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CALIFORNIA NATIVE PLANT SOCIETY
BULLETIN

Instituting Best Practices for a CNPS Chapter Native Plant Nursery

By Barbara Reiley, Sue Wickham, and Pam Muick

Throughout California, CNPS chapter members propagate native plants for plant sales and restoration projects. Many of these plants are grown in chapter nursery facilities. Having witnessed the devastating effects of sudden oak disease, Californians have learned that plant nurseries can be sources of pathogens with long-term effects on habitats we love. For CNPS, improving our chapter nursery practices and procedures to ensure that plant sales do not inadvertently spread diseases complements our native plant values.

As a case in point, the Willis Jepson Chapter has had one or more nurseries since the chapter's beginnings in 2002. Totally volunteer run, we built our first irrigated shade structure as a holding area for plants purchased from commercial nurseries for our annual plant sale. When the Deaner Native Plant Garden at Benicia State Recreation Area became a reality, we constructed a greenhouse and members began to grow plants from seeds and cuttings for the Deaner Garden and plant sales.



Jan Degiere

Volunteers at the chapter's new potting area. The chapter now uses best growing practices to avoid the spread of plant diseases.

Not long after that, the chapter was offered a growing area at the local wastewater treatment plant along with free recycled water. We expanded into this site and began donating plants to school gardens, local restoration projects, and other nonprofits. Recycling and reuse was the name of the game—recycled water, recycled pots, reused soil, and even repotted sickly plants as we nursed them back to health.

At the 2009 CNPS Conservation Conference, Dr. Ted Swiecki gave a talk about *Phytophthora* and related diseases (sudden oak death) and how these pathogenic fungi are spread by the nursery industry. It made us think twice about our practices, but with a small volunteer crew and upcoming plant sales we had no time to investigate our practices and procedures to determine what diseases we might be spreading.

At the January 2013 CNPS Chapter Board meeting, Ted Swiecki, Willis Jepson conservation chair, reminded us about the importance of best nursery practices. After lengthy discussion and support from Executive Director Dan Gluesenkamp, we set a goal to implement clean nursery practices in 2013. We agreed not to sell, distribute, or buy plants that were not from a clean growing area. Our focus for the year was to raise awareness about plant and soil origins and improve our nursery sanitation methods.

The guiding document for our ef-

(continued on page 6)

Rare Campaign Reminder

CNPS is currently celebrating the Rare Campaign for rare plants and places. You can contribute to this important effort online at http://CNPS.org/support, or by mail to CNPS, 2707 K Street #1, Sacramento, CA 95816. For additional ideas on ways to support the campaign, see the Oct.–Dec. 2013 issue of the *CNPS Bulletin*.



From the Executive Director

Plant sales engender optimism, hope, and community

I am like you: as I look out at winter rains hitting the window, I think of native plants getting watered. Of course, among those are the plants I purchased at CNPS fall plant sales. In two weeks I visited seven chapter plant sales, including five in one day! It was an amazing experience and I highly recommend you try it. The diversity of plants is absolutely inspiring, as is the variation among chapters.



Gary Hundt

Enthusiasm abounds among shoppers at the annual Milo Baker Chapter Plant Sale.

Each sale is different from the last. Napa Chapter holds a pre-party with fine cheeses to accompany the fine plants. Jepson Chapter's sale is a community picnic in a small-town park. The Milo Baker Chapter sale feels like a conspiracy of friends, pulling in curious passers-by from the adjacent farmer's market and infecting them with a passion for gardening natives. Santa Clara and East Bay sales are, of course, highly evolved "native plant festivals" with adept volunteers and engaging public talks.

Though each CNPS plant sale is distinct, they have much in common. Each is an expression of optimism, hope, and community. Each is a labor of love, delivered to the public by generous volunteers, with a neighborly conviviality that refreshes those of us who thirst for community. Each sale is a celebration of plants, but also an expression of belief that we can make our world more beautiful. Every purchase declares our faith in the flora, and optimism that the California natives we plant can survive our gardening missteps to reclaim the land they once graced.

Too often the work of CNPS engages us in dispiriting uphill struggles to save beautiful places from ugly development. Our chapter plant sales are a much-needed chance to laugh with old friends and smile with newcomers. Where conservation work often involves saying "No, no, no!," sales and gardening are a chance to say "yes, yes, yes!" This is the yin and yang of CNPS and the secret of how CNPS has remained wonderfully affirmative and tenaciously committed for so many years.

Speaking of many years, I hope you will join me in recognizing outgoing CNPS Board President Brett Hall. Brett has served in that position for six years, guiding our organization during times of tremendous change. His generosity of spirit, patience, and affection for all of CNPS has made our organization more fun and more effective. I know I speak for all who have been fortunate to work with him when I say, "Thank you Brett! We are grateful for your unwavering dedication to the work of CNPS, and deeply appreciative of all you have done on behalf of California's native plants."

Dan Gluesenkamp
Executive Director

CALIFORNIA NATIVE PLANT SOCIETY
2707 K Street, Suite 1
Sacramento, CA 95816-5113

Phone: 916-447-2677 Fax: 916-447-2727
Email: cnps@cnps.org
Website: www.cnps.org
CNPS Bulletin Email: bhass@cnps.org
Dan Gluesenkamp, Executive Director

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East Bay Chapter's Adopt A Rare Plant Program

By Heath Bartosh

For me, the most important function of the California Native Plant Society is rare plant conservation because no other group does it as well as we do. Our Golden State is bountifully endowed with so many endemic plant species that we should make pilgrimages to see them. I often travel far from home to enhance my understanding and connection with these unique plants and places.

Similarly, I derive inspiration from the stories of our early botanical explorers. Imagine, for instance, that it's May 29, 1860, and William Brewer, botanist and leader of the California Geological Survey, is not far from Mount Diablo when he collects a plant new to science. He sends the specimen to Harvard's Dr. Asa Gray, who later names it for this diligent 32-year-old explorer—*Hesperolinon breweri*, Brewer's dwarf flax. Or imagine it is a cool February day in 1903 and you're botanizing with Alice Eastwood. She's looking smart in one of her iconic hats, out on Mount Diablo collecting the type specimen of the new, narrow endemic Mount Diablo manzanita (*Arctostaphylos auriculata*).

Nostalgic snippets like this link us to our botanical past, and remind me that the East Bay is an exemplar of history, diversity, and conservation. By sharing these stories, I experience a connection to these places of botanical heritage. We can, of course, go on CNPS Rare Plant Treasure Hunts to re-find these locations, but taking it a step further, we can contribute more to our local botanical dataset by developing local citizen scientists as species specific experts. This was the idea behind the East Bay Chapter's Adopt A Rare Plant Program, which began one year after the Rare Plant Treasure Hunt and is now two years old. The primary goals of this program are to:

- Develop local species-specific experts through the adoption of a particular rare plant.
- Build upon existing population occurrence information by systematically collecting species-by-species qualitative and quantitative data in the field.
- Record population threats and management issues facing each species at a chapter level.



With any rare plant monitoring effort it is important to keep the information as up-to-date as possible in order to "uplist" or "downlist" these species as appropriate. But this can be a very large and labor intensive task. Often this information is updated opportunistically for single populations or small geographic areas, much like the Rare Plant Treasure Hunt efforts. In the absence of a systematic, species-by-species approach, it is difficult to achieve a clear understanding of the health of various species and the threats they face at a chapter (landscape) level. It is through the development and sustained stewardship of an Adopt A Rare Plant Program that we hope to build a local volunteer group of species-specific experts or "citizen scientists" to collect rare plant information and provide stewardship recommendations to local land managers based on their observations.

To date, 15 East Bay citizen scientists have provided information on 37 rare plant occurrences through the Adopt A Rare Plant program. We gratefully thank our volunteers, for they are the heart and soul of the program. With dedicated volunteers at the core of every CNPS chapter, this program can be replicated anywhere across the state. For more information, visit http://ebcnps.org/plant-science/rare-plants-committee/.

Heath Bartosh is senior botanist for Nomad Ecology, an ecological consulting firm in Martinez, California, and rare plant chair for the East Bay Chapter of CNPS.

CHAPTER NEWS

SANTA CLARA VALLEY CHAPTER:
Weed and Walk—and Yahoo!

Two years ago I started volunteering at Inspiration Point in Alum Rock Park near San Jose. Although it is a municipal park, its 740 acres are mainly undeveloped, and contain natural, rugged beauty. Some of us in our chapter wanted to help increase the health of the native vegetation, so we started a group we called Weed and Walk. We thought we'd try to mix some education along with service hours. We also decided to use a Yahoo group to coordinate things, and it has proven a wonderful way to recruit volunteers.

The spot has quite a few native oak trees as well as a variety of shrubs. There are also many perennial flowers and annuals. When we started in early 2012, the area was full of invasives such as wild oat and various thistles. Since then we have mostly gotten the invasives under control, and have now started planting natives using locally collected seed. Recently the Santa Clara County Open Space Authority has even offered us the use of their propagation facility at Blair Ranch.

None of this would be possible without the help of lots of volunteers. For example, on one workday we had a group of 30 folks from the San Jose Police Academy, and on another a group of over 20 volunteers from Intel. We've also had groups from quite a few schools. It's been a huge amount of fun and very rewarding.



Stephen Rosenthal

Over 20 volunteers from Intel in San Jose joined with members of the Santa Clara Valley Chapter of CNPS for a workday this past September to remove invasive weeds from Alum Rock Park.

Stephen Rosenthal, President
Santa Clara Valley Chapter

EAST BAY CHAPTER:
New Nursery Manager

The East Bay Chapter of CNPS is pleased to announce that Theo Fitanides has been hired to serve as the new manager for Native Here Nursery, the chapter's nursery dedicated to growing locally native plants from Alameda and Contra Costa counties.

Theo is a 2010 graduate from California Polytechnic State University, San Luis Obispo, with a BA in biological sciences, and has worked with the Bureau of Land Management, organic farms, National Tropical Botanical Gardens in Hawaii, Terra Verde Environmental Consulting, and The Watershed Nursery. Last summer Theo was a community crew leader for the Student Conservation Association, which serves at-risk youth and aims to foster a love of the environment and land stewardship, and to build the next generation of conservation leaders. His recent activities include volunteering with the UC Berkeley Botanical Garden and the East Bay Regional Parks Botanic Garden, as well as Native Here Nursery.

The combination of Theo's interest in native plants and environmental stewardship make him well qualified for his new position. At Native Here Nursery, Theo will work with our volunteers to propagate locally native plants for retail customers, restoration projects, public agencies, and annual plant sales and events.



Janice Bray

Theo Fitanides

Theo will be taking over from Charli Danielsen, who is retiring after over 20 years as the nursery's founder and manager to spend more time with family (including a grandchild), to work in her garden, and to become the nursery's best customer!

Lesley Hunt, President
East Bay Chapter

More on Conifers

The North Coast Chapter has a prolific author in its midst. CNPS member and teacher **Michael Kauffmann**, who recently published *Conifer Country*, has now published another new book, *Conifers of the Pacific Slope*. It is a contemporary field guide that assists plant lovers in identifying conifers from the coastal temperate rainforests to the highest mountain summits, and covers California, Oregon, Washington, Idaho, Nevada, southern British Columbia, and northern Baja California. The guide has been called "well-illustrated, information-rich, comprehensive, and user-friendly." It is available for purchase from the CNPS online bookstore at http://cnps.org/store.php.



Horticulture Program's New Director

Catching the native gardening "bug" is quite the affliction—you never know where it will lead. I had no idea a dozen years ago when I met Susan Krzywicki that she would turn out to be the new Horticulture Program Director for CNPS. However, I witnessed her knowledge, interest, and passion blossom, bringing her commitment to friends, neighbors, clients, and companies.


Bob Hoffman Photography

Susan was a perfect choice for the job because of her dedication and hard work in promoting native plant gardening. Her professional marketing background manifested itself in a variety of successful outreach projects: the San Diego Native Garden Tour last year, the chapter's recent Native Gardening Symposium, and building an active and lively Gardening Committee.

Susan's communication skills, public presence, leadership, and organizational ability will enable her to make an outstanding contribution to the CNPS mission: to protect California's native plant heritage and preserve it for future generations.

We also want to express our deep appreciation to outgoing horticulture program director Laura Camp, who served CNPS so competently over the past three years, and was instrumental in expanding the program and encouraging many members to get involved.

Greg Rubin, Board Member
CNPS San Diego Chapter

In Appreciation: Carolyn Longstreth

A devoted and enthusiastic supporter

Carolyn Longstreth has always been a plant lover, so when she moved back to California in 2006, she very much wanted to familiarize herself with the botanically rich local native flora. Having heard of the California Native Plant Society for many years, she went online and looked up CNPS. This curiosity led her to attend a Marin Chapter field trip at the Point Reyes National Seashore. Gradually she participated in other activities and met many people in the chapter. Within a year and a half, she had become the Marin Chapter delegate to the CNPS Chapter Council—a vital volunteer position she's held for nearly six years now.

In addition to her work with the Marin Chapter board and the state Council, Carolyn regularly contributes financially to CNPS and encourages others to do so as well. Though her favorite CNPS activity is heading out into the field with other plant lovers to explore and learn more about the California landscape, she likes to let others know of the good work being done at both the state and local levels within CNPS.

In many ways Carolyn personifies the typical CNPS member: intellectually curious, always keen to learn more about plants and the environment, and quick to hit the trail. What makes her remarkable is her devotion to the organization at both the chapter and state level and her enthusiasm for all that CNPS does.


Kristie Haydu

Carolyn Longstreth botanizing at Castle Lake in Siskyou County, 2012.

CNPS is immensely grateful to be able to count Carolyn among its most dependable supporters.

Stacey Flowerdew, Membership and Development Coordinator

Best Practices

(from page 1)

forts has been the *Safe Procurement and Production Manual* published by the Oregon Association of Nurseries, which is available free online at http://www.oan.org (click on "Publications"). Although intended for wholesale commercial growers, the information has great relevance to our own Willis Jepson nurseries. The *Manual* outlines a systems approach to produce high quality, disease-free plants.

After reviewing the *Manual* we realized we had a lot of work ahead of us. First we addressed the soil issue, the most likely source of plant diseases. We removed the old soil bin and replaced it with a clean work area. We built a wood frame for the bin's foundation and covered it with a load of sand. On top of this we placed 16" x 16" concrete pavers creating a clean work space approximately 20' by 15'.

Soil is stored on this pad in a lined bin and the area will serve as our potting area. The frame, sand, and pavers keep the soil away from native soil and in a location that is less likely to become contaminated with weeds. Now, all our soil is purchased locally and prior to buying soil mixes, we ask for and evaluate the laboratory analysis of the soil mix. The analysis must say whether the mix is pathogen free or we will not purchase it.



Jan Degiere

Top: The chapter nursery's new soil bin at the Vallejo Sanitation District. Below: The chapter's old soil bin.

Next we looked at the surface of our growing area, which has always been covered with fabric on top of which is a thick layer of gravel. We added more gravel around the new soil bin area and walking paths. Again, this is to keep pots off the ground to avoid contamination with soil borne pathogens.

Members and friends are constantly dropping off gallon cans and plastic pots of various sizes. Sometimes there are so many dropped off we wonder if we'll ever grow that much. All used containers are stored away from clean containers and undergo a strict washing procedure before they are allowed into the potting area.

The pot cleaning procedure begins with removing soil or other debris, followed by a soak in soapy water. With a scrub brush we remove any remaining soil. Then pots are soaked in water with a 10% bleach solution. The cleaned pots are air dried and kept separate from uncleaned used ones. The wash water is dumped into the wastewater system located outside the nursery; soil waste is put in the trash.

The following are a few other practices that we are trying to implement:

- Diseased plants and soil are removed immediately. Sick or dying plants and soil are tossed into the garbage bin.
- Irrigation is managed carefully. We make sure our plants don't get too wet so they are not prone to diseases. We use a lot of adjustable pot drippers to keep water off the leaves.
- We propagate from healthy stock, and use seeds whenever possible.
- We only buy plants from clean nurseries. We question growers about their procedures to determine if they follow those in the Oregon *Safe Procurement and Production Manual*.
- We continue to educate our volunteers. For those who propagate plants at home, we emphasize that they also need to use clean nursery practices in their home nurseries.

We've come a long way in the past year. Our practices are evolving as we learn more and come up with cleaner and more efficient methods to prevent pathogens from infecting the native plants we sell.

All three authors are members of the Willis Jepson Chapter and propagate plants for the twice yearly plant sales.

Gardening with Medicinals

By Susan Krzywicki

California Indians developed intensive harvesting systems, but unlike other tribes, they made use of a much wider palette of plants and animals. Ken Lightfoot, in *California Indians and Their Environment*, writes, "One gets the feeling that California Indians reveled in this resource diversity, and that this may have been a common thread that ties together many of the distinctive Native cultures of our state."

According to Kristie Orosco, resource manager for the San Pasqual Band of Mission Indians of Southern California, "Native people had the cures to all diseases before the advent of European contact. Because the biodiversity was so complete, any affliction was curable. With private property...we didn't have access any longer... to the vast tracts of land where obscure and rare species might have been found."

Often the tribes became known for prowess in growing a type of crop or in their processing capabilities. They propagated and nurtured plants that showed stronger properties and we can still see the evidence around the medicine person's house. The plants' properties, like a botanic oil or a fiber, are strong even though the medicine person hasn't been there for 200 years. This cultivation shows their talents and knowledge.

Historically native people have harvested medicinal plants responsibly so that they would continue to be available in the future. It is equally incumbent upon all of us to follow their example. The best way to gain access to medicinals is to grow your own, and then educate yourself on their use before ingesting them.

Integrate medicinal plants throughout the garden, depending on the requirements of that species. You do not have to create a separate area for the plants, as their growing needs can be quite diverse, and their beauty and landscaping uses are an added bonus. Below are just a few examples of native plants traditionally used for healing.



Susan Krzywicki

White sage *(Salvia apiana,* middle right*)* amidst a non-medicinal native plant garden that includes the rush family *(Juncus* spp.*)*, deer grass *(Muhlenbergia rigens)*, seaside daisies *(Erigeron glauca),* Britton's dudleya *(Dudleya brittonii),* and San Diego dudleya *(Dudleya edulis).*

The word "salvia" comes from the Latin root word "to heal." White sage (*Salvia apiana*) is used for smudges: dried leaves, tied tightly together, are then lit to create a healing smoke. The odor clears a room, cleanses the body, and creates a feeling of calm. The plant can also be used as a tea for a sore throat, since it contains bacteria-killing cineole. White sage grows well on a south facing hill. Plant it in large drifts, allowing for about five feet between plants, and wait for the regal flower stalks.

Sambucus mexicana, or *S. nigra* subsp. *caerulea*, is a shrubby tree. Commonly called blue elderberry, the berries are high in bioflavonoids and vitamin C. To be safe, pick them after the greenish tint under the powdery coating has changed to purple. They contain cyanide, so should not be eaten raw. Native peoples dried the blossoms and then brewed them into tea for fever. This deciduous tree is at home along riverbanks, so it would be a good choice to grow in a wetter hydrozone.

Yerba buena (*Satureja douglasii*) is used for the prevention of nausea and fainting. Crush a few leaves and inhale. To alleviate insect bites or skin rashes, crush the leaves and apply to the affected area. Yerba buena is a groundcover that can take some foot traffic, and prefers shade and moisture.

Two resources for further reading include the California Ethnobotany blog (http://deborahsmall.wordpress.com/2009/10/20/california-ethnobotany/), and the Northern California Ethnobotany website (http://www.asis.com/users/jknope/NorCal%20Ethnobotony%20Intro.html).

Susan Krzywicki is the newly appointed CNPS Horticulture Program Director. She was chair of the San Diego Chapter Gardening Committee, sat on the chapter board, and is co-chair of the San Diego Surfrider Foundation Ocean Friendly Gardens Committee.

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2707 K STREET, SUITE 1
SACRAMENTO, CA 95816-5113

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

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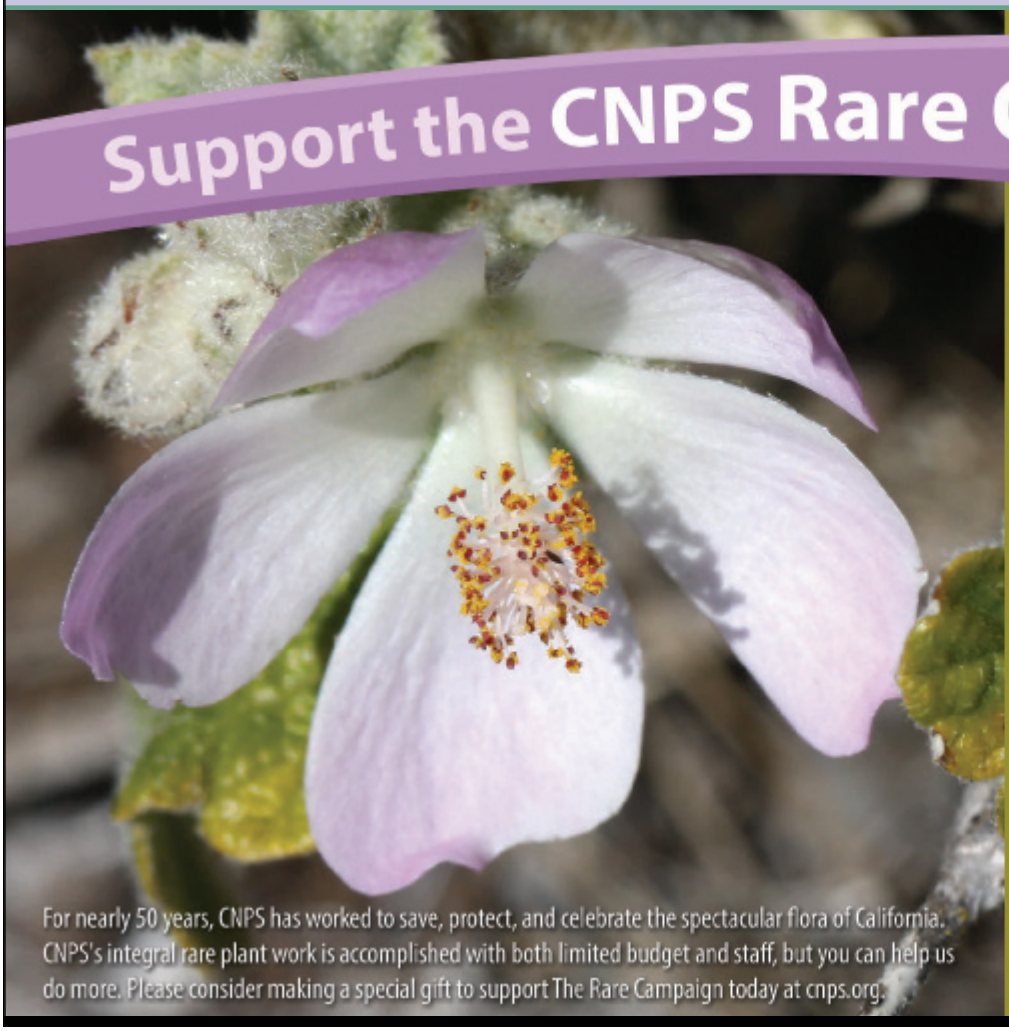
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Next Chapter Council Meeting

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

MARCH 7–9, 2014 – RANCHO SANTA ANA BOTANIC GARDEN, CLAREMONT
HOST CHAPTERS: LA/SANTA MONICA MTNS., ORANGE COUNTY, SAN BERNARDINO/RIVERSIDE, SAN GABRIEL MTNS., AND SOUTH COAST



The San Clemente Island bush mallow (*Malacothamnus clementinus*) was once on the brink of extinction with only a single population living in the 1970s. Decades later, due to an intensive recovery program, this species is now known from approximately 16 populations. However, threats to this species still exist today, and it is imperative that effective land management continues to protect it for future generations. In addition to its State and Federal Endangered status, San Clemente Island bush mallow receives additional protection and attention as a California Rare Plant Rank 1B.1 plant in the *CNPS Inventory*.

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