
FREMONTIA

A JOURNAL OF THE CALIFORNIA NATIVE PLANT SOCIETY



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40TH ANNIVERSARY OF CNPS

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CALIFORNIA NATIVE PLANT SOCIETY

Dedicated to the Preservation of the California Native Flora

The California Native Plant Society (CNPS) is a statewide nonprofit organization dedicated to increasing the understanding and appreciation of California's native plants, and to preserving them and their natural habitats for future generations.

CNPS carries out its mission through science, conservation advocacy, education, and horticulture at the local, state, and federal levels. It monitors rare and endangered plants and habitats; acts to save endangered areas through publicity, persuasion, and on occasion, legal action; provides expert testimony to government bodies; supports the establishment of native plant preserves; sponsors workdays to remove invasive plants; and offers a range of educational activities including speaker programs, field trips, native plant sales, horticultural workshops, and demonstration gardens.

Since its founding in 1965, the traditional strength of CNPS has been its dedicated volunteers. CNPS activities are organized at the local chapter level where members' varied interests influence what is done. Volunteers from the 32 CNPS chapters annually contribute in excess of 87,000 hours (equivalent to 42 full-time employees).

CNPS membership is open to all. Members receive the quarterly journal, *Fremontia*, the quarterly statewide *Bulletin*, and newsletters from their local CNPS chapter.

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CALIFORNIA NATIVE PLANT SOCIETY

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dues include subscriptions to *Fremontia* and the *Bulletin*

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CNPS members and others are welcome to contribute materials for publication in *Fremontia*. See the inside back cover for manuscript submission instructions.

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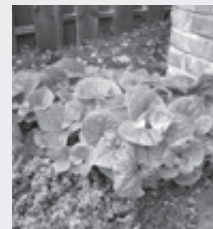


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This second in a series of four articles celebrates members and local chapters which make up our society. Chapters described here are the North San Joaquin, Sierra Foothills, Monterey Bay, Sequoia, Bristlecone, Alta Peak, San Luis Obispo, Northern Santa Barbara (a subchapter), Kern, and Channel Islands, and are located in the middle of the state from the south/central coast east to Nevada. Summaries of the remaining CNPS chapters will appear in the next two issues of Fremontia.

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Peigi Duvall, Horticulture and Education Chair, brings with her article about the Horticulture Program of CNPS a wealth of information and spirit that should invigorate us all to go out and plant native.



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The Rare Plant Program of the California Native Plant Society has accomplished some of the most essential rare plant research in California, setting standards for the rest of the nation. This article provides an overview of this very important CNPS program including an introduction to those who have served as rare plant botanist since the program's inception.

SHASTA SNOW-WREATH: NEW OCCURRENCES AND HABITAT ASSOCIATIONS <i>by Len Lindstrand III and Julie K. Nelson</i>	24
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The Shasta snow-wreath (Neviusia cliftonii) is a shrub in the rose family whose discovery in 1992 represented a new genus for California. Although it has yet to be found outside the vicinity of Shasta Lake in northern California, the authors report that early assumptions about its association with limestone are not supported by their recent discoveries.



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THE COVER: John Nowak planting a tree in memory of San Luis Obispo Chapter member Bud Meyer. Malcolm Bud Meyer came to this area when he retired in 1969. He and his wife, Alice, who edited the chapter newsletter and ran the plant sale for many years, were the first to be made Fellows of the California Native Plant Society from this chapter. Photograph by M. McLeod.

GUEST EDITORIAL: GARDENING WITH NATIVES

F*remontia* will now feature articles on gardening with natives in every issue, and what a fine way to honor our roots. After all, the California Native Plant Society (CNPS) was born out of efforts to save a botanic garden, and gardening has always been a great way to reach out to new people. In this issue, Peigi Duvall, director of the CNPS Horticulture and Education Program, provides an overview of the Horticulture Program (see page 10), Mike Koslosky (see pages 12–13) shares his experience finding local ecotypes of native plants for garden and landscape projects, and David Fross (see page 27) entertains the idea of cultivating beach saltbush. It will be interesting to hear readers' responses to these articles, and, as we hope you know, your comments are always welcomed.

There may be as many motives for gardening with native plants as there are native plant gardeners, ranging from the aesthetic to environmental to the purely practical. As profoundly satisfying as gardening can be, native plant horticulture is inextricably linked to broader environmental concerns, from wildland restoration to worries about impacts to rare plants. So how we garden and what we choose to put in our gardens may also reflect our values about the world we live in.

Of course gardeners who are not members of CNPS have their own views on the subject, including the belief that CNPS opposes gardening with anything other than indigenous plants; this is, of course, far from the truth. Remembering that many people are new to both native plant gardening and conservation, let's show our fellow gardeners what a fine adventure we are having! Gardening is also about generosity, and more specifically, it's about the sharing of seeds, plant starts, expertise, and most of all, enthusiasm. Although we are very careful with what we plant so that we do not inadvertently cause damage to natural populations or habitats, native plant gardeners are more about sharing than preaching a list of "thou shalt nots."

While some of us may still cringe at the sight of invasive plants in a garden, if we keep reaching out to our friends, family, colleagues at work, and acquaintances—many of whom are gardeners and thus potential native plant gardeners—some of our philosophy will eventually get through. Most importantly, the seeds for this must be carried in our attitude and our actions, and especially with a generous "spade" of humility.

Our gardens provide the fertile ground for percolation of new ideas and development of new relationships. If we're lucky, perhaps the generosity that happens among gardeners will expand to include a wider ethic of "generosity toward the earth."

—Lori Hubbart

Dorothy King Young Chapter

USEFUL WEBSITES AND CONTACT INFORMATION

California Native Plant Society:

www.cnps.org, with links to conservation issues, chapters, publications, policy, etc.

For updates on conservation issues:

Audubon Society www.audubon.org

Center for Biological Diversity
www.sw-center.org

Native Plant Conservation
Campaign www.plantsocieties.org

Natural Resources Defense
Council
www.nrdc.org

Sierra Club
www.sierraclub.org

Wilderness Society
www.wilderness.org

For voting information:

League of Women Voters
www.lwv.org, includes online voter guide with state-specific nonpartisan election and candidate information.

US Senate
www.senate.gov

US House of Representatives
www.house.gov

California State Senate
www.sen.ca.gov

California State Assembly
www.assembly.ca.gov

To write letters:

President George W. Bush
The White House
1600 Pennsylvania Ave. NW
Washington, DC 20500

Senator Barbara Boxer
or Senator Dianne Feinstein
US Senate
Washington, DC 20510

Your CA Representative
US House of Representatives
Washington, DC 20515

CHAPTERS OF THE CALIFORNIA NATIVE PLANT SOCIETY: INSTALLMENT II

This is the second installment of summaries of several CNPS chapters by region, beginning with chapters in the south and proceeding northward. The first installment appeared in Fremontia 33, No. 1, the January 2005 issue, on pages 6-10; the next two installments will appear in Fremontia 33, Nos. 3 and 4, the July and October 2005 issues. As editor, it is my hope that you will be inspired to read the newsletter or attend a meeting or field trip of one of the other chapters, or if you are not already a member of CNPS, that you will join us! (A membership form appears on the inside back cover.)

NORTHERN SAN JOAQUIN CHAPTER

Size of chapter: Approximately 40 members

Website address: None

The Northern San Joaquin Chapter is symbolized by the valley oak, as this oak is one of the most abundant found in the San Joaquin Valley. The acorn that was planted and flourished in the Valley nourished the reinvigoration of this small chapter, which covers San Joaquin, Stanislaus, and Merced counties and meets quarterly in Modesto.

Thanks to the efforts of chapter members in conjunction with others in the community and the Great Valley Museum, as of November 2003, Modesto acquired its first native plant garden. The garden is situated next to the museum, on a lot that served for a time as an adjunct parking lot for Modesto Jun-



Map of the local chapters of the California Native Plant Society. The chapters summarized in the text include the North San Joaquin (18), Sierra Foothills (19), Monterey Bay (20), Sequoia (21), Bristlecone (22), Alta Peak (23), San Luis Obispo (24), Northern Santa Barbara Subchapter (24a), Kern (25), and Channel Islands (26).



Site of the native plant garden of the Northern San Joaquin Chapter in Modesto. Left: Garden plot in August 2003, before planting. Photograph by B. Barzan. • Right: Garden plot in April 2004, in full glory. Photograph by P. Illick.

ior College, and had become overrun with invasive, non-native plants. Many local gardeners opened their hearts and gardens to contribute a wide variety of plants to this once neglected 50 by 80 foot plot of land. Today it is living proof that with a limited amount of water you can have a garden that is both lovely and low-maintenance.

The garden has given our chapter a wonderful place to hold our annual plant sales. Business is brisk, especially for those natives that people can see growing right here. In addition to its programs and plant sales, the chapter also sponsors field trips.

SIERRA FOOTHILLS CHAPTER

Size of chapter: Approximately 180 members

Website address: None

On Rattlesnake Ridge one afternoon in April of 1989 the seeds of the Sierra Foothills Chapter sprouted. After inspecting a popu-

Left: Tuolumne fawn lily (*Erythronium tuolumnense*), the plant that inspired three women to bring CNPS to the Sierra foothills. Photograph by J. Haas. • Below: Sierra Foothills Chapter 1994 T-shirt design contest winners. Rebecca Stone, the girl in the image with the bow in her hair, became the chapter's secretary, the youngest officer ever! Photograph by P. Stone.



lation of Tuolumne fawn lilies (*Erythronium tuolumnense*), Peggy Edwards, Kathy Burnett, and Jennie Haas decided it was time to start a CNPS chapter.

At Peggy Edwards's request, Ken Berg came to Sonora on June 15, 1989 to talk about California flora and help start a CNPS chapter. Peggy Edwards was selected to be our first president, and in October 1989 we held our first official meeting. About that time we started a monthly newsletter, *The Shooting Star*; this bulletin has remained our lifeline to the present.

We formed a conservation committee and joined the Clavey River Coalition in the battle to save that untamed waterway. We cooperated on a project with the Nature Conservancy in 1992 to monitor the Chinese Camp brodiaea (*Brodiaea pallida*) population, and members continue to monitor other rare and endangered species. Some of our greatest successes in plant protection have come from working within the system. We have members on the Tuolumne and Calaveras County Board of Supervisors, two members on the Tuolumne County Planning Commission, and members on other local planning and advisory groups.

Our education committee was formed in early 1992. We created our first "Wildflowers by Sierra Foothill Kids" T-shirt later that year. Since 1995, at the Calaveras and Tuolumne County schools science fairs, we have awarded prizes to elementary students for the best plant experiments—as judged by our committee. And, the CNPS information kiosk at the Red Hills was refurbished in the fall of 2004.

From 1996 on, we have selected books about botany, native plants, and natural history to donate to elementary schools in our chapter area. In addition, this committee is completing a video about foothill wildflowers to be presented to fourth through sixth grade students in the four county areas.



Our twice-a-year plant sales provide us with the funds for our many endeavors. These sales also provide a key source for native plants for our area. Last but not least: our field trip program usually consists of four to seven hikes each year.

MONTEREY BAY CHAPTER

Size of chapter: Approximately 300 members

Website address: www.mbay.net/~cnps

The Monterey Bay Chapter was founded in January 1967 by a group of energetic individuals with a common interest in California's native plants. Our members are drawn from the counties of Monterey and San Benito (the latter was historically part of Monterey County).

Located about midway on the California coast, our chapter area is varied in topography, rising abruptly from sea level on the west and extending through the Santa Lucia



Top: Serpentine barrens and vegetation of the Clear Creek watershed of eastern San Benito County. The Monterey Bay Chapter is actively seeking increased protection of the area's unique flora. Photograph by J. Delgado. • **Bottom:** The hot inland valleys of Monterey County host a diverse mix of pines, oaks, chaparral, and wildflowers as seen here at Pinnacles National Monument. Photograph by D. Burych.

Mountains into the Salinas and Pajaro/San Benito River valleys, and through the Gabilan and Diablo mountain ranges to the east. Its diversity of plant habitats—dunes, marshes, foggy canyons and terraces, coastal and inland mountains, river and delta lands, and arid eastern ranges and foothills—support a

widely diverse flora. Here are found plants from almost all parts of California (except the highest mountains and driest deserts), and many reach their southern or northern distributional limits.

Our chapter holds general membership meetings each month (except July, August, and December) which begin with a chance to socialize and browse the chapter's large selection of books for sale, and with an illustrated program. On weekends we offer a variety of activities such as field trips to unique and special or well-loved common places. There are also numerous opportunities for "hands-on" gardening at the (Lester) Rowntree Native Plant Garden in Carmel, with the crew of the Beach Garden Project along the shore of Monterey Bay, or with the CNPS brigade eradicating the area's "Ten Least Wanted" weeds.

Conservation and protection of native plants and habitats is an ongoing process in our chapter, with members providing review, comment, and monitoring on land use planning, expert testimony, serving as a resource on scientific (i.e., rarity) issues, and maintaining the herbarium at Pacific Grove Museum of Natural History.

Each fall we hold a plant sale to increase public understanding of natives, provide local residents an opportunity to purchase native plants, and fund chapter activities. The third week of April finds many of us collecting for and helping set up the annual wildflower show at the Pacific Grove Museum. This is the largest wildflower show in the state, with about 700 taxa represented.

Throughout the years, the chapter has been instrumental in ensuring the protection of places of special botanical interest: the Morse Botanical Preserve in Pebble Beach, nine areas in the maritime chaparral on former Fort Ord, and a large segment of the dunes along Monterey Bay.

SEQUOIA CHAPTER

Size of chapter: Approximately 110 members

Website address: None

The Sequoia Chapter of CNPS was formed in the mid-1970s as the Southern San Joaquin Valley Chapter. This proved confusing so the name was changed. "Carpenteria" was considered, but "Sequoia" won out. Several original members are still active, including Jeanne Larson, Howard Latimer, John Stebbins, Marian Orvis, Peg Smith, and Paul Mitchell.

We're proud of several successful chapter efforts to protect and preserve valuable habitat in the past. These include saving the Roadside

Top: Hank Urbach, land owner and park protector in the Sequoia Chapter region, with students, checking the water table in a test well. • **Bottom:** Sequoia member Thelma Valdez standing by a live (though leaning) valley oak (*Quercus lobata*).



Botanical Area at Crystal Creek, working with Save Our Streams to oppose small hydro projects, and working with The Nature Conservancy to preserve a section of Table Mountain.

More recently, John Stebbins, our rare plant chair, discovered Keck's checkerbloom (*Sidalcea keckii*), thought to be extinct, on serpentine rangeland in eastern Fresno County. This rare plant is protected in the Sierra Foothill Conservancy's Tivy Mountain Preserve.

Although our membership is 110, our "active" group is more like 20 or 25, about half of whom do most of the actual work. Our situation is somewhat exacerbated by our location, which is both a blessing and a curse. In about an hour's drive we can be in coniferous forest or alkali flats, wetlands, blue oak woodlands, or riparian forest. However, this variety presents many members with imposing distances and obstacles for travel to meetings and events.

Despite this, we're a pretty active chapter. We meet for eight varied and relevant programs and publish nine newsletters a year. Our editor, Thelma Valdez, not only puts together an attractively informative newsletter, she writes, edits, and illustrates brochures and posters. Currently, she is compiling material for a booklet on local edible natives.

A recent success story evolved recently when three members presented a chapter program on gardening with natives—timed to attract people to whom we had sold plants at our annual sale. We hope to see some real changes in city landscaping as a result. We are currently involved in a restoration/education project at China Creek, a 120-acre undeveloped Fresno County park on the Kings River. We're working hard to eliminate the exotics, especially yellow star thistle, and to develop an interpretive trail.

BRISTLECONE CHAPTER

Size of chapter: Approximately 170 members

Website address:
www.bristleconecnps.org/

Two major factors motivated the establishment of the Bristlecone Chapter: interest in preserving the unique floristic environment of the eastern Sierra, and the need to protect the Owens Valley from the loss of vegetation due to the groundwater pumping activities of the Los Angeles Department of Water and Power. Though the chapter may be small relative to other chapters around the state, it is situated in an area that contains certain unique features, namely its biodiversity and geodiversity. Inyo and Mono counties sit at the convergence of the northern Mojave Desert, the Great Basin, the montane realm of the Sierra Nevada, and the White and Inyo mountains.

The chapter was founded in 1982 by the late Mary DeDecker, noted botanist and conservationist from Independence. Mary was not only instrumental in the founding of the chapter, but she achieved con-

Bristlecone Chapter field trip to Short Canyon in the southern Sierra, in May, 2004. Trip leader Naomi Fraga, a graduate student at RSA and recipient of a DeDecker Botanical Grant from the Bristlecone Chapter, is discussing the flowers of Parry beargrass (*Nolina parryi*). Photograph by S. Ingram.



The annual fall plant sale of the Bristlecone Chapter is popular among Owens Valley residents, and locally propagated plants sold bring in thousands of dollars to the chapter. Photograph by S. Ingram.

siderable acclaim for her discoveries of several rare, never before identified endemic plants, including July gold (*Dedeckera eurekaensis*) in the buckwheat family.

A number of professional botanists are counted among the active, dedicated members who have put diligent effort into creating, designing, and maintaining the Mary DeDecker Native Plant Garden in Independence. Some of the chapter's other ongoing activities are field trips, a botanical grants program to facilitate local plant research, and an active conservation program. Every other year the chapter offers a Sierra Spring Sojourn, a weekend of field trips and lectures focusing on native plants of the Eastern Sierra, which is open to CNPS members statewide.

The chapter has also promoted an abiding and burgeoning community interest in native plants for home landscaping. Chapter volunteers collect seed from surrounding wildlands, which are then grown at a local multi-agency propagation center and sold at the annual native

plant sale. Bristlecone volunteers have grown over 100 different species in the eight-year history of the sale, and each year new species are offered.

ALTA PEAK CHAPTER

Size of chapter: Approximately 80 members

Website address: None

Early in 1991, a group in Three Rivers concerned about proposed development along the Kaweah River affiliated with CNPS as the Alta Peak Chapter (also known as the Tulare County Chapter). Catherine-Elsah Cort was the first president, and *Brodiaea insignis* was chosen as the chapter logo. This CNPS List 1B species grows only in the drainages of the Kaweah and Tule rivers.

In many ways we could be categorized as a small, less vigorous chapter. We are rural, dispersed, and in a part of California that strongly supports private property rights and more often than not opposes any sort of government regulation. No major conservation is-

ssues currently confront us. We work quietly with agencies, with like-minded organizations, and with county planning staff to interject our ideas and provide information about native plants and landscape-scale vegetation. We are grateful for the support we have received from state officers and staff over the years.

Throughout its existence, Alta Peak Chapter has taken positions on a number of important issues, including setbacks and development along the Kaweah River, the County Foothill Management Plan, and sand and gravel mining in or near river beds. A widely publicized, well attended public workshop, "Living with a River," rallied growing support for CNPS work.

As our membership expanded into other areas of the county, wildland fire and non-native invasive species became chapter concerns. We were part of the fight to protect sycamore alluvial woodland stands from sand and gravel extraction in Dry Creek. Although we lost this fight when the permits were given, recently the property was abandoned by the concrete company,

and bought by a land trust. We are hopeful that the land will be restored in the coming years.

We offer programs to the surrounding communities. Field trips begin in February and continue into late summer. The chapter newsletter is mailed quarterly, and we also sponsor native plant gardens. Board and members business meetings are held only several times a year, as a considerable amount of the chapter's business is conducted via email.

SAN LUIS OBISPO CHAPTER

Size of Chapter: Approximately 230 members.

Website address: cnps-slo.org

The San Luis Obispo chapter was formed by Dr. Robert Hoover and some environmentally-oriented individuals in 1966. From the beginning they supported the efforts of Kathleen and Gaylord Jones to preserve the Nipomo and Guadalupe dunes and surrounding vegetation.

The chapter held its first plant sale in 1968 and continues to do so every year. It is the main fundraising project of the chapter. In 1977 we cosponsored a symposium "Native Plants: a Viable Option" concerning landscaping with native plants. CNPS Publication #3 reports the event's proceedings.

In the late 1970s we began furnishing rare plant data to the California Natural Diversity Database. We sponsored field trips to all parts of the county including Arroyo de la Cruz on the Hearst Ranch, the dunes, and various other places. We also compiled a loose-leaf book containing information and photographs of all of the List 1B (rare and endangered) plants in the county. In updating the book, we found it necessary to go back into the field to obtain photos and information on the many species which have

Alta Peak Chapter members creating a fire-safe demonstration garden, which is used to educate locals about how to landscape in a way that would protect their homes from wildfires. Photograph by M. Keeley.





Happy botanizers: San Luis Obispo Chapter members who climbed Cerro Hill last spring (top) and who were first to climb Coreopsis Hill (bottom). Photographs by M. McLeod.

been added to the list since our previous effort.

We have an active conservation group that watchdogs meetings of various organizations, and a very able rare plant coordinator. The chapter has booths at the local farmer's market and various other functions. We have had a series of very interesting speakers at our monthly meetings and also offer a variety of field trips.

Recent publications of the chapter include; *Dune Mother's Wildflower Guide* (2001), *Wildflowers of Highway 58* (2004), and *Wildflowers of the Carrizo Plain Area* (2005), all by Malcolm McLeod.

NORTHERN SANTA BARBARA COUNTY SUBCHAPTER

Size of chapter: Approximately 50 members

Website address: None

The subchapter concept can meet the special needs of CNPS members, especially in regions where chapters cover large areas, making active participation in chapter activities difficult. Subchapters allow people in outlying areas to form a new chapter or restart a chapter that has lapsed. Subchapters also offer chapter activities such as programs and field trips in their immediate area so members do not have to travel long distances to participate. By working with a parent chapter, interested members can marshal the resources and interest to form the new chapter.

Northern Santa Barbara Subchapter kids "manning" the CNPS table at the Wildflower Weekend held in 1998 at the Pozo Fire Station. Photograph by C. Blair.



Early in 1996 our subchapter began scheduling formal programs and fieldtrips. These were well received, especially by people in the Santa Barbara/Goleta area who found the more regional fieldtrips suited to their needs. In early 2003, attendance at formal programs declined; however, an active program of fieldtrips continues.

We have also supported public awareness of native plants through joint activities with other organizations, such as the local Sierra Club chapter's annual wildflower walk. The active participation of CNPS members in conservation concerns and public forums has also increased appreciation of the beauty and enjoyment of native plants in this area.

KERN COUNTY CHAPTER

Size of chapter: Approximately 80 members

Website address: www.cnps.org/chapters/kern/index.htm

Kern County has a long history of botanist-conservationists who have been actively cataloging, monitoring, and preserving unique plants and plant communities, well before CNPS was organized. The Kern County Chapter of CNPS was formed in 1982, primarily to continue conservation efforts begun decades earlier. Our chapter was pleased to have facilitated the reprinting of the invaluable *A Flora of Kern County* by the late Ernest Twisselmann. The updated manual was published by CNPS in 1995 and incorporated a key to the Kern County Flora authored by Dr. Maynard Moe.

Increasingly, issues of concern to our chapter are becoming more complex and difficult to address. Members are actively involved in the management and preservation of riparian habitat along the Kern River. This includes working with



Two rare plants enjoyed by members of the Kern County Chapter: Bakersfield cactus (*Opuntia basilaris* var. *treleasei*) (left) and striped adobe lily (*Fritillaria striata*) (right). Photographs by E. Cypher.

the Kern River Parkway Foundation to promote the planting of native species in the Kern River corridor. Chapter members also participated in the development of the Bakersfield and Kern Counties Habitat Conservation Plans (HCPs). In spite of the HCPs, however, plant community monitoring and preservation is more critical than ever due to the increasingly rapid and still poorly planned local development.

The California Living Museum, which opened in the early 1980s, continues to provide the chapter with an opportunity to promote CNPS educational goals. The museum, which includes a zoo and botanical garden, uses native plants to represent major California habitat types. Chapter volunteers help maintain the native landscaping, and the chapter provides funds for interpretive signs. In addition, we hold our annual plant sale at the museum as part of a successful partnership in promoting the native flora of California.

In 2003 the chapter offered its first spring garden tour featuring the homes of several members that make use of California natives in their landscaping. It proved to be an exciting addition to our chapter's activities. Annual field trips often include searching for and monitoring 14 rare, threatened, or endan-

gered species from the area and always provide rewarding experiences for participants at all levels of botanical expertise.

CHANNEL ISLANDS CHAPTER

Size of chapter: Approximately 250 members

Website address: www.cnpsci.org

Founded in 1975 by Ruth Krasner, Cynthia Leake, and a few others, the Channel Islands Chapter serves Ventura County and most of Santa Barbara County. Our chapter has been active at the state CNPS level since the 1980s by having one or more members serving on the CNPS Executive Committee, State Board of Directors, or statewide committees. David Magney has served as CNPS president, board member, and in three vice-president positions. Lynne Kada serves as CNPS Chapter Council Chair and on the Board. Patt McDaniel has long served on the CNPS Board.

The chapter holds plant sales in the fall and spring, and presents monthly evening programs that alternate between Ventura and Santa Barbara. The chapter typically offers about one hike each month. We also regularly organize or participate in weed eradication events

that focus on Spanish and Scotch broom, castor bean, and giant reed. Our annual member banquet in late summer generally includes a speaker, art display, auction, and great socializing. We also publish a quarterly newsletter, *Matilija Copy*. The chapter has been largely successful in challenging various types of development projects in the area that would have significantly impacted native plants, rare plant communities, and rare plants. These projects include the Camarillo Regional Park golf course and amphitheater, Ahmanson Ranch, and the North Shore developments. While we haven't won on every issue, we have succeeded in obtaining substantial modifications to various projects.

Through chapter outreach efforts, the CNPS mission is now known to most politicians in Ventura and Santa Barbara counties. In addition, our chapter is embarking on the development of a large native plant nursery that will grow local natives for revegetation projects, especially for wetland/riparian habitats. In the coming years we hope to increase our membership to 500, and to attract more active members in Santa Barbara County so that we can address conservation issues there.

Each chapter summary was authored by one or more representatives from that chapter.

Channel Islands Chapter art show at September 2004 annual dinner, Ojai Valley. Photograph by D. Magney.





Wild ginger (*Asarum caudatum*) with yerba buena (*Satureja douglasii*) in the shade of a brick patio. Photographs by P. Duvall unless otherwise noted.

NATIVE HORTICULTURE: WHO NEEDS IT? THE CNPS HORTICULTURE PROGRAM

by Peigi Duvall

Native horticulture has always been and probably will always be an integral part of our work as a native plant society. As stated in our mission, the California Native Plant Society (CNPS) will increase the understanding and appreciation of California's native plants through horticulture—together with other vital efforts. To accomplish this end, goal four of the latest strategic plan clarifies that we will "Promote, support, and encourage the appropriate horticultural use of California native plants in gardens and landscapes." In the most practical terms, this means that CNPS will promote the cultivation, or growing and tending, of native plants.

Today California native plants are strangers in their own land, largely due to the introduction of non-native species (sometimes referred to as "exotics") during the Western Expansion of the mid-1800s. Many of these non-natives proved highly invasive, and over time have crowded out the local native plants in many parts of the state, both in wilderness areas and in more populated regions. Education is key to any horticultural program promoting the value and use of natives. One indication that we need to do a better job of educating the public is the lack of native plants in nurseries, in residential and corporate landscapes, and in public sites managed by municipalities or

agencies. Clearly our work is cut out for us.

Although people join CNPS for differing reasons, generally many are interested in the horticulture of native plants. Some hope they will learn more about how to garden with plants other than the traditional cultivars, others are simply happy to attend a wildflower walk each spring. Others become more involved in CNPS volunteer activities at the chapter or state levels. Regardless of motivation, CNPS easily accommodates all interests and levels of involvement, from the casual home gardener asking a question on the CNPS "Growing Native Plants Discussion Board" (found at www.cnps.org under Pro-

grams; click on Education), to an experienced professional speaking at an industry seminar regarding the proper planting and maintenance procedures for large installations of natives.

The CNPS Horticulture Program offers something for everyone. It provides education on native plant horticulture, information on the availability of plants, and opportunities to gain experience with and enjoy native plants. The Program provides information on nurseries that sell native plants, resources for home gardeners and the landscape industry, information to facilitate coordinated efforts with municipalities and government agencies, publications about the CNPS goals of promoting the appropriate use of natives through horticulture, and is working to post all of this and other easily accessed horticultural resources on the CNPS website. In coordination with the Education Program of CNPS, the Horticulture Program is also developing content for schools at the K through 12 and community college level.

Licensed nurseries and ethical growers of native plants are the foundation of native horticulture. As knowledgeable experts who collect seeds correctly, and who know the various and often challenging

California grape (*Vitis californica* 'Rogers' Red') is mirrored in the gate design of a private landscape in Woodside. Photograph courtesy of landscape architects and The Garden Route, San Francisco.



Enthusiastic crowds at the Santa Clara Valley Chapter Spring Plant Sale. Photograph courtesy of A. Kumar. • Going Native Garden Tour ad reflects the beauty of native blossoms. Photograph courtesy of A. Kehoe.

methods of native plant propagation, they provide the stock that the rest of us happily bring home or plant at job sites. Many CNPS chapters have nurseries, or work closely with local specialty nurseries, and hold annual or semi-annual plant sales. These activities often constitute the major source of revenue for a chapter and provide the community-at-large with an excellent source of local and reliable native plants. Local chapters also have information available about true local and endemic species, and can offer advice regarding appropriate plantings in locations where urban areas meet wildlands. Chapter sales also help to increase the availability of native plants overall. Without supply, the demand for California native plants cannot be met, and the state nursery industry's annual receipts of \$3.13 billion will be generated exclusively from the sales of exotics.

Specialty nurseries, including botanic gardens, are important partners in any chapter's horticulture



program. In addition to providing stock and expertise, they often provide educational programs. Santa Barbara Botanic Garden, as an example, is home to the Center for Teaching California Ecology that offers various horticultural certification programs. Often nurseries have demonstration gardens that make it possible to view examples of various types of native plant garden designs, and are also a wonderful way to observe and appreciate the seasonal changes that occur in such gardens.

Logo of Tree of Life Nursery, a specialty nursery. These nurseries are one of the primary sources for "garden worthy" and restoration plants. Image courtesy of TOL Nursery.



A CASE FOR HOW LOCAL IS LOCAL

“When I first moved here 25 years ago there was all kinds of wildlife!” Sound familiar? We’ve all heard, or lamented ourselves, at the changes that have come over our local landscapes. New home construction, mini-malls, big box retailers, schools, highways, and industrial parks have crept over the land, gradually obliterating what was there before.

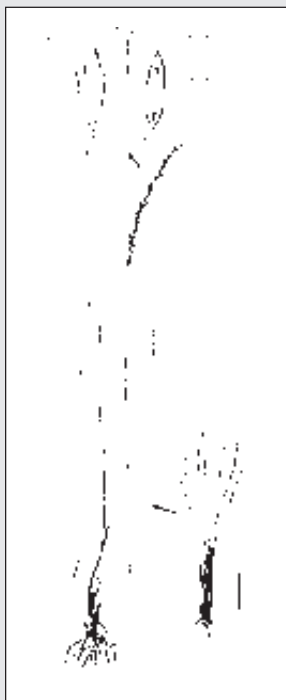
How could native plant populations survive faced with this scenario? What open space is left is quickly colonized by invasive non-native weeds of every description. Even the hardiest poppy has a tough time making it through the dense thatch of wild oats, poison hemlock forests, and tangled mustard stalks. If you want to landscape or restore an area to locally-appropriate natives but lack a specialty nursery, what chance do you have of finding anything to draw from?

Faced with this conundrum myself but knowing there were a few undeveloped areas near my home, I devised a plan to search for native plants. Within Alameda County, from my location on the city street map I drew concentric circles for every one half mile out to two miles from my home. Scouring the map for any sort of open land where vestiges of native plants might be eking out a living produced an array of sites. Historic cemeteries, utility corridors, numerous watersheds, buffer zones between developments and open parklands, government property held for future use, and abandoned quarries all produced results. Even the borders of railway rights-of-way and junk-laden industrial sites held promise.

Since my focus at the time was native grasses, I began searching in April, because I knew that most of the cool season species would be at their peak from then until June. Even amid acres of non-native wild oats (*Avena barbata*), ripgut brome (*Bromus diandrus*), and Italian rye (*Lolium multi-*



Above: Slender needlegrass (*Nassella lepida*; habit and top spikelet), and purple needlegrass (*N. pulchra*; bottom spikelet). All drawings by L.A. Vorobik, from Junak et al, *A Flora of Santa Cruz Island*. • **Below:** Melicgrass (*Melica imperfecta*).



florum), I began to see tight clusters of natives peeking here and there through the sea of invaders. Knowing what to look for in flowering culms made it a little easier, and once my search image was activated, the invaders blended into obscurity and the natives popped out of the landscape like stars in the night sky.

I located 14 species of native grasses in that first season of searching. Large but scattered stands of purple needlegrass (*Nassella pulchra*) topped the list. Relieved from cattle grazing when agricultural lands in the hills were converted to single-family home development, this grass flourished even amidst heavy competition from non-native annuals. Native grasses such as oatgrass (*Danthonia californica*) and brome (*Bromus carinatus*) showed up sporadically as did wild barley (*Hordeum brachyantherum*) where soil moisture was higher.

Less numerous but common in the right habitat was slender needlegrass (*Nassella lepida*). I found the melicgrasses *Melica imperfecta* and *M. torreyana* in shady canyons and an occasional *M. californica* on the more exposed slopes adjacent to the woodlands. Fallow park-lands that a year prior underwent brush removal yielded beautiful stands of slender hairgrass (*Deschampsia elongata*) which now arose from an exposed seed bank. Roadcuts too steep for cattle to negotiate supported clusters of California fescue (*Festuca californica*) and the bluegrass *Poa secunda*. Other fields, purchased decades ago by Caltrans to secure land for a proposed expressway, supported species of needlegrass (*Nassella pulchra* and *N. lepida*), slender wheatgrass (*Elymus trachycaulus*), blue wildrye (*Elymus glaucus*), and a few wispy plants of the bluegrass *Poa tenerrima* clinging to serpentine outcrops.

There was an added benefit to my habitat surveys that I hadn’t anticipated.

Weekly field forays to check on the status of the rediscovered bunchgrass populations uncovered many species of native shrubs, trees, vines, and annual and perennial wildflowers growing in the same areas. Some populations were reduced to a few plants, while others were thriving. But these were all local ecotypes, so what could be more appropriate?

It became second nature to check on the state of the seed-ripening of these plants, too. These trips were rewarded: familiar poppies, blue-eyed grass, and lupines were soon joined by more obscure plants such as hop tree (*Ptelea crenulata*), a species of Rupert's scurf-pea (*Rupertia*), two species of *Clematis* climbing happily next to a corral, and a lush patch of western goldenrod (*Euthamia occidentalis*) that I found thriving in a soggy ditch next to a rough-shod truck storage yard. Its golden display provided a veritable feast for hundreds of pollinators for miles around.

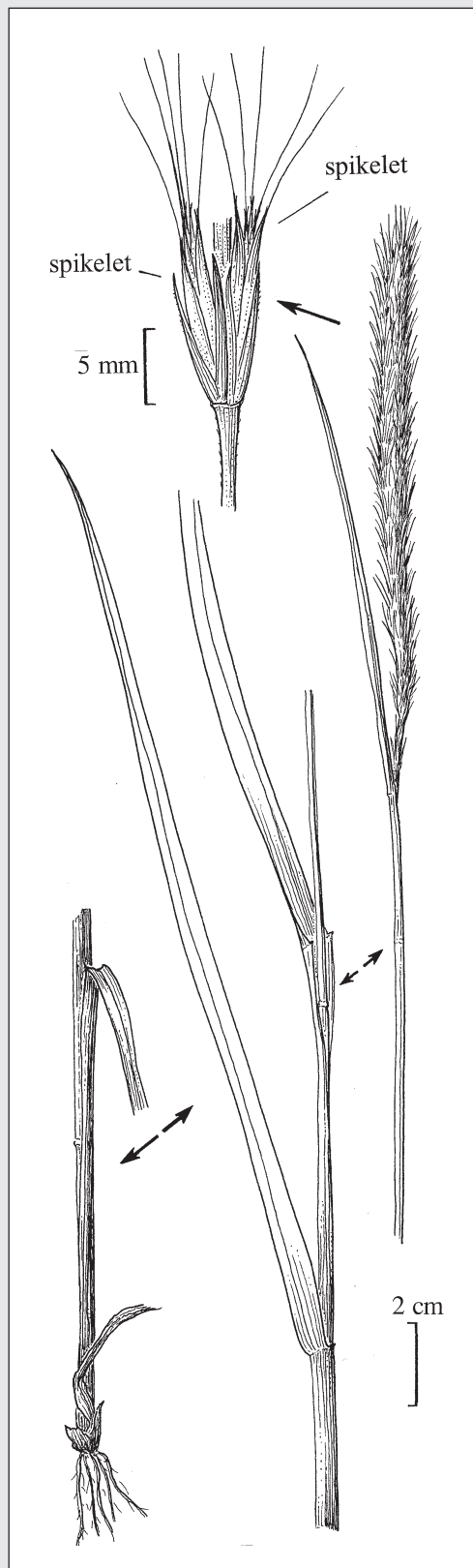
Eventually I could see the pattern of native plants scattered throughout a landscape that I had previously written off as blanketed and smothered by non-native weeds. True, the balance was tipped heavily in favor of the invaders and probably would remain that way for many years. But these remnant survivors are out there. They are the hope for the future. Finding them, collecting their seed, and propagating them for eventual return to their rightful place in the environment can happen. Even the simple act of preserving and promoting them in neighborhood gardens can increase pollinator populations that are trying to make do

with the non-native cultivars *Pittosporum*, *Calendula*, and six packs of *Impatiens*.

Seed collecting, cuttings, layering, and divisions have given me all the stock I need and at the same time have increased the numbers of the populations that were struggling to survive. What's more, local genetic diversity is both preserved and enhanced by planting seedlings in the local landscape in close proximity to the parent stock. Reintroducing these plants into areas from which they were once present but have been extirpated over the years may be a long, slow process, but it can be done. Unfortunately, some of these struggling plants are the last local representatives of their species. A rescue mission is just what is needed. Keen eyes, weekly patrolling, and careful protection can result in a salvage harvest that may insure these struggling plants a future.

We all know the tenacity of plants is legendary; they grow where they do because they can. Lone conifers clinging to granite cliffs, desert shrubs surviving on mere inches of rain a year, and chaparral plants emerging from the blackened moonscape of summer fires are all common examples. But don't disregard the less dramatic. Give it a try. Draw a few circles emanating from your home on a street map and start exploring. I predict you will be surprised by what turns up.

Mike Koslosky



Blue wildrye (*Elymus glaucus*).



California grape (*Vitis californica* 'Roger's Red') beautifully draping over a garden trellis.

Commercial nurseries, both large and small, are now including native plants as part of their inventory. The current popularity of California natives combined with the glaring need for sustainable landscape practices has opened up shelf space where none existed even a few years ago. For instance, Armstrong Garden Centers in southern California carries a nice selection of natives and provides printed material advising gardeners on the care and feeding of these plants. Smaller local nurseries such as Ladera Garden Center in Portola Valley will bend over backwards to

Desert species create high drama at Rancho Santa Ana Botanic Garden.



find the native plant you are looking for if it is not in stock.

While there may be concerns about mass, commercial production of "garden quality" natives, there is at least a ray of hope that the gardening public will not always be sold a bill of goods denouncing natives as simply brown and ugly. Thank you to the native growers, promoters, and chapter members who are helping make these inroads.

A key concept in landscape design is creating a "sense of place," an environment that allows the body, mind, and spirit to know where we are—to feel authentic, in harmony, and at home in our surroundings.

While this may be achieved by planting a garden of tropical specimens or a public site with parterres and heritage roses, gardening with natives is a choice that is becoming increasingly popular since natural habitats of California are among the world's most spectacular and beautiful.

We can grow and tend according to our unique plant communities and microclimates. Indeed there is something extraordinary that happens when plant species that have evolved symbiotically are planted together in a landscape. Many homeowners for whom a native garden has been installed express a feeling of peace, release, and return—a waking of senses, a coming alive where numbness had encroached. Much has also been claimed regarding the benefits of native plants to encourage an ecosystem where butterflies, bugs, and other fauna can participate in the rendering of good health above and below the soil's surface. This is all true. The web of native life is vibrant and has great powers of rejuvenation.

The landscape industry is huge in California. Where else in the

world can you grow just about anything at just about any time of year? A large part of California has a mediterranean climate known for its dry summers and shorter wet winters—conditions found on just two percent of the world's land mass and in only four other areas on our planet. Unable to escape close proximity to this milder climate and California's expanding populations, our deserts are becoming landscaped to death and there are roses in Tahoe. At different times, every decade or so, California native plants become the "plant du jour"—in fashion to have in the garden. California natives were confidently



Hummingbird sage (*Salvia spathacea*) and prostrate *Ceanothus* are part of a berm planted with native species at the Donald C. Tillman Water Reclamation Plant in Van Nuys, administered by the City of Los Angeles Bureau of Sanitation.

heralded as the "right plant in the right place" since they are inherently "drought tolerant" and surely "low maintenance"—not true in every case, of course, but that's a topic for another discussion. The marketing rhetoric works well—especially in El Niño years or when, as now, water issues can no longer be shoved under the turf.

Because California native plants have not undergone extensive horticultural study or experimentation in the landscape compared with more common industry selections,

SPRING 2005 NATIVE GARDEN TOURS THROUGHOUT THE STATE

THEODORE PAYNE FOUNDATION

Date/Time: April 2–3, 2005,
10 a.m. to 4 p.m.

Location: Greater Los Angeles area

Looking for inspiration for your springtime planting? Come out to our Second Annual Native Plant Garden Tour (self-guided) and bring home some great ideas on how to save water, eliminate fertilizers and pesticides, and turn your garden into a wildlife sanctuary. You'll have the opportunity to visit more than 20 different beautiful home gardens throughout the Los Angeles area that are predominantly planted with California native plants. Garden styles range from formal and manicured to cottage gardens to true restorations, so there is something for everyone. Homeowners and docents will be at each garden to answer questions and to share their experiences. Many plants will also be labeled so that you can write down your favorites to plant in your own garden later! Tickets are \$20 each and can be purchased at the foundation or by calling (818) 768-1802. More information about the tour is also available at www.theodorepayne.org.

CALIFORNIA GLORY GARDEN TOUR

Date/Time: Sunday, April 3, 2 p.m. to 5 p.m.

Location: Claremont area, Upland and environs

This will encompass a number of different sites: a church garden, a private home within a retirement center, small home gardens, large area gardens, and a water facility home demonstration garden. These will all have an assortment of native and drought tolerant plants. Some have been in place for 20 to 30 years and some are newly landscaped. For further information call the Rancho Santa Ana Botanic Garden at (909) 625-8767 or visit their website at www.rsabg.org.



Native plantings form a natural looking meadow in the Gerda Isenberg Native Plant Garden at Yerba Buena Nursery, Woodside, California. This demonstration garden is open to the public at any time the nursery is open. Photograph by S. Wilcomer.

GOING NATIVE GARDEN TOUR

Date/Time: Sunday, April 17, 2005, 10 a.m. to 4 p.m.

Location: Various locations throughout Santa Clara Valley

Visit home gardens that are water-wise, low maintenance, low on chemical use, bird and butterfly friendly, and attractive. A variety of home gardens landscaped with California native plants will be open to the public. Free admission. Registration required at www.GoingNativeGardenTour.com before April 16, 11 a.m. or until the tour reaches capacity, whichever comes first. Space is limited;

register early to ensure a place. For more information, email info@GoingNativeGardenTour.com.

BRINGING BACK THE NATIVES GARDEN TOUR

Date/Time: Sunday, May 1, 2005, 10 a.m. to 5 p.m.

Location: Various locations throughout Alameda and Contra Costa counties

Registrants will receive a printed garden guide to 50 gardens, and garden talks will be scheduled throughout the day. A variety of bird- and butterfly-friendly, pesticide-free, water-conserving, low-maintenance gardens that contain 30% or more native plants will be open for viewing. Free admission; registration required at www.BringingBackTheNatives.net. Space is limited, so register early to ensure a place. Sponsored by Kathy Kramer Consulting and the Urban Creeks Council. For more information, email Kathy@KathyKramerConsulting.net or call (510) 236-9558 between 9 a.m. and 9 p.m.



A path through native wildflowers and shrubs in the demonstration garden at Yerba Buena Nursery. Photograph by S. Wilcomer.



An urban hillside garden well planted with flannel bush (*Fremontodendron californicum*), Cleveland's sage (*Salvia clevelandii*), matilija poppy (*Romneya coulteri*), and California fuchsia (*Epilobium canum*).

many natives are accused of being finicky, hard to establish, or unreliable. They've not had their life and sensitivity bred out of them to be, as it is called in the trade, "bullet-proof." Large commercial plantings of natives have been lost and many thousands of dollars wasted often because planting and maintenance guidelines were not known, or because guidelines for popular landscape plants such as *Rhabdolepis* and *Photinia* were used to care for natives. This is not good business.

There is a need at the state level of CNPS to develop a readily accessible set of resources and useable guidelines that can begin to move gardeners from the inexperienced or misinformed to the well-informed or expert. Our state speaker's bureau (coming to the CNPS website soon) is an excellent resource, as are various knowledgeable people within each chapter who can offer horticultural presentations or participate in horticultural or landscape industry seminars to educate those interested in designing landscapes using native plants.

The state Horticulture Program is also developing additional mate-

rials with the help of local chapters. One example is the full color brochure, *Why Use Natives in Your Garden?*, originally produced by the Orange County Chapter and then adapted to the state as a whole, which will be available this spring for use at plant sales, garden tours, industry shows, and anywhere native plants can be introduced. The CNPS Horticulture Program, in tandem with efforts by local chapters, can provide municipalities and government with native horticulture information, inform them about sensitive horticultural issues, and collaborate with them on projects of mutual concern. Many CNPS members hold day jobs in the restoration field, are involved in development issues, or work in other areas related to native horticulture and public service. From water districts to Caltrans, town halls to federal programs, CNPS members knowledgeable about horticulture should always have a presence at the table to advocate for the appropriate use of California native plants.

Last but certainly not least, the CNPS state website has been lacking in horticultural content. I hope that by the time this article is published, you will be able to access some useful information at the site. We know that people who are curious about native plants or have recently heard about the California Native Plant Society will find their way to the CNPS website through an Internet search engine. We are working hard to make CNPS horticultural information abundant, accurate, and readily available on the Internet.

The United Nations has declared the ten-year period beginning in 2005 as the "Decade of Education for Sustainable Development" in recognition of the urgent social and ecological need for all people to live in a more sustainable manner. Promoting, supporting, and encouraging the appropriate horticultural use of native plants can

help contribute to this most important worldwide initiative. The CNPS Horticulture Program welcomes your comments and suggestions, and hopes that you will feel free to contact us about them at CNPSHort@comcast.net. We all need native horticulture—who better than CNPS to help provide it?

REFERENCES

For general reading on the subject, see the Fremontia special issue on gardening with natives, Volume 29, No. 1 (January 2001). The CNPS Strategic Plan 2001–2003, including policy regarding horticulture, is available at: www.cnps.org/archives.

Other great resources are the recordings by Kate Wolf and the Wildwood Flower, especially the 1976 recording The Redtail Hawk by Back Roads, Rhino Records, and MAD: Move, Adjust, or Die—How California Native Plants Do It, an elementary school program developed by CNPS Orange County Chapter in 2004.

- Alameda County Waste Management Authority and Alameda County Source Reduction and Recycling Board. 2003. *Bay-Friendly Landscape Guidelines*. ACWMA and AMSRRB. San Leandro, CA. 62 pp.
- Carmen, H. 2004. *The California Nursery Industry, 2002–2003: Value, Growth, and Economic Impacts*. Available at: www.agecon.ucdavis.edu/ARELibrary/WP/04-005.pdf
- Clugston, R. 2004. The UN Decade of Education for Sustainable Development. *Soka Gakkai International Quarterly* 38:2.
- East Bay Municipal Utilities District. 2004. *Plants and Landscapes for Summer-Dry Climates of the San Francisco Bay Region*. Oakland, CA. 336 pp.
- Francis, M. and A. Reimann. 1999. *The California Landscape Garden*. University of California Press. Berkeley, CA. 234 pp.

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Clockwise from top left: Purdy's fritillary (*Fritillaria purdyi*) in Calistoga, Napa County. Despite its relatively broad range in California, this CNPS List 4 species is known from only a single site in Oregon. Photograph R. Parker. • Serpentine milkweed (*Asclepias solanoana*) at The Geysers in Sonoma County. Photograph by R. York. • Siskiyou inside-out-flower (*Vancouveria chrysantha*) at Pine Flat Mountain in Del Norte County. This species is endemic to northwestern California and adjacent Oregon. Photograph by R. York. • Tiburon mariposa lily (*Calochortus tiburonensis*) is a listed species known only from a single occurrence at Ring Mountain Preserve in Marin County. Photograph by R. York.

THE CALIFORNIA NATIVE PLANT SOCIETY'S RARE PLANT PROGRAM: 37 YEARS OF PLANT SCIENCE

by Misa Ward and Ann Howald

Rare plants have been a fundamental concern of the California Native Plant Society (CNPS) since its inception. Forward-thinking CNPS members recognized early on that attempts to protect California's many unique and beautiful rare plants could succeed only if accurate information on their status was freely available. CNPS was the first organization to

identify California's rarest plants and to designate those that, due to collecting, habitat loss, and other threats, were endangered. These early efforts supported the enactment of state and federal laws that protect our state's rare plants today, and the official listing of more than 200 species of California plants as threatened or endangered. Over its 40-year history, CNPS's focus

on rare plants has constantly evolved to keep pace with changes in taxonomy and technology, and with the increasing number of plants in California that qualify as rare and threatened.

According to the oft-told tale, it all began with a box full of file cards on the desk of Dr. G. Ledyard Stebbins. By the early 1960s many in California, including Dr.

TABLE 1. NUMBER OF TAXA IN EACH RARITY CATEGORY WITHIN THE INVENTORY EDITIONS

LIST OR APPENDIX	NUMBER OF TAXA
1974, 1st edition	
1. Very Rare & Rare and Endangered	704
Appendix I— Rare and Not Endangered	554
Appendix II— Mostly of Limited Distribution	135
TOTAL	1,393
1980, 2nd Edition	
1. Presumed Extinct in California	44
2. Rare and Endangered	656
3. Rare, But Not Endangered	446
4. Rare in California, But Not Elsewhere	237
TOTAL	1,383
1984, 3rd Edition	
1A. Presumed Extinct in California	34
1B. Rare or Endangered in California and Elsewhere	604
2. R/E in California, More Common Elsewhere	198
3. Need More Information	114
4. Plants of Limited Distribution	449
TOTAL	1,399
1988, 4th Edition	
1A. Presumed Extinct in California	39
1B. Rare or Endangered in California and Elsewhere	675
2. R/E in California, More Common Elsewhere	177
3. Need More Information	149
4. Plants of Limited Distribution	508
TOTAL	1,548
1994, 5th Edition	
1A. Presumed Extinct in California	34
1B. Rare or Endangered in California and Elsewhere	857
2. R/E in California, More Common Elsewhere	272
3. Need More Information	47
4. Plants of Limited Distribution	532
TOTAL	1,742
2001, 6th Edition	
1A. Presumed Extinct in California	29
1B. Rare or Endangered in California and Elsewhere	1021
2. R/E in California, More Common Elsewhere	417
3. Need More Information	52
4. Plants of Limited Distribution	554
TOTAL	2,073
2005, January Online Version	
1A. Presumed Extinct in California	28
1B. Rare or Endangered in California and Elsewhere	1033
2. R/E in California, More Common Elsewhere	420
3. Need More Information	53
4. Plants of Limited Distribution	556
TOTAL	2,090

Stebbins, the renowned professor of evolutionary plant genetics at UC Davis and the first president of CNPS, had become alarmed that California's rare plants were everywhere being lost. Realizing that knowledge is the key to protection, in 1968 Dr. Stebbins compiled a list of the most rare plants of California by combing through P.A. Munz's *A Flora of California* and extracting information on all of the native plant species that were limited in distribution and restricted to California. The names and locations of these plants were typed on cards, and information on their status was gathered from botanists throughout California.

Roman Gankin, then of the UC Davis Arboretum, led this effort. More species were added, the information base grew, and in 1971 Mr. Gankin produced CNPS's first rare plant list, with 520 plants. Soon after, Bob Powell volunteered to manage the rare plant records, and became chairman of CNPS's Rare Plant Committee of one. Mr. Powell expanded the Committee into the Rare Plant Project, staffed by volunteers, and eventually, with the hiring of a full-time staff botanist, the Rare Plant Program, as we know it today, was born.

Throughout its history, the program's primary focus has been to ensure that up-to-date, credible information on rare plants is available to support conservation and education. Guided by the Rare Plant Scientific Advisory Committee for many years, the program now relies on a statewide network of botanists, organized into seven regional groups, to contribute new information and to comment on status reviews for rare plants.

The Program's information on rare plants is organized in a computer database and is distributed as the CNPS *Inventory of Rare and Endangered Plants of California*. This is used throughout the state for conservation and planning purposes.

There are also other sources of rare plant information, so why is the *Inventory* so often cited as the most valuable single source? Perhaps because it includes all of the most important facts in one place—name, status, quad-level distribution, blooming time, threats, and references—all for a modest cost in the case of the book, and as a free service through the online *Inventory*.

The *Inventory* alone is an enormously valuable contribution, but the program's achievements go far beyond that. Over the years, all of CNPS's rare plant botanists have traveled throughout the state to assist CNPS chapters, state and federal agencies, and many others with countless projects and initiatives. These range from documenting the rediscovery of Humboldt milk-vetch (*Astragalus agnicidus*), once thought to be extinct, to analyzing our rare plant data to answer specialized questions from agencies, to supplying essential background information in support of state or federal listings.

The rare plant botanists have also been active in CNPS outreach, giving talks at agency meetings, for garden clubs and service organizations, and at state and national symposia. In the years to come, the Rare Plant Program looks forward to serving CNPS members and the public even more effectively than it has over the last 37 years.

THE INVENTORY

The fundamental purpose of the *Inventory* is to disseminate accurate biological information to facilitate

science-based plant conservation in California. CNPS is the state's leader in scientific efforts focused on identifying rare plants, assessing their endangerment, and creating rare plant lists based on these efforts. The first public CNPS rare

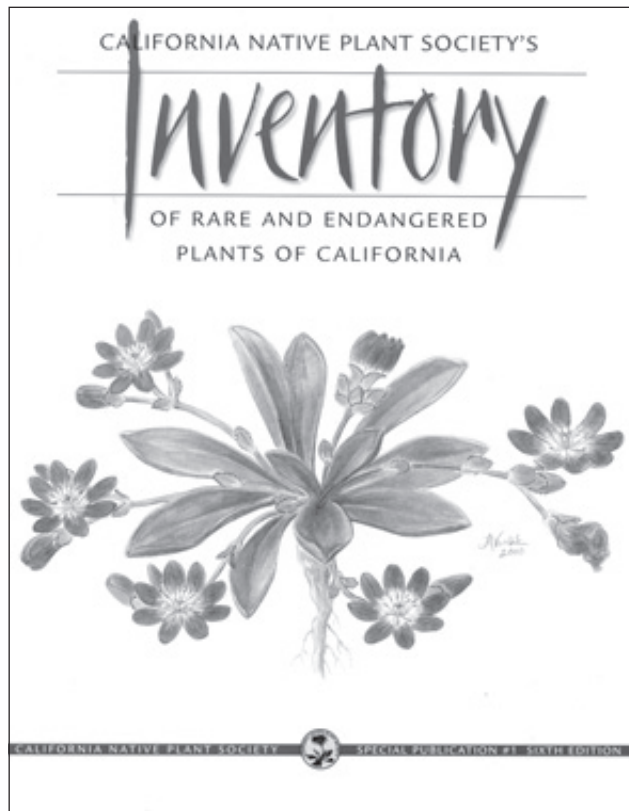
plants. The number of plants in the *Inventory* has since grown to 2,090 at the time of this writing, and the CNPS List categories have undergone modifications through the years (see Table 1 and Smith 1990 for more information).

The *Inventory* computer database was made possible by Rick York's efforts to digitize the Rare Plant Program's paper files in the early 1980s (York et al. 1982). This work was necessary not only to remain current with technology advances, but also to cope with an increasing number of information requests as well as increased incoming data. However, the Program continues to maintain paper files of biological information on *Inventory* taxa for use by researchers and other botanists.

As is the case with many books, *Inventory* editions became outdated soon after printing due to the dynamic nature of the data. In 1994, thanks to the work of Mark Skinner and others, CNPS entered the world of electronic publication by re-

leasing a computer application, the *Electronic Inventory*. Suddenly rare plant data became more accessible to those who needed it, and no longer depended on the costly publication of a revised paper copy of the *Inventory* to be kept current. The subsequent online version of the *Inventory* is now updated quarterly, and provides an efficient and inexpensive means of disseminating data to those involved in environmental and conservation planning. For many, it has become an indispensable tool in their work.

The subsequent online version, developed in 2001 by Larry Levine



Cover of the CNPS *Inventory of Rare and Endangered Plants of California*, 6th edition, with illustration of Stebbins's lewisia (*Lewisia stebbinsii*; illustration by L. Vorobik). Published in 2001 with David P. Tibor as convening editor.

plant list, from 1971, pre-dated federal and state listing of threatened and endangered species.

In 1974, CNPS published the first edition of the *Inventory*, which included 1,393 plants. In addition to rarity rankings, the first edition included distribution and flowering period for the state's plants of primary concern. This required a massive amount of work by volunteers, both professional botanist and amateur plant enthusiast alike. Their work represented a major step in the conservation of our flora and was rewarded by an even greater public awareness of California's rare

RARE PLANT BOTANISTS OF THE CALIFORNIA NATIVE PLANT SOCIETY

CNPS hired **Rick York** as its first rare plant botanist in 1980, and he served until 1986. To this day, Rick recalls his time at CNPS with fondness. Top among the things he enjoyed was



having the freedom to learn on the job and the satisfaction of doing his best for rare species and the CNPS Rare Plant Program. Among his numerous accomplishments were establishing a rare plant coordinator in each chapter; computerizing and publishing the 2nd edition of the *Inventory*; establishing a close working relationship with The Nature Conservancy and the California Natural Heritage Program (which later became the Department of Fish and Game's (DFG's) California Natural Diversity

Database (CNDDDB); creating a positive framework in which CNPS and agency botanists could effi-

Above: Rick York, first CNPS botanist, serving from 1980-1986. Rick now works as staff botanist in the Environmental Protection office at the California Energy Commission in Sacramento. Photograph by L. York. • Below: Ken Berg, CNPS botanist from 1987-1989, here fishing for king salmon rather than rare plants at Neah Bay, Washington, in July, 2004. Cape Flattery and Tatoosh Island lighthouse can be seen in the background. Ken is currently the manager of the Western Washington Fish and Wildlife Office, US Fish and Wildlife Service, in Olympia, Washington. Photograph by B. Turner.



ciently share rare plant data; and working with Jim Nelson at DFG to develop rare plant field survey guidelines endorsed by DFG and CNPS (CNPS adopted the latest version of these in 2001). He also worked with CNPS officers to establish a fair salary for the position, and encouraged participation in Interagency Botanist meetings.

Ken Berg, who served as rare plant botanist from 1987 to 1989, most enjoyed the job's range of activities and the opportunity to work with so many dedicated plant conservationists.

Whether researching the status of some obscure native plant or helping to influence a state legislator, he always marveled at the expertise and commitment of CNPS volunteers. When he gave rare plant slide shows to chapters, the members "showered me with their generosity by inviting me into their homes to keep travel costs down. Sometimes this support and appreciation left me feeling like the Society's mascot. It was a good feeling." While in the position, Ken converted the CNPS database to a more versatile software program, which allowed more complex searches and analyses and facilitated electronic data sharing.

Dr. Mark Skinner was CNPS's next rare plant botanist, and held the position from 1989 to 1996. He cherished the many volunteers who helped him with the rare plant work of the Society, and the graciousness of those who hosted him and shared their botanical treasures afield. Mark enjoyed working with many of California's dedicated botanists and conservationists, and in particular, Mary Dedecker, who he characterized as a dignified and tenacious fighter for California's flora. Foremost among Mark's accomplishments was the publication of the fifth edition of the *Inventory* which contained new, useful information such as life form and hundreds of new rare plants. Mark also developed the



Mark Skinner served as CNPS botanist from 1989-1996. He is seen here with a queenfish from Queensland. Mark is the national botanist for the Natural Resources Conservation Service (NRCS) and works at the USDA-NRCS National Plant Data Center. Photograph by D. Donald.

Electronic Inventory, a query and reporting application that simplified conservation planning. He served as the technical lead in the effort to identify and propose over a hundred rare plants for the Federal Endangered Species Act (FESA) listing process. That work was fulfilling to him because it represented “a monumental step toward preservation for the tiny, the fragmented, and the forgotten.”

David Tibor, the Society’s fourth rare plant botanist, serving from 1993 through 2004, assisted Mark Skinner until 1996, and then completed most of the research for the subsequent sixth edition of the *Inventory*, published in 2001. Decisions on plant status and ranking were arrived at through consensus decision-making during a series of 12 regional review meetings held around the



David Tibor was with CNPS from 1993 through 2004 starting as an assistant to Mark Skinner and later becoming rare plant botanist. He is currently working part-time in Sacramento for the California Natural Diversity Database on a contract from NatureServe. He left CNPS to hike the Pacific Crest Trail, and is seen here sitting on the US/Canada border monument at the end of the 2,650 mile journey by foot, on September 29, 2004. Photograph by J. Manning.



Misa Ward, here watching winter birds along the Sacramento River, began her tenure as CNPS rare plant botanist in 2004. Photograph by C. Ward.

state, which David chaired in collaboration with Roxanne Bittman, lead botanist at CNDDDB. Recognizing the need for a more inclusive, cost-effective and timely review system for the *Inventory*, he helped develop a continuous review process that is in use today. Also in 2001, David served as convening editor for the rare plant conservation double issue of *Fremontia*. Carrying on previous efforts under FESA, he provided oversight on several listing law-

suits, which led to the final federal listing of over a hundred plants. In addition, David edited and supported several successful state listing petitions. The most gratifying part of his job was the “chance to work with so many dedicated volunteers to protect our beautiful and declining flora.”

The most recent CNPS rare plant botanist, **Misa Ward**, joined the program in March of 2004. Following a whirlwind, one-month training period with David Tibor, she began coordinating a com-

prehensive reevaluation and planning process for the program, which resulted in the formation of six ad-hoc working groups. The long-term vision arrived at is very inclusive and emphasizes science-based activities, credibility, outreach, and collaboration with other programs, agencies, and the public-at-large. Misa remains grateful for the opportunity to work for CNPS, with committed volunteers, and with the program’s director, **Ann Howald**, to actualize the important goals outlined in the Program vision and continue the excellent work of her predecessors. What she enjoys most in her new job is helping people get the information they need to protect rare plants, and having the opportunity to talk botany—her enduring passion—every day.

Ann Howald, CNPS Rare Plant Program director, during the November foray of the Sonoma Mycological Society, a joint outing with CNPS. Ann was helping the mushroom dye expert collect specimens for the dye pot. Photograph by G. Hundt.



of the North Coast Chapter, is now updated quarterly. It provides an efficient and inexpensive means of disseminating data to those involved in environmental and conservation planning. This Web version includes several useful features, including photos, maps, search tools, and links to additional websites. Each quarter, the CNPS Rare Plant Program produces an updated rare plant dataset, which is “published” on the Internet (i.e., the existing version is replaced with the new one). This past spring, the Rare Plant Program queried users on their *Inventory* usage, and found that all three formats—book, CD, and online—are actively used today.

The users of *Inventory* data are varied, and include city, county,

Below: Pygmy poppy (*Canbya candida*) is a CNPS List 4 plant that is around one inch tall. This individual was photographed at an occurrence located west of Walker Pass in Kern County. • **Bottom:** Coast yellow-linanthus (*Leptosiphon croceus*) is known from only this one extant occurrence at Moss Beach, San Mateo County. Photographs by B. Patterson.



state, and federal agency staff, other nonprofit organizations, conservationists, private consultants, planners, researchers, and resource managers. Consultants and planners preparing environmental documents review our data to determine the potential for resource conflicts and develop potential lists for botanical surveys. Potential lists that can be generated from the *Inventory* include rare plants likely to be found in a given region, and botanists use these lists to target rare plants in their surveys. Conservationists and resource managers can use the same information to review these documents and prepare public comments for influencing decision makers, as well as to guide protection efforts and land preserve acquisition and management.

Plant enthusiasts use the *Inventory* in their floristic or general field work, and compile region-specific sensitive plant lists. Others use it to find information on rare plant distribution, ecology, taxonomy, and blooming period. The *Inventory* also serves the mission of CNPS by including educational materials on rare plant protection such as state and federal plant policy guidelines (See CNPS 2001, Introduction).

Not surprisingly, data updates to the *Inventory* are often submitted by the users. CNPS members conduct botanical surveys and send their rare plant data to the program.

Chapters also contribute data from their monitoring work to the *Inventory*. Some examples include the Periodic Plant Watches, the Rare Plant-a-thon at Point Reyes National Seashore, and the chapter rare plant monitoring field trips. In addition, the rare plant botanist tracks a variety of sources for rare plant information, including scientific journals, floras, herbarium records, chapter rare plant coordinators' reports in newsletters, chapter field trip notes, and miscellaneous floristic inventories.

THE RARE PLANT BOTANIST

CNPS has long dedicated its efforts to developing and maintaining information resources on California's statewide rare plants. The maintenance of well-documented, accurate distribution information quickly became a challenging task for program volunteers to manage due to the state's exceptionally diverse flora, the pace of development, and increased data collection efforts. In 1980, CNPS recognized the need to hire staff in order to meet the demand for rare plant information and respond to *Inventory* queries in a reasonable time frame, and funded its first full-time botanist.

The Rare Plant Botanist is the lead staff member responsible for implementing the priorities of the CNPS Rare Plant Program and promoting the use of plant science data in the protection of California rare plants. While the duties performed by this staff member have been incredibly diverse through the years (Berg and Skinner 1990), work related to the *Inventory* has remained the foremost priority of the program. This work includes the challenging task of maintaining the *Inventory* dataset, which now requires processing nearly 3,000 data sources per year—a figure that has



Tiburon jewel-flower (*Streptanthus niger*) is a CNPS List 1B plant that is state and federally listed. Like many other of its rare congeners, this species is a serpentine endemic. Photograph by R. York.

more than doubled in the last 20 years, thanks to the efforts of botanists throughout the state! Rare plant sites are mapped to quads, and incoming data are reviewed and verified.

Other responsibilities include answering questions on and fulfilling custom requests for *Inventory* data as well as sharing CNPS rare plant data files with chapters, agencies, conservation staff, and local activists. Proposed major changes to the *Inventory*, such as adding a new species or making a nomenclature change, must be researched through literature, herbaria, and in some cases field investigations. The botanist coordinates reviews of these changes by collaborating with regional review groups of botanists and local experts. The program relies on the excellent work of CNPS members and botanists to fill the data gaps in *Inventory* data.

In addition to *Inventory*-related work, other services provided by the botanist include assisting rare plant coordinators in chapters and any CNPS members who need help with rare plant work. Another important role of this position is act-

ing as a channel for information exchange and collaboration among volunteers, agencies, conservationists, researchers, and other botanists with complementary goals or useful expertise for rare plant protection efforts.

Through its botanist, the Rare Plant Program performs outreach using a variety of methods, including presentations at chapter and professional meetings, reports to the Chapter Council on program work, publications on CNPS activities relating to rare plants, and communication with the media. The rare plant botanist also represents CNPS at agency meetings and workshops, and provides support for state and federal listing actions and rare plant monitoring through data contributions, testimony, or coordination (Berg and Skinner 1990). The program also reviews current and new initiatives through the work of committees.

FUTURE DIRECTIONS

As CNPS enters its fifth decade, California's rare plants face new challenges, including political and global environmental threats that were inconceivable 40 years ago. Will the Endangered Species Acts be gutted? How many more rare plants will global warming push toward extinction?

The program's future direction is to gather and make available information needed to assess the impacts of these changes, and plan and implement effective responses. This means the program will strive to expand its rare plant-related initiatives, while continuing to provide the high quality, science-based rare plant information that so many people rely on to protect a growing number of rare plants—now one-third of California's native flora.

In this era of shrinking budgets and staff cuts for state and federal resource agencies, the CNPS Rare

Plant Program's role in compiling and disseminating information on rare plants is more important than ever. Not surprisingly, our 2004 planning process identified the task of maintaining up-to-date, scientifically credible *Inventory* data as the number one priority for the program. The *Inventory* data will be made even more valuable through the addition of quad-level data for List 3 and 4 plants, a task we hope to complete over the next two years.

Improvements are also planned in how the *Inventory* is made available to users, such as updating the book and computer application forms of the *Inventory* more frequently, and improving the search capabilities and other functions of the online *Inventory*. There will also be chapter outreach activities, including regional meetings for rare plant enthusiasts that feature workshops and field trips. If funding and support become available, also on our "to do" list are a statewide symposium on rare plants, increased support for rare plant monitoring, and the distribution of a manual on locally rare plants.

REFERENCES

- Berg, K. and M. Skinner. 1990. The CNPS botanist is a reflection of the Society. *Fremontia* 18(4):13–15.
- CNPS. 2001. *Inventory of Rare and Endangered Plants of California*. 6th ed. Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. Sacramento, CA.
- Smith, J.P., Jr. 1990. A history of the rare plant program and *Inventory*. *Fremontia* 18(4):9–12.
- York, R., J.P. Smith, Jr., and S. Cochrane. 1982. New developments in the rare plant program. *Fremontia* 9(4):11–13.

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Len Lindstrand III looking at Shasta snow-wreath habitat at Stein Creek, Shasta County. Photograph by J. Nelson.

SHASTA SNOW-WREATH: NEW OCCURRENCES AND HABITAT ASSOCIATIONS

by Len Lindstrand III and Julie K. Nelson

Shasta snow-wreath (*Neviusia cliftonii*) is a recently discovered shrub in the rose family. Its discovery was first recorded in *Fremontia* 22(3):3-10, 1993 by Taylor, Ertter, and Shevock. The species is endemic to northern California, occurring in the vicinity of Lake Shasta, Shasta County. The environmental conditions and geographic isolation of the species suggest that it is a remnant plant of an old, formerly more widespread genus (Shevock et al. 1992). A fossil

occurrence of a closely related plant in a Pacific Northwest Eocene flora supports this hypothesis (Moore et al. 2002).

The initial species discovery and the subsequent two populations found were on limestone substrates (Shevock et al. 1992). Shasta snow-wreath was therefore thought to represent a limestone endemic species, and is described in *The Jepson Manual* as a species occurring in habitats associated with limestone rock formations. Its closest relative, *Neviusia*

alabamensis, of the southeastern United States, commonly occurs on limestone, but is also found on sandstone and shale substrates.

The California Department of Fish and Game's California Natural Diversity Database and the *Inventory of Rare and Endangered Plants of California* contain records of ten known Shasta snow-wreath locations (excluding the new locations discussed in this article). Habitat information reported for these ten previously known locations indi-



Non-limestone Shasta snow-wreath habitat at Blue Ridge, Shasta County. Photograph by L. Lindstrand III.

cates that eight (80%) occur within habitats associated with limestone rock formations.

Most of those initial ten discoveries occurred during the year following the initial type locality discovery and publication of the species name, when a group exploration effort to find more Shasta snow-wreath occurrences started by selecting other limestone areas near Lake Shasta as potentially suitable habitat for the search parties to visit. Given that starting assumption, it's not surprising that the Shasta snow-wreath occurrences found during this effort were on limestone or near limestone.

NEW DISCOVERIES

Subsequent observations of *Neviusia cliftonii* in the Lake Shasta area have shown that this California species, like its southeastern relative *N. alabamensis*, regularly occurs on soils of non-limestone origin. During field investigations in 2003 and 2004, we discovered seven new Shasta snow-wreath locations in the vicinity of Lake Shasta. These locations occur primarily along drainages in dense, shady montane hardwood-conifer and ponderosa pine

forests, but also in foothill pine-blue oak woodland habitat. The plant occurrences range in size from several plants in a relatively small area, to dense stands consisting of thousands of plants blanketing both sides of a stream corridor for at least a quarter mile. Of these seven new localities, only one appeared to represent limestone substrate, typical of limestone outcrop areas where Shasta snow-wreath has previously been found. It became apparent that Shasta snow-wreath was not the limestone endemic, or near endemic, once thought.

LOCATION ANALYSIS

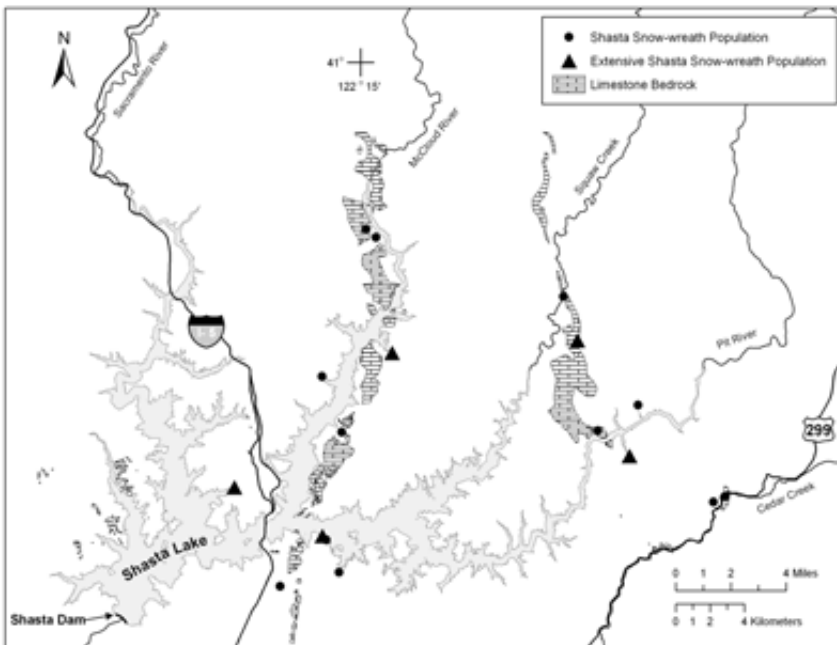
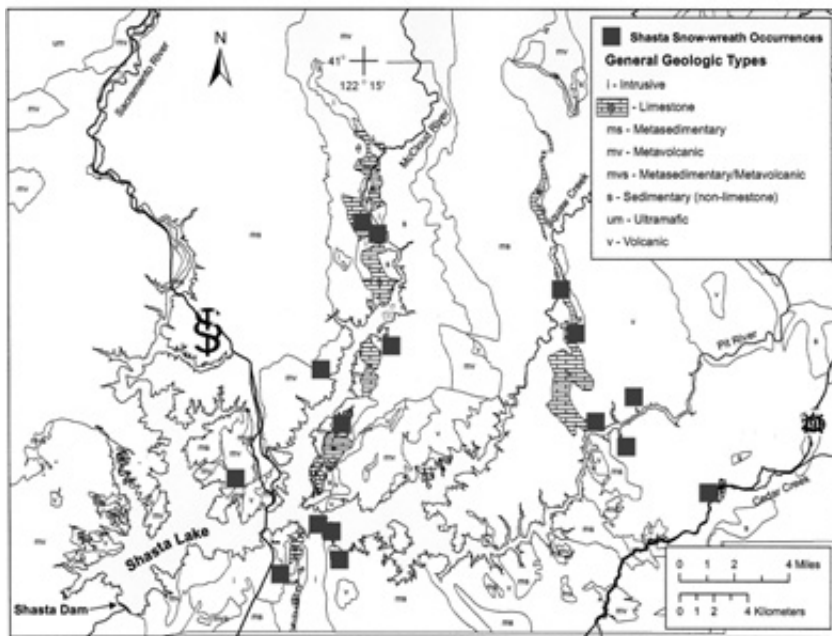
To confirm our theory, we performed an analysis using Geographic Information System (GIS) of all known Shasta snow-wreath occurrences in order to quantify the distribution of occurrences on limestone and non-limestone substrates. We extracted all ten previously documented occurrences to a GIS shapefile (which is like a digital map overlay) as point data. Then, we added our seven new locations to this shapefile. The shapefile was then intersected with a digital geology map of the Lake Shasta area.

The result was a map of the distribution of Shasta snow-wreath occurrences by geologic map unit and general geologic type (Figure 1). Similarly, we intersected the same Shasta snow-wreath location shapefile with a digital Order 3 soil survey of the area,



Above right: Limestone outcrop Shasta snow-wreath habitat near Low Pass Creek, Shasta County. Right and below: Shasta snow wreath specimen and photograph from Low Pass Creek, Shasta County. Photographs by J. Nelson.





Top: Distribution of Shasta snow-wreath occurrences by general geologic type. Bottom: Relative Shasta snow-wreath occurrence, population size, and distribution on and off limestone. Maps courtesy of North State Resources, Inc.

and produced a map of the distribution of Shasta snow-wreath occurrences by Order 3 soil type.

WHAT WE KNOW NOW

The GIS analysis confirmed what we suspected. Of our seven new Shasta snow-wreath discovery locations, only one intersected the mapped extent of limestone bed-

rock. In fact, after adding these new sites, the now seventeen known Shasta snow-wreath occurrences include just nine intersecting the mapped extent of limestone bedrock or immediately adjacent to or downstream of limestone outcrops, where there is a high likelihood that gravity or water transported limestone substrate is present. That leaves eight Shasta snow-wreath locations, including four of the five most extensive populations, occur-

ring in non-limestone habitats (Figure 2). These seven new Shasta snow-wreath discoveries have nearly doubled the number of known locations. Additionally, these new Shasta snow-wreath discoveries show that nearly one-half (47%) of the known species locations occur in habitats not associated with limestone rock formations.

ACKNOWLEDGMENTS

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REFERENCES

- CNPS. 2001. *Inventory of Rare and Endangered Plants of California*. 6th ed. Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. Sacramento, CA.
- Ertter, B. 1993. What is snow-wreath doing in California? *Fremontia* 22(3): 4-7.
- Shevock, J.R. 1993. How rare is the Shasta snow-wreath? *Fremontia* 22(3):7-10.
- Shevock, J.R., B. Ertter, and D.W. Taylor. 1992. *Neviusia cliftonii* (Rosaceae: Kerriae), An intriguing new species from California. *Novon* 2: 285-289.
- Taylor, D.W. 1993. A new discovery in California. *Fremontia* 22(3):3-4.
- Moore, S.M., M.L. DeVore, K.B. Pigg, and W.C. Wehr. 2002. Fossil *Neviusia* (Rosaceae) from the Middle Eocene of Princeton, BC, Canada. *Georgia Journal of Science* 60(1).

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GROWING NATIVES: BEACH SALTBUSH

by David C. Fross

For a number of years some of my work required hours of walking in California's largest remaining coastal dune complex, the Guadalupe-Pismo Dunes. Much of this time was spent searching for seeds or cuttings of different species required to satisfy contract obligations for the restoration efforts that still continue in many areas of the dunes. These collecting trips had specific purpose and were usually physically demanding, but in such a wildly sensual landscape both physical demand and purpose are easily forgotten.

The intention of a walk one winter morning was the seed of surf saltbush (*Atriplex leucophylla*), growing in gray hummocks just beyond the high tide line. I had planned to arrive before the winds, high tide, and heavy rain forecast that afternoon had removed the seed found in sand pockets at the base of the hummocks. Crossing the dunes toward the beach, the horizon to the west was unsettling, almost frightening in its darkness. Gulls, struggling in the wind, appeared as if catapulted across the sky. Dropping off the seaward face of the dunes it became difficult to walk or see, sand and salt spray flying across the exposed beach. As I moved toward the large group of *Atriplex* growing near the mouth of Oso Flaco creek, a strong storm tide washed up the beach and took a portion of the hummocks in a few powerful surges. The seaward plants first appeared to melt and were then torn apart in successive waves.

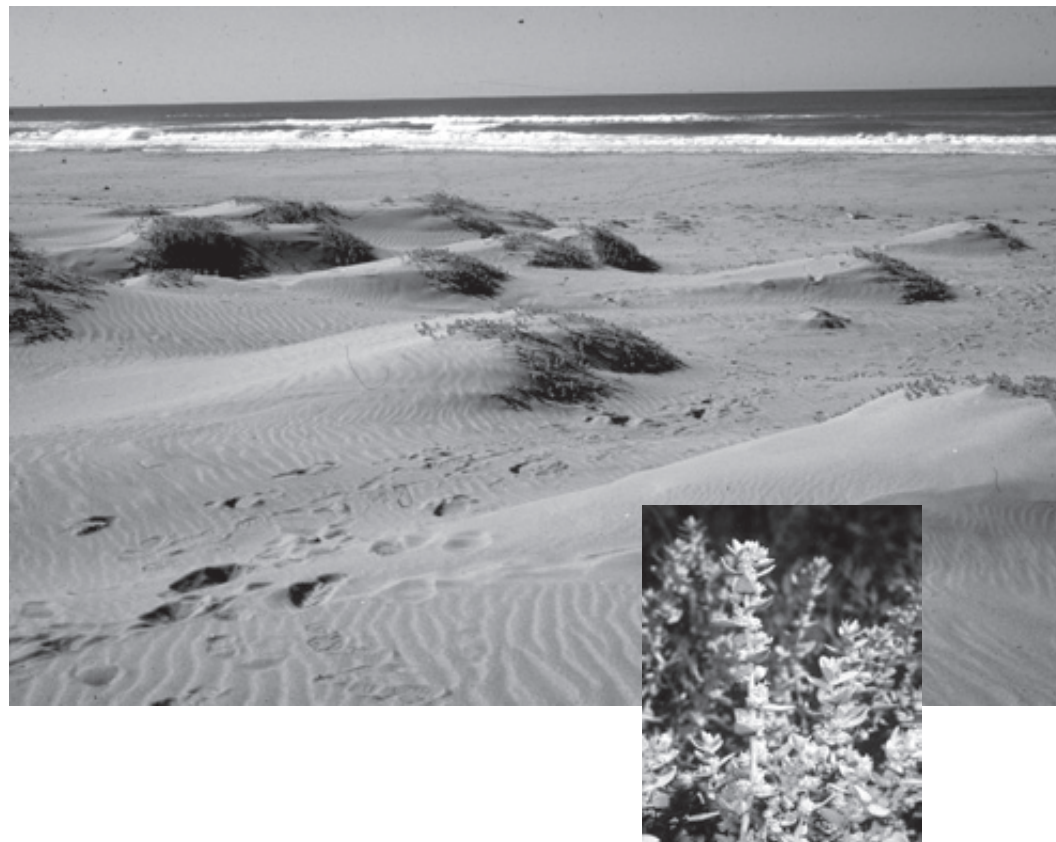
Oso Flaco creek turned north in a flooding storm some weeks later and in its new channel took most of the remaining *Atriplex* with it to the sea. Among the flood debris scattered on the beach were the dense white-scaly leaves and glan-

dular stems of *Atriplex leucophylla*. Flood and surf-fractured mounds remained in place of the large hummocks, exposing tangled webs of taproots and stems. These broken forms revealed the intricate internal structure of this maritime endemic found the length of the California coast. Gathering sand as they creep along the surface of the beach, saltbush and other foredune species such as beach sand verbena (*Abronia maritima*), beach-bur (*Am-brosia chamissonis*), and beach evening primrose (*Camissonia cheiranthifolia*) form the pioneer dune complexes that break and channel the wind. Combined with a remarkable environmental tolerance of salt spray, wind and recurring inundation by seawater, these plants are able to hold a place, form small hillocks, and begin the process necessary for a stable dune complex.

Horticultural information in *The Jepson Manual* recommends we "try" this perennial. Their elegant gray forms certainly suggest a place in the garden. Yet my attempts at growing it in both the garden and nursery have not been promising. Perhaps the delicate rose-colored stems and cascading habit could be featured falling over the edge of a dark colored container. Salty soils, beach homes, and succulent borders might offer other garden possibilities, but I doubt beach saltbush will be finding its way to local retail nurseries. Some of our most enduring native species refuse the garden with what seems like determination, as if our attention and care were an insult.

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Beach saltbush in its native habitat at Pismo Beach. Photograph by D. Fross. Inset: Close-up of beach salt bush. Photograph by D. Myrick, courtesy of the UC Regents and the University and Jepson Herbaria, UC, Berkeley.



TONI FAUVER: 1937-2004

by Julie Carville

We are sad to report that Toni Fauver, our friend and gentle lover of wildflowers, passed away in August. Toni inspired so many as she shared her passion for wildflowers through her teaching, writing and the hikes she led to the magical places in the Bay Area, the Swiss Alps, and here in the Sierra foothills and high country. Toni had long loved wildflowers and, after receiving a degree from UC Berkeley in the Conservation of Natural Resources, went on to lecture, lead walks, and volunteer at countless garden clubs. Her books, *Wildflower Walks and Roads of the Sierra Gold Country* and *Wildflower Walking in Lakes Basin of*

the Northern Sierra opened up the wonders of the back-country wildflowers to many.

Toni was born into a family with deep roots in California—her ancestry can be traced all the way back to Juan Bautista de Anza, the Spanish explorer and founder of the San Francisco Presidio. Her great uncle, Gustav Eisen, successfully advocated the creation of Sequoia National Park and was honored by having 12,160-foot Mt. Eisen, located in Sequoia National Park, named after him. She continued with the family tradition in her work and as an active supporter of the California Native Plant Society and other environmental organizations.

Most recently she designed and supervised the native plant landscaping at the Thunderbird Lodge, an historic landmark mansion on the east shore of Lake Tahoe. In 1994 she received the Horticultural Award from the Garden Clubs of America, and 2002 she was honored with the William Penn Mott, Jr. Environmental Award for her fine work over the years.



Toni Fauver enjoying one of her favorite activities, backpacking in the Sierra Nevada.

She is survived by her husband of 34 years, Richard, her son, Richard, her daughter, Jeanne, and three grandsons. All who knew Toni will always remember and cherish her beauty and grace and the gifts she gave to us all through her love of wildflowers.

Julie Carville, (530) 265-4741. mtngypsy@infostations.com



Left: Toni Fauver with Susan D'Alcama, identifying plants for the annual Oakland Wildflower show, 1998. • Opposite page: Toni Fauver with Roy West at the 1993 Oakland Wildflower show. Photographs courtesy of R. Fauver.

MEMORIES OF TONI

Toni gave flower chasers a lasting gift when she wrote her book *Wildflower Walks and Roads of the Sierra Gold Country*. This friendly guidebook introduced us to dozens of natural areas in the Sierra foothills. Drum Powderhouse Road was one of those gems. Toni described the road as “seven florific miles.” I drove there with a friend for the first time in early spring, clutching Toni’s book, following the directions from Dutch Flat, and ooh-ing and ahh-ing at the masses of *Dicentra formosa* (“What was that? Stop!!!”). We spent the whole day admiring the flower-strewn cliffs, the views of the Bear River below, and following Toni’s footsteps along the road.

Karen Callahan
Photographer

I knew it would be a good day at the nursery whenever Toni Fauver arrived. She occasionally stopped by on her way home to the Bay Area from her research treks in the mountains. Her visits often found Melanie and I in the midst of our containerized, green and wild charges. The breaks from weeding, watering, or potting were most welcome. She would approach with a broad smile, her bright eyes twinkling, and gift us with a warm hug. As we’d saunter to a shaded resting spot I’d anticipate the camaraderie and laughter we’d share for the next few hours.

After a short discus-

sion to discern that life was good, Toni would soon pull out a wadded paper or bag and gently unfold it to present one of her most recent wildflower finds from her journey. As we poured over the sample, we would compare our experiences with the plant. She shared her botanical information and I commented on its horticultural applications or response to captivity.

In this world it is rare to connect so freely with others on emotional levels that we do not understand nor can we explain. Toni was one of those free spirits who touched many this way. I have missed her visits, but I am content to hold their memories. I have comfort in knowing it will be a good day in paradise because Toni has arrived.

Marcia Braga
Sierra College Instructor and
owner of Far Star Nursery

All walks with Toni were special, but there was one I shall always remember. Toni was leading a group up along Founders Way in

Big Springs Garden when suddenly the entire group broke into song, their voices echoing through the woods. A little further along one of her friends stopped by the rushing stream and said to us all “now we’ll listen to the symphony.”

Still further, a sunlit glade where spring water nourishes the moss we all had a great laugh when Toni “discovered” a rare wild orchid that had been planted there to trick her. No one laughed harder at the hoax than Toni. And then, at Paradise Pond, the group dangled their feet in the cold spring pond, serenading each other and nature with their joy.

When I heard of Toni’s passing, it was to these places that I returned. The spirit of Toni was there and always will be. When we walk these trails Toni will be walking with us and showing us ways to feel the joy of nature.

Don Phillips
Big Springs Gardens

Among my memories of time with Toni is a sunny spring day in Bidwell Park, near Chico, on a wildflower hike led by Toni. The California native flowers were putting on a show and everyone in the group was sharing their enthusiasm. Toni asked for a few moments of silence and then invited us to listen with her to the song of a Canyon Wren reaching us from below the trail. Thank you, Toni.

Nancy Bascom
Redbud Chapter



DR. ELIZABETH McCLINTOCK: 1912-2004

by Barbara M. Pitschel

We are sad to report the loss of one of our most respected Yerba Buena Chapter members and one of the great luminaries of the botany of California and beyond, Dr. Elizabeth McClintock. On October 19, at the age of 92, Elizabeth died peacefully at Hanna House in Santa Rosa, where she has lived near her beloved Sebastopol relatives for the past few years.

Elizabeth was born in Los Angeles in 1912, and grew up in the vicinity of San Jacinto Mountain, where she had her first opportunity to observe and appreciate nature. (Her mother's and sister's paintings of the area reveal its obvious appeal.) Elizabeth earned her BA and MA from UCLA, and received a PhD in botany from the University of Michigan. She was one of a minority of women who sought a doctorate in the field of botany, and she was an inspiration to the many young women who have followed in her footsteps. Her thesis was a well-respected monograph of the genus *Hydrangea*. Elizabeth specialized in the taxonomy of seed plants and the distribution of flowering plants, especially California natives. She was particularly recognized for her untiring efforts to legitimize the botany, botanical nomenclature, and cultivar registration of mediterranean climate plants cultivated in California. She worked tirelessly for the conservation of native species, documenting the spread of invasive plants in California, and compil-

ing the literature on the relative toxicity of poisonous plants cultivated in the state.

Elizabeth relocated to the Bay Area around 1949 to work as a curator in the Botany Department of the California Academy of Sciences until her retirement in 1977. After her retirement, she continued her work as a research associate at the Herbaria of the University of California, Berkeley. Elizabeth was a founding board member of the Strybing Arboretum Society, served as editor of the *Journal of the California Horticultural Society* from 1945 to 1975, and was associate editor of *Pacific Horticulture* from 1976 until 2000. Her 25 years of *Pacific Horticulture* columns about the trees of Golden Gate Park were compiled into a book published in 2001. Among her many publica-

tions, Elizabeth co-authored two editions of *A Flora of the San Bruno Mountains*. She was awarded the Silver Medal of the Massachusetts Horticultural Society in 1977, the Liberty Hyde Bailey Gold Medal by the American Horticultural Society in 1986, and the prestigious Gold Veitch Memorial Medal in 2000. This highest award issued to a non-British citizen by the Royal Horticultural Society recognizes individuals who have worked to advance the science and practice of horticulture. Elizabeth was a longtime member of the Society of Women Geographers and the International Dendrology Society, as well as numerous other organizations. She was named a CNPS Fellow in 1980. Elizabeth's contacts in the botanical world were legion. Among her most significant local

victories we can count her successful 1960s battle to defeat the Panhandle Freeway and her efforts to defend the rare dune tansy.

We will miss the friendship, the expertise, the support, and the companionship of our dear friend Elizabeth, but I think we can say, without reservation, that she fully lived and completed her exemplary life. Now she is due for a well-earned rest. We will always remember her with affection. She leaves a gap in our lives, but her significant work will ensure her immortality.

Barbara M. Pitschel, 99
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Elizabeth McClintock, author of *A Flora of the San Bruno Mountains*. She is seen here speaking at a rally to stop massive development of the saddle area of San Bruno Mountain in the early 1970s. The campaign was successful and the saddle became the heart of the present-day State and County Park. Photograph courtesy of San Bruno Mountain Watch.



LETTERS TO THE EDITOR

COPYING FREMONTIA TO FRIENDS

Earlier this month I returned a telephone message a Berkeley gardening cooperative had left and discovered that *Fremontia* has gained a reputation beyond the membership of CNPS. I assumed the call was for the chapter's field trip information, since I usually receive one or two such calls per month. Instead, the woman on the telephone told me she had heard of articles and lists of native plant species visited by pollinating insects [*Fremontia* special double issue on plants and insects, Volume 30, Nos. 3 & 4], and she wanted to locate the information so that her cooperative could try planting one or more of the species near their garden rows. I directed her (correctly, I hope) to the publications link on the state chapter website, where she was going to request that back issue, and maybe more.

After I read my own copies of *Fremontia*, I forwarded issues with articles on *Phytophthora* (sudden oak death) [*Fremontia* Volume 30, No. 1] and lichens to my sister in Massachusetts, who likes to have the information on hand when she visits California. I must also confess to some small-time piracy, since I photocopied several of the articles in the taxonomy update [*Fremontia* Volume 30, No. 2], and sent them to interested layfolks who, like me, try to follow the voluminous name changes.

Thanks for putting all of this information that is either missed or misreported in the general press.

Janet Gawthrop
East Bay Chapter

From the Editor: I highly encourage copying Fremontia issues and spreading the information to anyone you think might be interested. Issues through 2004 are being posted to the cnps website: www.cnps.org, under "Publication," then "Fremontia." Or, consider giving a gift subscription (membership form is on the inside back cover).

UNCOMMON NAMES?

In the club moss (not club-moss) article in the October 2004 [*Fremontia* Volume 32, No. 4] issue you follow *The Jepson Manual (TJM)* usage on common names, which is plain misguided and at variance with other organizations and publications. Common names are not imposed from above; they are names that are commonly used, whether they are appropriate or not, and they vary from one place to another. *TJM* is an authority on scientific names only, not common names, for which you consult the dictionary. *TJM* usage is also a little silly; for example, besides hyphenating club moss, *TJM* insists on hyphenating Douglas fir and Cape ivy. (I'm unsure of the reason, but I think it's something like signaling the fact that the plant not a true moss, fir, or ivy.) The compulsion to standardize and homogenize everything should be resisted; by its nature, common name usage is slightly chaotic.

Two related matters are the coining of "common names" for plants that don't have any, and the coining of names for plants that already have long-accepted common names. In the latter category: *Bromus tectorum* has been known as cheat grass all over the west for well over a century, and that name is colorful and redolent of history. For some reason, academics have coined the "common name" downy brome, and it has found its way into the literature. This is not helpful, can lead to confusion, and, worse, is colorless and un-resonant. Similarly, Lawson cypress was coined to supplant the historical and popular Port Orford cedar, Garry oak for Oregon oak, and so on.

Examples of assigning vernacular names to plants lacking them are such tortured absurdities as caper-fruited tropidocarpum for *Tropidocarpum capparideum*, intermediate platycarpus for *Lupinus subvexus*. These occur in the *CNPS Inventory* of rare plants, presumably because the US Fish and Wildlife Service requires a "common name." Ugh.

Finally, some delightful common names have regrettably fallen into disuse. Escobita (little brush or little beard) has been replaced by purple owl's clover and, although California poppy is a good name for our state flower, the loss of copa de oro should be lamented.

Jake Sigg
Yerba Buena Chapter

From the Editor: Selecting a common name is a challenge for many reasons, some elucidated by Jake in his letter. As editor I defer to the author's choice of common name, and try to use that name consistently throughout their article. If I don't know the common name and none is provided, I may use the common name from The Jepson Manual or other state flora.

REVEGETATION

It is so good to have "feel good" articles like Pete Holloran's, "Finding a Sense of Place," [*Fremontia* special issue on stewardship, Volume 32, No. 3] but it might have been a very appropriate place to mention or discuss when planting isn't appropriate. I am thinking about Inspiration Point in the Presidio, where perhaps two acres of top soil were removed in order to replant the area with natives, and then the serpentine rock surface was planted with Presidio nursery plants. It now looks nothing like the rich grassland habitat where *Clarkia franciscana* once grew. To add to the impact on the native ecosystem, a plastic drain was put in to shunt water off the serpentine area. The high water table and seeps with wetland plants are an essential element of the unique bulb and rare plant community at Inspiration Point. Researchers at UC Davis have been studying richly diverse serpentine sites in the north bay and elsewhere and have found that year-round water resources, no matter how small, are always found at such sites.

I also would be very encouraged to see all revegetation projects take into consideration the ideas presented by Bart O'Brien regarding the possible

contamination of soils and ecosystems when nursery plantings are introduced into natural areas [*Fremontia* Volume 29 No. 1: "Conservation and gardening: An overview of the consequences of growing California native plants"].

Sue Smith
Yerba Buena Chapter

CONSUME WITH CARE

As one who has taught hundreds of students about Native American uses

of California plants, I found Michelle Steven's two articles in the October *Fremontia* [Volume 32, No. 4] of great interest.

However, I believe that unfortunately the wetland plants article contains one serious flaw: in the discussion on pages 12 and 13 statements about uses of some of these plants are based on fact and some are apparently based on traditions which extend from 16th century herbalists to 21st century curanderos and witch doctors. Poorly informed people might be seriously misled by some of these statements. I suggest that you do a short

follow-up article indicating which uses are supported by current medical practice.

Kenneth M. Stocking
Emeritus Professor of Botany
Sonoma State University

From the Editor: The material Professor Stocking refers to is prefaced with "The following information is a generalized synthesis . . ." and is not intended as a guide for using any of the plants for medicine or food. I would welcome any more in-depth articles about this subject, and thank Professor Stocking for his important warning.

BOOK REVIEW

Theodore Payne in His Own Words: A Voice for California Native Plants, compiled and edited by Elizabeth Pomeroy. 2004. Many Moons Press, Pasadena, California. 224 pages. Paperback. Price \$16.95.

"When I first came to California, what impressed me perhaps more than anything else was the wonderful native flora. But as the years went by it was with deep regret that I saw the wild flowers so rapidly disappearing from the landscape. I made up my mind that I would try to do something to awaken a greater interest in the native flora. Thus it was that I began to specialize in the growing of wild flowers and native plants."

Just before the turn of the century, the 19th century that is, Theodore Payne arrived in southern California, having been apprenticed in England in the nursery and seed trade. Early on in his career here he recognized the value of California's botanical bounty, and made an impassioned commitment to promote and preserve native flora. Payne campaigned to bring native plants into gardens, and became an expert at cultivating and propagating approximately 400 native species. Even in the early 1900s he realized that land development was critically hastening the demise of wilderness.

Theodore Payne in His Own Words: A Voice for California Native Plants is a compilation of Payne's writings, including the out-of-print *Life on the*

Modjeska Ranch in the Gay Nineties.

This portion of the book chronicles his youth as groundskeeper at the home of Polish actress and opera singer, Helen Modjeska, who resided in what is now "bustling" Orange County, California. Payne, for the most part, is a rather formal tale-teller who objectively documents the harsh existence for those living during that period. However, Payne engages the reader with his colorful depictions of the characters that ". . . would just as soon kill you as not," who parade through Modjeska Ranch and through his life. Payne's inherent interest in the natural surroundings along with plant descriptions and identifications add another wonderful level of interest as well as a reminder of southern California's humble beginnings.

"Adventures Among the Southern California Plants," the following section, primarily features descriptions of his post-Modjeska experience as he tours Santa Barbara south to the border. Once again, Payne's characterization of early southern California landscapes stand in shocking contrast to today's urban visions—how much has changed in this short lifetime.

"A Brief History in Horticulture" documents Payne's involvement with celebrated botanists, horticulturists, and landscape architects of the day, along with details of several notable projects. His associates are a veritable

"Who's Who" in his profession. A few mentioned in the text are Frederick Law Olmsted, Ralph Cornell, Hugh Evans, Kate Sessions, Susanna Bixby Bryant, Dr. Carl Wolfe, and Dr. Francesco Franceschi.

Payne's influence on those around him clearly inspired further efforts toward conservation and education. Some of Payne's original native landscapes—which he designed as well as propagated plants for—include many prominent educational facilities still in existence today, including the Santa Barbara Botanic Garden, Rancho Santa Ana Botanic Garden, Exposition Park, Cal Tech, Descanso Gardens, Torrey Pines State Park, Pomona College, and Occidental College. His private landscapes were scattered widely through the San Fernando Valley in Pasadena, Hollywood, and Beverly Hills, and north to Ojai and Santa Barbara. Concluding this section, in his own words, Payne summarizes the highlights of his professional life with a listing of enviable awards and commendations. The book fittingly ends with a lovely acknowledgement to Payne by Frances Liau, past-president of the Theodore Payne Foundation and Nursery, an organization dedicated to fulfilling its namesake's lasting legacy to ". . . promote, preserve and restore California native landscapes and habitats."

Melanie Keeley
Alta Peak Chapter



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MATERIALS FOR PUBLICATION

Members and others are invited to submit material for publication in *Fremontia*. Instructions for contributors can be found on the CNPS website, www.cnps.org, or can be requested from *Fremontia* Editor, Linda Ann Vorobik, vorobik@rockisland.com, or c/o University and Jepson Herbaria, 1001 Valley Life Sciences Bldg. #2465, University of California, Berkeley, CA 94720-2465.

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FROM THE EDITOR

Spring is here, the coast, valleys, foothills, and deserts are in bloom, and California Native Plant Society members are exploring the delights of nature renewed. After a day in field or garden, enjoy some armchair botanical treats with this *Fremontia* issue, the second of four in a series which celebrate the Society's 40th year. As in the January 2005 *Fremontia*, this issue begins with a series on local chapters, this time sampled from the middle-south part of the state.

The next two articles, on the Horticulture and Rare Plant programs respectively, highlight activ-

ity at the state level. Peigi Duvall, author of the Horticulture Program article, is the new director of this Program, and has enough inspiration and energy to make great things happen. Misa Ward (rare plant botanist) and Ann Howald (Rare Plant Program director) are equally enthused and energized. They provide an overview of this program, as well as a history and look at those botanists who built the program into one of the best in the nation.

The issue also includes an update of the endemic Shasta snowwreath (*Neviusia cliftonii*), once thought to be a limestone endemic,

by Len Lindstrand III and Julie K. Nelson. Thoughts on gardening with beach salt-bush are eloquently presented by David Fross, and tributes to Toni Fauver and Elizabeth McClintock are provided by Julie Carville and Barbara M. Pitschel, respectively.

Here's hoping that you, the reader, can pay the best tribute to Toni and Elizabeth by taking plenty of time to enjoy this spring's splendors, and while there, passing a smile to all fellow wildflower lovers that have gone before.

Linda Ann Vorobik
Fremontia Editor

CONTRIBUTORS

Julie Carville is the author of *Hiking Tahoe's Wildflower Trails*.

Peigi Duvall is a certified horticulturalist and with her own native landscape design business and director of the California Native Plant Society (CNPS) Horticulture Program.

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Ann Howald is the Rare Plant Program director for CNPS and senior botanist for Garcia and Associates, an environmental consulting firm.

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