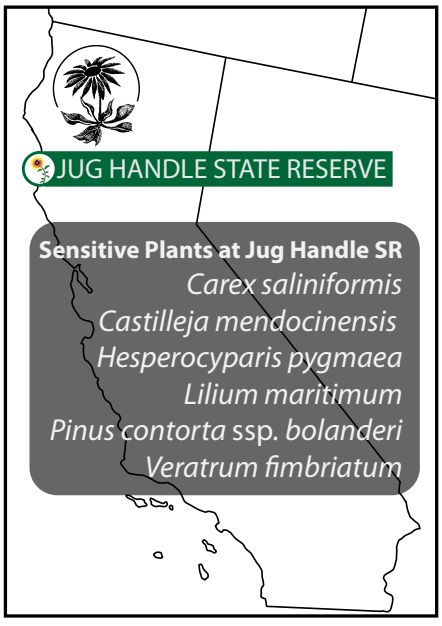
— Steve Hartman

Plant Exploring: Mendocino County

Throughout the Pleistocene, as the climate fluctuated, sea levels rose and fell in conjunction with the size of the polar ice caps. This process allowed oceanic wave-action to cut coastal terraces around the world. Subsequent tectonic forces then slowly pushed these terraces upward. Through other dynamic processes, beach materials like sand, gravel, clay and other rock have been deposited on the terraces at varied depths. What we now witness in coastal Mendocino County is the best preserved example of marine terraces in the Northern Hemisphere.

Directly adjacent to the Pacific Ocean on the first step, wind sculpts coastal scrub and grassland on coastal bluffs or "Bonsai" beach and bishop pine forests (*Pinus muricata*). Further up the staircase–out of reach of the salty air–ample precipitation, Pleistocene and Holocene sand dunes, and the deposition of conifer needles nurture trees with deep roots and tall shoots. However, the most amazing staircase story begins just to the east of the ancient dunes.

In the mid-section of the second step, and upward on each subsequent step, ancient dunes have cut off surface drainage, flushing perennial moisture onto the step. Via seepage and springs, moisture has created pooling basins that ever-so-slowly drain.



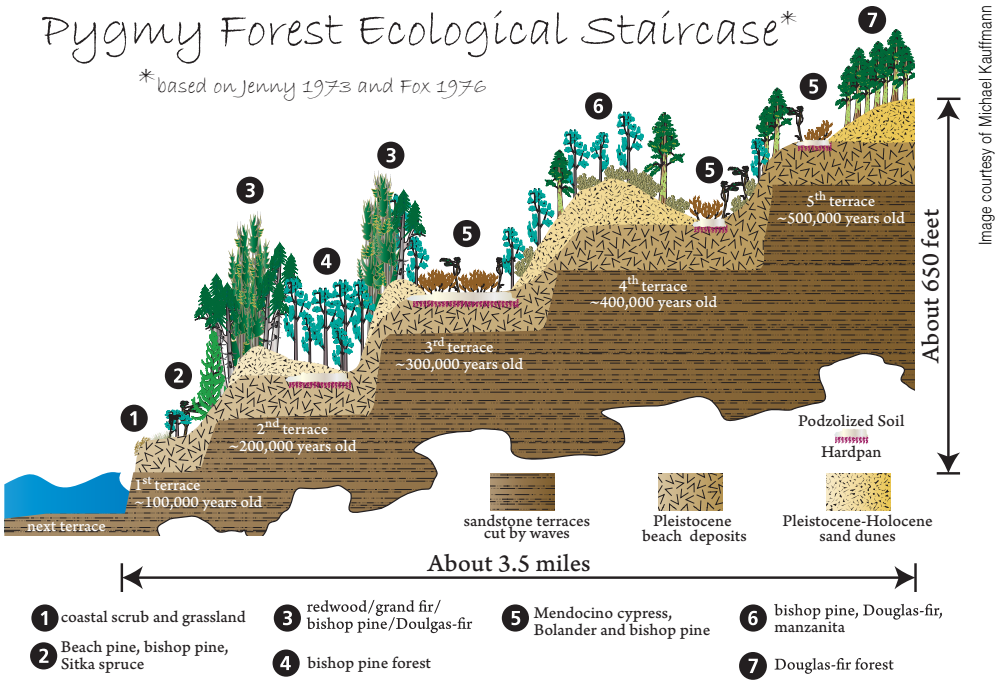


Image courtesy of Michael Kauffmann

Prolonged seepage leaches nutrients like calcium and potassium from the Pleistocene beach deposits, leaving behind sterile hard-pan soils. The year-round leaching, coupled with summer dryness and heating, nurtures an inhospitable layer called a Podzol Horizon (podzol is a Russian word meaning "ash soil"). This unique soil layer creates edaphic microsites.

Certain hardy plant species–some now endemic–survive in spatial isolation on these podzolized terraces. Mendocino cypress (*Hesperocyparis pygmaea*), Bolander pines (*Pinus contorta* spp. *bolanderi*), and Fort Bragg manzanita (*Arctostaphylos nummularia* ssp. *mendocinensis*) are just a few of the unique plants that can be found on these staircases.

The California Native Plant Society has had a long history of working to preserve these botanically unique areas. In fact, the Dorothy Young King Chapter (formerly the Gualala Chapter) formed in 1966 when citizens of coastal Mendocino and Sonoma counties joined together to dig up native plants that were going to be bulldozed in the region. Later, in 2006, with pygmy forests designated an Environmentally Sensitive Habitat Area within the California Coastal Zone the chapter presented litigation against clearing pygmy forest for development.

Take a journey to coastal Mendocino County and visit what Hans Jenny called the best preserved ecological showplace of coastal landscape evolution in the Northern Hemisphere.

Michael Edward Kauffmann

Previously published at blog.conifercountry.com

RESOURCES:

Fox, W. 1976. Pygmy Forest: an ecological staircase. California Geology. 29(1) 1-25.

Jenny, H. 1973. The pygmy forest ecological stair case: A description and interpretation. Monograph University of California, Berkeley, Ca.



Photograph courtesy of Allison Poklemba

Exploring the Pygmy Forest.

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The California Native Plant Society is a statewide, nonprofit organization of amateurs and professionals with a common interest in learning about and preserving California's native plants and plant communities. Membership is open to all. Visit cnps.org

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