



CALIFORNIA NATIVE PLANT SOCIETY BULLETIN

Opening the World Through Nature Journaling

New CNPS curriculum teaches young people to become keen observers of the natural world

BY EMILY BREUNIG

Ask a roomful of kindergartners how many of them are artists, and nearly every hand in the room will shoot up. Try this with sixth graders, however, and you're likely to get a vastly different result. Somewhere along the way, children get the message that drawing and sketching (not to mention other forms of art) are reserved for "artists," a few gifted souls. The rest of us mere mortals? Why even try!

We're out to change all of this through a new, innovative curriculum developed by naturalist, educator, and artist John Muir Laws, and Emily Breunig, a teacher institute instructor for the California Institute for Biodiversity. This curriculum, which is geared toward children ages eight and up, can be used in a variety of settings. California teachers in particular will appreciate how motivating it is for their students because it requires them to spend time outdoors in nature, and integrates several content areas including art, science, and language arts. Teachers will not need specialized knowledge to use the materials, and will appreciate knowing that the journal activities correlate with the state curriculum frameworks.

The goal of the curriculum is to sharpen young people's ability to become keen observers of the natural world by

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Naturalist and artist John Muir Laws teaches children how to draw what they see and learn from their own observations in nature. No bored students here! The CNPS curriculum is designed to get kids outdoors and observing carefully. These basic naturalist skills are as important for today's youth as ever.

Jeanette Wrynski

Seven Essential Books on Gardening With Natives

BY MIKE EVANS

California native plants are featured as the main topic in numerous specialized gardening books. For a couple of centuries, the world's attention has been drawn to California because of our unique flora—vegetation types that have produced some of the prettiest plants on earth. Of course our own residents are now becoming increasingly aware of our native plants' beauty, so they want to know more, learn fast, and add them to their gardens. Essentially they want to take a crash course on natives. Such people often ask, "What's the best book on native plants?"

There's no simple answer. Even the authors of the most popular books will tell you they are constantly learning. There is no one all-encompassing book that covers every aspect of gardening with natives. Our state is too big, our climate zones too many, our flora too diverse, and the landscape design opportunities too numerous.

A decent library on California native horticulture could easily contain 30 volumes. Throw in botany, ecology, and natural history, and you've got a roomful. So it's hard to narrow it down to a handful. But these seven titles would probably spend most of their time off the

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From the Executive Director

Online Inventory update underway

Many of you have heard for some time now about a project under

way to update the technological platform for the *CNPS Inventory of Rare and Endangered Plants* (often referred to as the *Online Inventory*). This is the database that so many of our members and conservation professionals use on a daily basis to find out information about the state's more than 2,200 rare plants.

Thanks to the combined efforts of Nick Jensen, our Rare Plant Program Director, and Brad Jenkins, CNPS Board member and treasurer, this project was officially launched at the end of April 2010, with the anticipated first release scheduled for early October.

Those of you who are not as familiar with the history of the *Online Inventory* may not be aware that the current online version was first made available in 2001, thanks to the significant technical contributions of Larry Levine, Chapter Council delegate from the North Coast Chapter. Since its release in 2001, Larry has faithfully maintained the database and worked to resolve technical issues whenever they arise. But since 2001, there have been numerous advances in computer software and Internet technology, and the *Online Inventory* is not as user friendly as it could be using today's best available technology.

The new *Inventory* will reside on an updated data platform that will immediately display the most current information on rare plants. (In the current version, information is only updated on a quarterly basis.) New intuitive search capabilities will be added, and users will have the ability to transfer data into other formats for display and further analysis.

Data displays for the number of rare plant occurrences and ranks and the nine-quad search function will be significantly improved. On top of all that, the overall appearance of the application will be streamlined, resulting in a less overwhelming end user experience.

This project could not have come about without a significant, large contribution from a private donor, a smaller CNPS Board allocation from funds donated by the late June Bilisoly, and a number of other contributions from users of the database.

We are still working to raise funds for the second phase of the project that will provide further features and enhancements, including expanded search, sort, and export options. If you are interested in contributing to support this work, you can send your donation to the CNPS state office designated for the "Online Inventory Fund." All contributors will be recognized on the home page of the new *Online Inventory*. To view the *Inventory*, go to: <http://cnps.org/cnps/inventory/>.

Tara Hansen
Executive Director

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An image of the search function for the enhanced CNPS Online Inventory, scheduled for release this coming October.

Yolo County Rare Plants Face Uncertain Fate

BY DR. GLEN HOLSTEIN

A small area at the southeastern edge of the City of Woodland in Yolo County has miraculously escaped the fate of adjacent lands, which are intensively farmed, developed into



A vernal pool at Woodland Regional Park, the site of four rare native plants that the Sacramento Valley Chapter has been attempting to protect. Bottom: Federally- and state-listed palmate-bracted bird's beak (*Cordylanthus palmatus*). Right: Alkali milk vetch (*Astragalus tener* var. *tener*). All photos by Ellen Dean.

housing, or used for drainage ponds. Four CNPS List 1B species survive there, including: palmate-bracted bird's beak (*Cordylanthus palmatus*), which is also federally and state listed as endangered; alkali milk vetch (*Astragalus tener* var. *tener*); Heckard's pepper grass (*Lepidium latipes* var. *heckardii*); and San Joaquin sparscale (*Atriplex joaquiniana*). These species are considered rare, threatened, or endangered in California and elsewhere.

Historically, these rare plants were more common and grew in particular saline soils found on the rims of basins such as the Yolo Basin, which is fed by Putah Creek in the south, and Cache Creek in the north. These creeks flow east from Coast Range watersheds, which are dominated by highly erodible uplifted ancient sea beds. The gradual erosion of these beds into ex-

tensive alluvial fans has made this area the saltiest part of the Sacramento Valley, and home to one of the numerous "ecological islands" that are in part responsible for California's notable botanical diversity. While the region's salty soils made them less attractive for farming than adjacent basin tule marshes, most were eventually cultivated. But the southeastern Woodland area is one small exception.

In 2004 part of the area was placed in an easement to protect the bird's beak and the sparscale. Unfortunately, the purpose for setting aside that land in mitigation was to enable construction of a storm water drainage pond that destroyed the area's largest population of the beautiful and extremely rare alkali milk vetch. The Sacramento Valley Chapter of CNPS fought this move, but lost.

Then at a 2009 chapter meeting, CNPS member Greg Kareofelas reported finding alkali milk vetch just south of the easement at Woodland Regional Park's Mavis Henson Field, where aeromodelers fly model aircraft. That good news was offset by news that the City of Woodland, the field's owner, was evicting the fliers in hopes of selling the site to a developer. The downturn in the real estate market bought needed time, making possible the



formation of an alliance between the Sacramento Valley Chapter and Tuleyome, a local environmental group and land trust, to negotiate with the city.

That led to a survey by Dr. Ellen Dean of the UC Davis Center for Plant Diversity. It confirmed that the field is one of the most important rare plant sites not only in Yolo County, but in the entire Central Valley. In addition to a healthy population of alkali milk vetch, it supports populations of the other three basin rim rare plants, including the listed endangered palmate-bracted bird's beak.

The aeromodelers, whose control of invasive exotic weeds clearly helped the



rare plants survive, were again allowed use of the field, but inadvertently damaged one of the rare plant areas while building a road. Shortly thereafter, Dr. Dean gave them maps showing the locations of the rare plants, and they have since cooperated with the alliance in relocating activity away from rare plants and repairing the initial damage.

The field is still owned by a city facing difficult budget problems, so the possibility still looms that it could again attempt to sell the land to a developer. Meanwhile, the CNPS-Tuleyome alliance is seeking funds to permanently protect it. ♻️

Dr. Glen Holstein is chapter botanist for the Sacramento Valley Chapter of CNPS and an active board member of Tuleyome. He is a retired environmental consultant.



CHAPTER NEWS



EAST BAY CHAPTER:

8th edition of local rare plant guide is published

In 1992 the East Bay Chapter published its first edition of *Rare, Unusual, and Significant Plants of Alameda and Contra Costa Counties*. Now in 2010, the chapter has just completed the 8th edition of this



Dianne Lake

Coastal plantain (*Plantago subnuda*), rediscovered last year by the author at McAvoy Harbor, Pittsburg, had not been reported in the area since 1955. It is one of only a few populations in the East Bay, although it is much more common along coastal California.

invaluable reference tool.

The book contains a wealth of information on both statewide and locally rare native plant species of the East Bay that are covered under the California Environmental Quality Act (CEQA), as well as federally and state protected rare species in the two counties. It ranks them according to their rarity and endangerment at the local level. Watch lists are also included of other native plant species that could become rare, threatened, or endangered locally if various detrimental conditions persist.

This publication—made possible partly through field work and research by dedicated chapter volunteers—has received wide praise for providing information not available elsewhere for land planners and

managers, conservationists, consultants, teachers, students, researchers, and professional and amateur botanists.

The new edition reflects the many changes that have occurred in the East Bay's vegetation since the last edition was published in 2004, and several new appendices have been added to help track those changes, including one listing the plant species that have had rank changes. A map of 29 botanical hot spots in the East Bay is included, and an appendix of nomenclature changes has been added.

The new edition is \$25 (checks should be made payable to CNPS). For an order form, email diannelake@yahoo.com. 🌿

Dianne Lake,
Unusual Plants Coordinator
East Bay Chapter

MOUNT LASSEN CHAPTER:

Working with students of all ages

For the past two years, members of the Mt. Lassen chapter of CNPS have been volunteering with school children in the Chico area, introducing them to California native plants and many aspects of their ecology.

Horticulture chair Paula Shapiro and Chico parks volunteer coordinator Lise Smith-Peters have been doing hands-on restoration with the students of teacher Quinn Mendez at Chico High School. Our education chair, Adrienne Edwards, has been working with K-8 children at Chico Country Day School to develop a native habitat garden.

The high school restoration work benefits both the students and Chico's 3,670-acre Bidwell Park. For example,

after a short talk on the negative impacts of invasive plants, the students remove Himalayan blackberry and vinca. It is great fun to see how much a group of excited teenagers can accomplish in one hour! Other field days have been spent learning to identify natives in late summer, collecting and storing seeds, taking stem and root cuttings, and planting seeds and cuttings. The students complete the cycle by planting their propagated plants in the park.

The kids at Chico Country Day School have not only created a native habitat garden, but also a new schoolyard space for exploration, play, relaxation, and learning. After removing most of the weeds and non-natives, the children planted native



Adrienne Edwards

Rest garden of native woodland and chaparral species created by students at Chico Country Day School.

woodland and chaparral species. They painted garden signs on donated wood to identify species, and will be working on a garden guide this fall. Classes are now using the space for everything from ethnobotany to yoga 🌿

Adrienne Edwards,
Education Chair and
Paula Shapiro, Horticulture Chair

Nature Journaling

(from page 1)

writing about and drawing the plants and animals that they see. It is often said that we will not protect what we do not love, and getting kids out into nature to observe plants and animals in an engaging way is a path to this love of the natural world—and its protection by future generations. Through a set of exercises, students use games to gain confidence in drawing and writing as a way to gather information. Later they employ these skills to create a field guide, compare and contrast what they've observed to generate hypotheses, and write short stories and poems.

The key to the drawing aspect of this curriculum's success lies in how drawing is presented. It is designed to help teachers lead their students to a world where drawing isn't a talent you either have or you don't, but a critical tool in observing the natural world. Students in this world practice drawing as they practice any other skill, whether in the field, the classroom, the schoolyard, or their own neighborhood. However, the focus is not on creating pretty pictures, but on helping students create the most accurate representations of their own observations.

Where can this blissful world of investigation and wonder be found? Practically anywhere! The curriculum is designed primarily with classroom teachers in mind, but it can be used with scouting groups, after school programs, or just the kids who run wild in your own backyard. There's not only an artist inside each of them waiting to get out—there's a keen scientific observer ready to observe and question the natural world.

This exciting and *free* curriculum is expected to be ready in the fall, and will be available for downloading from the Education page of the CNPS website (<http://www.cnps.org/cnps/education/>). 🌱



Jeanette Wysinski

Nature journaling is inherently motivating for students, as this photo clearly demonstrates. Classroom teachers and others can download this new curriculum for free from the state CNPS website beginning this fall.

Emily Breunig served as associate director of education, editor, and writer at the California Institute for Biodiversity (CIB) from 2005 to 2010, and she still

helps to design and lead CIB's summer teacher institutes. She also teaches English at De Anza and West Valley Community Colleges in Silicon Valley.

Update on the CNPS 2012 Conservation Conference

Planning for the 2012 Conservation Conference in San Diego is underway. Titled "Conserving and Restoring the Roots of California's Richness," it will be held January 2012 in San Diego at the Town and Country Hotel, and will include two days of workshops.

Although 2012 seems a long time off, we are moving forward with preparations on all fronts. Our wise and forward thinking steering committee has set us in motion with vision and a clear mission. This conference will be even grander in scope than the 2009 conference!

The Program committee has selected 25 session topics and has already tapped many of the session chairs. We are also planning a special Public Day with field trips, workshops, and children's programs. This summer we will begin to fill most committee positions, including Arrangements, Students, Arts, Public Day, Proceedings, Chapters, Promotion, Posters, and Fundraising Committees.

Visit our web page, stay tuned, think big, complete research, make art, write poetry, volunteer, save the dates, attend, and celebrate California's richness. <http://cnps.org/cnps/conservation/conference/2012/> 🌱

Josie Crawford,
Director, CNPS Education Program

Books (from page 1)

shelf and in the hands of the user. They are all fairly new and readily available.

California Native Plants for the Garden

Carol Bornstein, David Fross, Bart O'Brien
Cachuma Press, 2005.



The book has an attractive format, lots of photos, and is easy to use. The introductory chapters cover generalities on our rich horticultural history, California's plant life, garden design, and native plant care. The bulk of the text is dedicated to "Plant Profiles" (in encyclopedic format) with descriptions of 500 plants, including a section on various design criteria, combinations, and uses.

Designing California Native Gardens

Glenn Keator and Alrie Middlebrook
UC Press, 2007.



The authors draw on their lifetime experience to present the concept of ecological garden design. The reader can choose from 12 specific "classic"

California plant communities (including coastal sage scrub, oak woodland, grassland, chaparral, and even Channel Islands) to learn how to imitate one of those natural landscapes in their garden. This is a very solid design principle and the text, photos, and sample plans in this book make it understandable and attainable.



Native Treasures

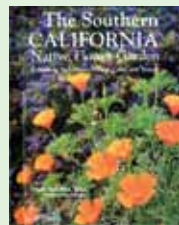
M. Nevin Smith
UC Press, 2006.

Indeed, the title says it all. Many will remember

the regular column Nevin wrote for CNPS in *Fremontia*, and recognize the style in which he conveys his knowledge and passion. This book covers the most conspicuous and essential trees, shrubs, and smaller plants suitable for a native garden with descriptions and photos. Abundant information on culture and use is presented as well as a synopsis on propagation for each plant type.

The Southern California Native Flower Garden

Susan Van Atta
Gibbs Smith, 2009.



This is a unique book, with nine pages dedicated to "how to use this book." The spiral-bound pages are cut into thirds, to allow the reader to flip

through and match plants on a page according to size, bloom time, flower color, foliage, and cultural requirements. The book emphasizes plant combinations based on horticultural compatibility and design objectives, and mentions the wildlife species that will be attracted to each new assemblage.

Hardy Californians

Lester Rowntree
UC Press, 2006. (First Published by Macmillan, 1936.)



Here is a true California classic authored by a great horticultural heroine! The 2006 edition is an exact reprint of the 1936 masterpiece, with all the original photos and format. In her book, Lester concentrated on her life of travel, camping, and exploring for native plants that she would methodically bring into cultivation. The new edition also contains invaluable in-

formation about Lester herself, updates on plant names, and an extensive bibliography of Lester's prolific writing.

The Landscaping Ideas of Jays

Judith Larner Lowry
UC Press, 2007.



Like every author in this review, Judith is a well-known and respected name among CNPS members. The material in this book is presented in five sections, one for each traditional season, plus one for the "fifth season"—that dry time in California that occurs at the end of summer but before fall. As the title suggests, the book takes a philosophical approach to natural style landscapes. It is an invaluable reminder of why we garden with natives: to connect and engage with nature.

Sunset Western Garden Book

Edited by Kathleen Norris Brenzel
Sunset Publishing, 2007.



Our friends at Sunset Publishing have always, with enthusiasm and authority, included California natives in everything they do. With water conservation and environment at the forefront, the newest edition of this old standby is no exception. The new section on western natives includes many California plants. 🌿

Mike Evans is co-owner of Tree of Life Nursery in San Juan Capistrano, the largest native plant grower in the State. The nursery's bookstore, Casa La Paz, features more than 400 titles on all things California. Store manager Patty Roess assisted Mike in selecting the books to review for this article. www.CaliforniaNativePlants.com.

Go Crazy: Grow Native Plants in Pots

BY BARBARA EISENSTEIN

A delicate verbena (*Verbena lilacina* 'De La Mina') covered with soft fragrant blooms sways in a terra cotta pot as the breeze blows. Pots full of annuals add to the spring wildflower display. Dudleyas and cacti in bright glazed containers thrive on neglect. Cuttings of monkeyflower (*Mimulus*) easily root and bloom in their pots as they wait until next fall when they will be planted in the garden to replace less vigorous mother plants.

Gardening in containers, whether attractive ornamental pieces or utilitarian nursery pots, allows for flexibility, experimentation, and fun. Furthermore, growing plants in pots can solve gardening problems and limitations. Since containers can be moved around, you can ensure that plants get sun or shade as needed. Potting media can be adjusted to provide excellent drainage for desert specimens, or rich organics for woodland dwellers.

For gardeners with limited outdoor space, container plants can convert a hot, sunny porch into a native herb or butterfly garden. As it becomes more difficult to bend and lift, containers provide just the right amount of work at the perfect

level to keep less sprightly gardeners in touch with our lovely native flora.

A few tips will help you succeed. Well-draining potting soil is a must. Add perlite or pumice to commercial mixes to improve drainage. I create potting mix by adding amendments and compost to my regular garden soil. Although many California native plants require no fertilizer in the garden, soil mix in a container will become depleted of nutrients over time. When fertilizer is needed, go light, using only one quarter to half the recommended amount. Check the bottom and sides of pots often to determine when plants need to be repotted into larger containers. Although container plants require watering throughout the year, if your plant suddenly becomes extra thirsty, check to determine whether it has become pot-bound.

The containers themselves can be whimsical and fun, or decorative and stylish. As long as the drainage hole is sufficient and the pot does not get too hot in the sun, nearly any container will work. Porous pots dry out quickly, requiring more frequent watering. Black plastic pots need shielding from the sun to prevent sensitive root tips from scorching. Glazed pots, though more expensive, can be quite beautiful and effective.

Container gardening is so much fun

that my yard looks like a science experiment. Black nursery containers are lined up with soldier-like cuttings of western sycamore (*Platanus racemosa*) standing at attention as they gain their independence by growing their own new roots. On the back porch near the kitchen there are pots of edible natives. Wild mint (*Pycnanthemum californicum*), yerba buena (*Satureja douglasii*), and sages (*Salvia*) make delicious tea and seasoning. A small pot of strawberries (*Fragaria vesca*) provides a few tasty treats on the way into the house.

Coral bells (*Heuchera*) and ferns are grouped together in a large pot under an oak tree, while a shaggy deergrass (*Muhlenbergia rigens*) fills its container. A few years ago I tried a woolly bluecurls (*Trichostema lanatum*) in a pot. It lasted a bit longer than the ones I planted in the ground. It bloomed its heart out for about two years then died, definitely worth the try. So go crazy, try something new, grow California native plants in containers. 🌿

Barbara Eisenstein is a native plant garden writer, consultant, and enthusiast. When not working in her own garden or in the South Pasadena Nature Park, she may be found updating her website: www.weedingwildsuburbia.com.



Bottom left: Coral bells grow easily in pots. This one, *Heuchera rubescens* 'Yosemite,' is situated next to a flowering container of monkeyflowers (*Mimulus* 'Sulfur Yellow'). Sulfur Yellow roots easily from cuttings and blooms profusely in pots during late spring. Middle: A grouping of dudleyas (*Dudleya* spp.) with attractive silver-gray leaves dresses up the foundation of a home. Right: Fiveneedle pricklyleaf (*Thymophylla pentachaeta*) blooms nearly all year in a container at the Rancho Santa Ana Botanic Garden container garden.

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