Everyone is welcome to attend membership meetings in the Recreation Room of the San Francisco County Fair Building (SFCFB) at 9th Avenue and Lincoln Way in Golden Gate Park. The #71 and #44 buses stop at the building. The N-Judah, #6, #43, and #66 lines stop within 2 blocks. Before our programs, we take our speakers to dinner at Chang’s Kitchen, 1030 Irving Street, between 11th and 12th Avenues. Join us for good Chinese food and interesting conversation. Meet at the restaurant at 5:30 pm. RSVP appreciated but not required - call Jake Sigg at 415-731-3028 if you wish to notify.

March 5, THURSDAY 7:30 pm

Urban Biodiversity Inventory
A New Approach to Measuring San Francisco’s Biodiversity: iNaturalist, Surrogate Species, and the City’s Ecosystem Goals
Speakers: Peter Brastow, Rebecca Johnson, Lew Stringer

In 2018 and 2019, nine municipalities across the United States participated in a project to develop tools and processes for collecting urban biodiversity data. The Urban Biodiversity Inventory Framework (UBIF) was developed to provide standardized methods for collecting and using urban biodiversity data for conservation and management. The overall project goal was to give cities accessible tools for collecting, understanding, and sharing their biodiversity data. Urban Biodiversity Inventories are essential to municipalities: they provide a way of collecting data and assessing biodiversity that can be shared with land management agencies and policy-makers. The speakers will discuss the background and the rationale for the project and what various agencies and institutions are doing to move San Francisco in the direction of systematically tracking our biodiversity and ecosystem health.

Peter Brastow has worked to restore nature and biodiversity in San Francisco since the mid-1990’s. Peter worked for ten years for the National Park Service and then founded Nature in the City in 2005. Since 2012, he has served the City of San Francisco as the Senior Biodiversity Coordinator at the Department of Environment promoting local biodiversity policies and programs in City government, and collaborating with community partners and stakeholders. Currently, Peter is working with 15 City agencies to implement a biodiverse city vision.

Dr. Rebecca Johnson co-directs Citizen Science at the California Academy of Sciences, where she supports a growing community of naturalists working together to discover nature and collect important species occurrence data. She and her co-director, Alison Young, were honored with the Bay Nature 2017 “Local Heroes for Environmental Education Award”. Rebecca spearheads the Academy’s biodiversity work with the City of San Francisco and along the California coast and is a founding member of the San Francisco Children & Nature Team. She is also a Research Associate in the Cal Academy Department of Invertebrate Zoology and Geology. She earned her Ph.D. in Ecology and Evolutionary Biology from the UC Santa Cruz.

April 2, THURSDAY 7:30 pm

Fire Forward: The Role of Fire and How We Can Learn to Thrive with It
Speaker: Dr. Sasha Berleman

Dr. Berleman will discuss the role of fire, how it has shaped the landscapes we love, and the work Fire Forward is doing to advance the way we live with fire for a better future.

Dr. Berleman is Fire Forward Program Director, Audubon Canyon Ranch in Marin County. She received her doctorate in wildland fire science from UC Berkeley and conducted her graduate research in Northern California on prescribed fire use for restoration of ecosystem health. She has been an active participant in Prescribed Fire Training Exchanges (TREX) since 2010 and is a qualified wildland firefighter. Her firefighting qualifications are hosted and sponsored through a lifelong volunteer partnership with The Nature Conservancy. Sasha has planned and organized many interagency private-land controlled burns and has approximately 900 hours of hands-on prescribed fire experience. She is on the board of the Bay Area Prescribed Fire Council, the Central Coast Prescribed Fire Council, and The American Wildfire Experience.
FIELD TRIPS

Members and non-members are encouraged to attend these FREE walks. Signups generally not required—just meet at the specified place and time. If rain or high wind is forecast, we recommend checking with the contact (listed at the end of the trip description) a couple of hours before the trip.

March 22, SUNDAY 10 am – noon
The Natural Wonders of Glen Canyon
Leader: Paul Bouscal, California Naturalist

Join us on a spring hike to explore this canyon in the midst of residential neighborhoods. Glen Canyon is one of San Francisco’s significant natural resource areas containing a variety of vegetation including forbs, grasslands, shrubs, willows and other trees. At this time of year we hope to see spring wildflowers in bloom. The park features rock formations, and it is the source of Islais Creek. We will walk and view parts of this 70-acre park to enjoy the flora, fauna and natural history. Meet at Elk and Chenery Streets. This is approximately a 10-minute walk from the Glen Park BART station. The 44 bus also stops nearby. Layers of clothing are recommended. Heavy rain cancels. Contact Paul at bouscalp@yahoo.com, or 650-438-9109 if you have questions.

March 28, SATURDAY 10 am – 2 pm
San Bruno Mountain: Summit Trail
Leader: Doug Allshouse

The Summit Trail is a very popular and spectacular 3-mile loop that stretches over the northern portion of the mountain and is the most species-rich trail. It passes through a logged eucalyptus forest and descends past active seeps until it reaches April Brook. We’ll see horsetails, fringe cups, iris, coast rock cress, and at least five ferns. From there we head up to Bitter Cherry Ridge with rocky outcrops covered with fog lichens and views of the ocean and the Daly City dunes. If we have time, we’ll check out Kamchatka Point and some endemic manzanitas then descend to the parking lot through Cable Ravine. Otherwise, we’ll bail out at Battery Road 59 and descend Radio Road. There is a $6 entrance fee (cash, credit/debit card) payable at the pay station. Meet at the parking lot on the other side of Guadalupe Canyon Parkway by turning right at the stop sign just past the kiosk/pay station and follow the road under the parkway. Bring a lunch and layers of clothing because, due to the marine influence, the weather is a box of chocolates; you never know what to expect. Heavy rain cancels. Contact Doug at dougsr228@comcast.net, or call/text 415-269-9967 if you have questions.

April 25, SATURDAY 10 am to 3 pm
San Bruno Mountain: Ridge Trail
Leader: Doug Allshouse

Come spend the day walking the Ridge Trail which follows the San Bruno Mountain ridgeline. The trail offers a long and interesting menu of plant species including the endemic SBM manzanita, several paintbrushes, Franciscan wallflower, two wild cucumbers, three lupines, stonecrop, coast rock cress and more. On a very clear day the vistas extend from Pt. Reyes to the South Bay and from the Farallones to Mt. Diablo. Its topography begins in Franciscan coastal scrub, blue blossom chaparral and coastal terrace prairie, and then transitions to needlegrass grassland the further southeast we travel. The wildflower show, while varied and spectacular, is just part of the allure. If weather permits, we probably will encounter the endangered Mission Blue butterfly, along with other spectacular species such as Anise Swallowtails and Green Hairstreaks. An autumn 2018 grassfire near the East powerline should hopefully offer some fire-follower wildflowers. The entire out-and-back trip is about 4 miles over a rocky and undulating fire road with frequent elevation changes. Bring a lunch and water. The $6 entry fee is payable at the kiosk to a ranger or the cash or charge pay station. Turn right at the stop sign and follow Radio Road up to the summit parking lot. The mountain offers box-of-chocolates weather so bring layers. Heavy rain cancels. Any questions, directions or weather reports contact Doug at dougsr228@comcast.net or 415-269-9967.

May 7, THURSDAY 3:30 pm – 5:30 pm
San Francisco Botanical Garden in Spring
Leader: Paul Bouscal, California Naturalist

Take a spring hike in the San Francisco Botanical Garden’s California section to see a variety of plant species and the insects and wildlife they attract. Bring a bag supper and enjoy a communal meal in the garden among the native plants and early evening wildlife. In spring it may be windy; layers of clothing are recommended. Please note there is a non-resident fee to enter the SFBG. Meet at the main entrance at 9th Ave. and Lincoln Way.

The CNPS speaker program starts at 7:30pm at the County Fair Building, so plan to stay on for an enjoyable evening. Contact Paul at bouscalp@yahoo.com, or call 650-438-9109 if you have questions.
San Bruno Mountain Conference
April 19, 2020
Mission Blue Conference Center, Brisbane

The Yerba Buena chapter is supporting a one-day conference on San Bruno Mountain as a fundraiser for the book, *The Natural History of the San Bruno Mountain*, by CNPS members Doug Allshouse and David Nelson. Tickets are $25. Speakers include Tom Parker, Mike Vasey, Stu Weiss, Lech Naumovich, Ariel Cherbowsky, Hannah Ormsshaw, Doug Allshouse, and David Nelson.

San Bruno Mountain is recognized as a global biological hotspot, with six plants that grow on the Mountain and nowhere else on earth. The morning session will be devoted to presentations of scientific research done on the Mountain, including our endemic manzanitas, endangered butterflies, and rare and endangered plants. The afternoon session will feature presentations of interest to the general hiking public, including an overview of the wildflowers commonly seen in the spring; an introduction to manzanitas, one of the iconic California plants; a survey of the rare plants, as well as the recently re-discovered flowers that had been thought to be lost. The San Mateo County Natural Resource Manager will speak about the Habitat Conservation Plan that preserved the Mountain, as well as presentations by other experts on the political history that brought the HCP into being. There will be a sign-up for hikes on the Mountain led by experts scheduled for the following two weekends, April 25-26 & May 2-3.

The Conference website, with the complete program, is at: http://naturalhistoryofsanbrunomountain.com/Conference.html

For further questions, contact David Nelson nelsondl@pacbell.net

Buena Vista Bioblitz and City Nature Challenge
April 24, FRIDAY 9:00 am-2 pm
Leader: Bob Hall

Let’s storm the hill and look for birds, moths, bees, salamanders and, of course, plants! This event is part of the City Nature Challenge, where cities around the world compete to see who can make the most observations of nature, find the most species, and engage the most people (http://citynaturechallenge.org). Bioblitzes not only help land managers build a species list and atlas for their park - thus providing invaluable data for researchers - they also highlight the incredible biodiversity in these Bay Area oases.

The Yerba Buena Chapter’s 2020 Native Plant Garden Tour is in peril of being cancelled because we have too few gardens! The purpose of the tour is to expose gardeners to native plants, their charms and benefits, and to show some of the possibilities of including them in an attractive, wildlife friendly, water-wise garden.

To end we include an array of private gardens: mature gardens featuring 100% natives (focusing on compatible plantings), mixed gardens, professionally designed and maintained artistic gardens, gardens focusing on habitat for wildlife (for example, the chorus frog), gardens integrating food production, and gardens in transition to include more natives.

Help save the Native Plant Garden Tour and allow us permission to include your garden. Email Bob Hall at yerba.buena.cnps.chapter@gmail.com Or, if you know someone with a great garden, please recommend them to us.

**San Francisco Native Plant Garden Tour In Jeopardy**

**May 10**TH **SUNDAY 11 am - 3 pm**
**Free Admission**

The Yerba Buena Chapter’s 2020 Native Plant Garden Tour is in peril of being cancelled because we have too few gardens! The purpose of the tour is to expose gardeners to native plants, their charms and benefits, and to show some of the possibilities of including them in an attractive, wildlife friendly, water-wise garden.

To end we include an array of private gardens: mature gardens featuring 100% natives (focusing on compatible plantings), mixed gardens, professionally designed and maintained artistic gardens, gardens focusing on habitat for wildlife (for example, the chorus frog), gardens integrating food production, and gardens in transition to include more natives.

Help save the Native Plant Garden Tour and allow us permission to include your garden. Email Bob Hall at yerba.buena.cnps.chapter@gmail.com Or, if you know someone with a great garden, please recommend them to us.

**TED KIPPING**

by Jake Sigg

Long time chapter member Ted Kipping, who had been in hospice at home, died November 24, 2019, of cancer.

It is difficult to write about a person like Ted because his contributions were so numerous and large, and because he was so gifted. He was an original, difficult to capture in words. I won’t attempt to list all recipients of his generosities because I don’t know them all; probably no one did besides him.

In the 1970s we were fellow gardeners in what is now called the San Francisco Botanical Garden until he left City employment and set up his own business, which he called Ted Kipping, Tree Shaper; the name is apt, as he was more interested in artistic expression than in conventional pruning.

He made a good living at it, and shared that fortune widely. All the botanical gardens in the Bay Area were recipients of his services, which he spent untold hours donating. This was pure generosity: under US tax law he could not claim the value of his time as a deduction. Ted’s creative photography and knowledge were shared with many. He presented many times at CNPS chapter meetings in San Francisco and elsewhere, and led walks in the Menzies Garden of California Native Plants. For years he hosted monthly potluck photography showings at the SF County Fair Bldg. Photographers from all over shared their pictures of their world travels, with emphasis on natural history.

All who knew Ted will miss his wit, humor, creativity and generous spirit.
DOUG’S MOUNTAIN JOURNAL

A Chronicle of Natural History on San Bruno Mountain by Doug Allshouse

There’s an old saw that exists for baseball, but really any sport for that matter, that basically says, “Every day you go to the ballpark you’ll see something you’ve never seen before.” I bring this to your attention because it occasionally happens to me on my morning walks in the park.

There is a large patch of very old English ivy on the upper portion of the Bog Trail that has been left to resolve its own destiny. Like old grape vines in an ancient vineyard, this patch is mature with a south-facing exposure to the sun. They have no trees to climb but have managed to attain verticality through woody trunks to a height of 3-5 feet on their own, and that means they produce flowers and berries. It was a mild sunny morning and I noticed, at a distance, what appeared to be bees flying around the flowers. At close range I saw that they were wasps, hundreds of them, resembling small yellow jackets flittering about like electrons in an atom smasher. Bees, on the other hand, would be working through the ivy’s umbels like grape pickers on a vine. These gals were mostly allergic to staying still much longer than a second before flying to another umbel. I knew they were wasps when one decided to take a breather, because the wings formed a V-shape over the body and their abdomens were striped black and yellow. They were obviously consuming nectar.

Just fifteen minutes later, and a good half-mile closer to home, I noticed that the same species of wasps were nectaring on the English ivy climbing the eucalyptus trees on the Old Guadalupe Trail near the Crocker Gate. And I’m thinking “Why am I just noticing these wasps flying around the ivy?” Just like that last baseball game, I’m seeing something I’ve never seen before.

As I looked at my rainfall records, it appears that this season closely resembles the 2015-2016 season so far. July-October precipitation was entirely fog drip, November had a modest inch-plus of rain, and December checked in around 5-plus inches. Six months into the season showed 7.30” for 2015-16 and 8.19” for 2019-20. In 2016 we had a decent January (6.92”), a sparse February (0.92”), but a respectable March (7.07”) for a total of 23.86”. We’ll have to get a boost on the 16th with 1.26” because it occasionally happens to me on my morning walks in the park.

Winter is a very interesting season along coastal California. It is the season of rejuvenation. For most, if not all, of our perennial shrubs it is the season for growth, when most of the new green wood is added. It makes sense since this is the season of cool weather and constant moisture. The rest of the year is dry and hot in most places and our coastal scrub species have developed thick, tough leaves designed to conserve moisture. Our perennial wildflowers are waking from a deep dormancy and the annuals are germinating from seeds deposited last spring or summer. In some cases, such as a wildfire or some other disturbance, the seeds might be decades old and waiting for just the right conditions to spring to life. A few weeks after germination, identifying those undeveloped leaves hugging the ground is extremely difficult work.

I recently identified a bunch of hairy, greenish-gray leaves covering the ground and it made me think of a similar circumstance while out in the field with two fellow botanists last April. We were down on one knee looking at a tangle of small lacy pinnate leaves trying to figure out their identity. I pinched off a two-centimeter piece of leaf and noticed a peculiar odor that was strangely familiar. I brought the little bugger to my nose and took a good sniff. “Anthemis!” I blurted out. My two companions looked at me as if I had grown a third ear. “Mayweed, dog-fennel,” I said. “How did you know that?” one asked. “Smell it,” I replied. “Do you always smell your leaves?” one shot back. “Most of the time,” was my reply; “It works for me.” It’s called dog-fennel for a good reason. It’s in the Sunflower Family but its young leaves somewhat resemble those in the Carrot Family, and it smells like a dog that needs a serious bath.

Back to my hairy, greenish-gray leaf: I gave it a good pinch and brought it to my nose, took a deep satisfying whiff and pronounced it to be wood mint, *Stachys ajugoides*. Works every time. Now is a good time to get a study by Cornell University to notice that not only is the ground for plants coming back to life. It won’t be long before they bloom, which will make it far easier for you to identify them.

...See you on the Mountain
FOCUS ON RARITIES

Ione Manzanita
Arctostaphylos myrtifolia
by Michael Wood

For the past few newsletters I’ve found inspiration in the habitats encountered during my travels. So far, similarities in the botany, vegetation or ecology have provided easy segues to a topic relevant to our chapter area. But after two months crossing the length of New Zealand I have found nothing like anything I know from home (aside from hills covered in exotic broom, pastures of European grasses, naturalized California quail and roadsides lined with California poppies). Reading about the fires in Australia and witnessing burnt orange skies from smoke carried over 1400 miles across the Tasman Sea certainly reminded me of home. But fire is not a natural part of the ecology here. One thing did strike a chord with me, albeit a depressing one. Exploring the forests of giant trees belonging to the Gondwanan families Podocarpaceae and Araucariaceae, I was surprised to learn of the battle they are waging here to stop the spread of a familiar pathogen, Phytophthora, that is killing off these spectacular trees. This is the same pathogen that causes sudden oak death and is killing off certain species of manzanitas. I became painfully aware of the impacts of this pathogen during the course of my graduate research on the Ione manzanita (Arctostaphylos myrtifolia; Ericaceae) (Wood, 1989). Although not exactly relevant to our chapter, the research and conclusions I drew make for an interesting tale of evolution, geology, edaphic endemism, fire ecology and a really nasty pathogen. So if you’ll indulge me and forgive the weak connection between here and there, I’ll try to compress three years of research into a few paragraphs.

Ione manzanita is a highly restricted California endemic found in about 100 stands scattered over a 40 mile-long area in Amador and Calaveras counties at elevations of 200-1800 feet. Its occurrence is restricted to soils derived from the Ione Formation. It is a semi-prostrate shrub 1-2.6 feet high with elliptic, acute leaves ¼- ¾ inch long and having a rusty-green hue. The species does not produce a basal burl and reproduces strictly by seed. Like most manzanitas and other woody chaparral species the Ione manzanita is thought to have evolved in a fire-prone environment. The species is federally listed Threatened and on CNPS’ List 1B.2.

Stands of Ione manzanita are remarkably pure, even for chaparral, with a relative cover close to 100 percent and as much as 50 percent bare ground. Stands are even-aged, dating back to the most recent fire. Populations are generally insular in nature and are surrounded by taller, mixed chaparral in more or less distinct concentric zones. Radiating outward from stands of Ione manzanita, the vegetation becomes progressively taller and denser, consisting of whiteleaf manzanita (A. viscida), chamise (Adenostoma fasciculatum; Rosaceae), and interior live oak (Quercus wislizenii var. frutescens; Fagaceae).

Prior to the time I started my project in 1987, the most recent research on the species was conducted in the early 1960s. Already at that time the uniqueness of the Ione manzanita as well as the geological formation on which it is restricted had attracted a lot of interest. It was presumed that edaphic factors accounted for the pattern in species composition in the Ione chaparral. But a detailed analysis of the soils and the physiological tolerances of the species growing on them had not been undertaken; the ecological processes that created and preserved the islands of Ione manzanita were yet to be explained.

The Ione Formation is a fascinating subject by itself. Hans Jenny (1899-1992), UC Berkeley’s legendary soil scientist who described pedogenesis (the process by which soils are formed), studied the Ione Formation in the 1950s. The formation, which stretches some 200 miles from near Chico to Fresno, was formed during the Eocene Epoch (56-34 million years ago) when the Sierras were uplifting and before the Coast Ranges appeared. Sediments of clays and sands were laid down along the shoreline and then, after the land raised further and the coastline moved west, were subjected to a tropical climate for millions of years. The formation was subsequently buried under layers of andesite and rhyolite spewed from ancient volcanos. While most of the formation stayed buried, it was subsequently exposed by erosion around the Town of Ione.

Classified as an exhumed oxisol, the Ione soils represent the only described oxisol in the continental U.S. Oxisols like those found near Ione are usually associated with tropical regions of the world such as India, the West Indies, Africa and Australia. And like the oxisols found in those regions, the Ione Formation includes a thick crust of laterite, a very hard bright red rock rich in iron and aluminum oxides (remember aluminum…it’s a key part of the surprise ending!). Bauxite, the principal ore mined for the manufacture of aluminum, is a type of laterite. In some spots, the laterite layer in Ione is six feet thick. The closest place in the Northern Hemisphere where you can see laterite is Puerto Rico.

As is typical for tropical soils, those derived from the Ione Formation are azonal (have a poorly formed soil profile or horizons), are highly weathered and therefore have exceedingly poor soil structure, are highly acidic, nutrient poor, have a low cation-exchange capacity, and exhibit high concentrations of exchangeable aluminum.

Aluminum is considered the most universally phytotoxic element and is a well-known agricultural challenge in tropical regions. As little as 1-2 ppm can inhibit cell elongation and division, and suppresses seed germination. I felt certain that aluminum held the key to the riddle. For two years I crawled around the Ione chaparral collecting soil samples and plant tissue samples, across the vegetation zones. I ran chemical analyses looking for statistically significant differences between zones. I analyzed the seed banks beneath the different zones. I even set up “seed rain” traps to see if seed collection by ants played any role in seed bank development. I tried germinating Ione manzanita seeds in the

(RARITIES continued on page 6)
RARITIES (continued)

greenhouse to test seedling growth response to different concentrations of aluminum, but despite trying dozens of different dormancy release experiments I never could get the seeds to germinate reliably. With the aid of the California Department of Forestry and Fire Protection, I even got to set stands of chaparral on fire to study the effects of fire on seed bank dynamics and stand regeneration. I won’t lie…that was a heck of a lot of fun…drip torches, flame throwers, a helicopter dropping gelled gasoline, all in the name of science!

By the spring of 1989 I had exhausted all of my ideas as well as those of my colleagues and professors. I needed to wrap up my thesis. I remember my major professor, Tom Parker, smiling at me and saying something like, “Yup, that’s science. Lack of results is still a result. Just write it up.” Then I came across an article about the hyper-accumulation of metals by lichens. One of the many interesting features of the lone chaparral is the presence of an unusually dense layer of lichens on the mineral soils around lone manzanita plants. Suddenly it dawned on me that I had been looking at this all wrong…I had been analyzing the soils beneath and tissues of mature plants, in an environment that hadn’t burned for 50 years or more. I should have been looking at the immediate post-fire environment, when seedlings germinate and the vegetation regenerates.

I raced back out to lone to collect lichen samples from all of my study sites. Then, while everyone else was off botanizing in the desert over spring break, I was in the lab digesting lichen tissue samples and running them through an atomic absorption spectrometer. The results were astounding. Aluminum content in the lichen tissues averaged nearly 0.22 percent dry weight or 22 ppm, clearly demonstrating the stands of lone manzanita.

like whiteleaf manzanita, chamise, and interior live oak and preserving the soil from these species likely to serve as a critical ecological filter during the seedling establishment stage, preventing the invasion of non-adapted species like whiteleaf manzanita, chamise, and interior live oak and preserving the stands of lone manzanita.

For a discussion of edaphic endemism, see Mike’s December 2001 article Endemism in the California Flora, Part II (Vol. 15, No. 4)


"HABITAT RESTORATION  

Alameda Natives at Alemany Farms  
Community workdays held from Noon to 5pm every 1st & 3rd Sunday of the month and the Saturdays in-between, plus every Monday afternoon from 1:00-5:00. Contact community.gardeners@gmail.com  

Bayview Hill  
Irregular. Contact Jake Sigg at jakesigg@earthlink.net for next work party date.

Bernal Hill  
2nd Saturdays, Jan-June. 10am-noon. Contact recparkvolunteer@sfgov.org  

Candlestick Point State Park Nursery  
1st Saturdays, every month. 10am-1pm  
Contact Patrick Marley Rump at patrick.rump@lejyouth.org  

Candlestick Point Recreation Area  
2nd Saturdays, every month.  
Contact Patrick Marley Rump at patrick.rump@lejyouth.org.  

Corona Heights  
Last Saturdays, every month. 10am-noon. Contact recparkvolunteer@sfgov.org  

Friends of San Pedro Valley Park: Trail Restoration  
2nd Saturdays 9 am - 12 pm, every month, meet in front of Visitor Center  

Friends of San Pedro Valley Park: Habitat Restoration  
3rd Saturdays 9 am - noon, every month, meet in front of Visitor Center  

Glen Canyon Park  
Wednesdays & 3rd Saturdays every month. 9am-11:30am. Contact recparkvolunteer@sfgov.org  

Golden Gate Audubon Society  
Various opportunities: https://goldengateaudubon.org/volunteer/  

Golden Gate National Recreation Area  
Weekdays and weekends around the Bay Area. Contact volunteer@parksconservancy.org or 415-561-3044  

Golden Gate Park Nursery  
1st Saturdays, every month. 9:30am-12:30pm  
Contact recparkvolunteer@sfgov.org  

Golden Gate Park Oak Woodlands  
2nd Saturdays, every month. 10:00am-12:30pm  
Contact recparkvolunteer@sfgov.org  

Green Hairstreak Corridor, Golden Gate Heights  
Periodically. Contact amber@natureinthecity.org  

Half Moon Bay State Beach  
Various restoration and nursery opportunities. Contact email HMMParksVolunteer@Parks.ca.gov  

Heron’s Head Park  
Various opportunities at http://sfport.com/herons-head-park  

Linda Mar Beach, Pacifica  
Visit pacificabeachcoalition.org  

Marin Headlands Native Plant Nursery  
Weekdays and weekends. Contact (415) 561: 044 or volunteer@parksconservancy.org  

McLaren Park  
2nd Saturdays every month, 10am-noon. Contact recparkvolunteer@sfgov.org  

McKinley Square Hillside  
3rd Saturdays, 10am-12:30pm. Contact into@mckinleysquare.com  

Mission Creek South Bank  
Generally Saturday mornings. Contact Ginny Searns for times. Call 415-552-4577 or ginnystearns@gmail.com  

Mt. Sutro  
Wednesdays 9:30am-12:30pm at the nursery; 1st and 3rd Saturdays 9:00am-1pm, visit sutrostewards.org  

Pacifica’s Environmental Family  
Various opportunities. See events calendar: http://www.pacificasenvironmentalfamily.org  

Palou Phelps Park  
1st Saturdays, Jan-June. 10am-1pm  
Contact recparkvolunteer@sfgov.org  

San Bruno Mountain  
Guadalupe Valley Stewards, Tuesdays 10am-12pm; Mission Blue Nursery, Wednesdays, 10am-12:30pm; Stewardship Saturdays, 10am-1pm; South San Francisco Weed Warriors, last Fridays and Saturdays of the month, 9am-noon. See events calendar mountainwatch.org  

SF Recreation and Parks  
Volunteer calendar: http://sfrecpark.org/support-your-parks/volunteer-program/  

San Mateo County Parks  
Stewardship Core calendar http://parks.smcgov.org/smc-parks-stewardship-corps  

Save the Bay  
Various opportunities https://www.savesbay.org/volunteer  

Starr-King Open Space  
2nd Saturdays every month, 9:30am-noon. Visit starrkingopenspace.org  

Tennessee Valley Restoration  
2nd, 4th & 5th Tuesdays, 10am-2pm.  
Visit parksconservancy.org  

Yerba Buena Chapter Restoration Team  
Wednesdays, noon-3pm. Contact Jake Sigg at jakesigg@earthlink.net  

Yerba Buena Island Stewardship  
3rd Wednesdays, 1-3 PM  
https://sftreasureisland.org/ybi/stewardship  

Thesis. San Francisco State Univ., San Francisco. 147 pp
WHY USE HERBICIDES TO MAINTAIN NATIVE COMMUNITIES? YELLOW OXALIS AS EXHIBIT A

by Jake Sigg

The outstanding example of the need for herbicides is grabbing your attention right now: Bermuda buttercup, Oxalis pes-caprae. It is proliferating in our grasslands—sites of our greatest biodiversity—and displacing the natives at an alarming rate. It is exceedingly hard to eradicate because the bulb—which is sometimes 12-18 inches deep and which persists in sending up new shoots when the top-growth is pulled—must be killed. In some areas in the city it forms closed-canopy monocultures, a truly alarming state.

There shouldn’t be a need for this article. To close observers the—figuratively speaking—lightning speed of its invasion and expansion speaks for itself. However, the shifting baseline syndrome provides a stealth cover for its barely-noticed proliferation. In a busy world who notices that all that yellow out there is a recent arrival? Besides, when the rains stop, oxalis goes dormant and other concerns easily take their place in our anxious minds.

Ironically, by the usual rules, the plant should not be a problem. It is sterile and doesn’t produce seeds! That disability ordinarily spells doom. It spreads by bulb offsets and root structures that travel laterally. That explains how it can spread locally, but how does it get to a non-contiguous area? Another rule breaker: this oxalis depends on not one, but two native animals to provide its distribution system, a rare and striking phenomenon. Our pocket gopher gathers and caches bulb offsets, so the oxalis radiates out from this cache. And how does the oxalis get across the road or to another park a mile away? The scrub jay, which perhaps for millennia has been transferring bulbs from one site to another, has a practiced eye for diversity. It notices that place across the road doesn’t have any of this bright yellow flower and thinks it should. The jay has been witnessed gathering bulbs and consciously planting them in another area. Unfortunately, it has no way of knowing that its actions enhance diversity for a very short time, then eliminate it.

These advantages should be enough for any plant, but not for oxalis. It also practices chemical warfare by preventing germination of seed and by weakening existing plants, causing their eventual death. So we have the one-two punch of first gophers and scrub jays, then allelopathy (chemical warfare). The result is that invaded areas become patches of oxalis monoculture. All other plants are displaced, and with them go the insects and other creatures needing plants to sustain them. And give a thought to the foragers: besides seed-eating birds there are owls, hawks, kestrels, and coyotes, which have no home when native plants disappear. Think too about the 6-7 months when the oxalis is dormant. Do you want to see Glen Canyon or McLaren Park with acres of bare eroding soil?

Let’s be clear: We are not talking about the industrial-scale spraying of agricultural crops in the Central Valley, but spot-spraying of herbicides from hand-held, low-pressure backpack tanks. We have no choice - we must employ them if we are to save the precious biodiversity we inherited. It’s that simple, and those opposing use would be among the regretful at the consequences. Integrated pest management programs are enforced at federal, state, and county levels, and safety of use is based on current science. The writer has used them for decades and, in his 90s, is in good health.

BOARD MEETINGS

Board meetings are held on the second Monday of alternate months, beginning with January, usually at 350 Amber Drive (SF Police Academy), and start at 7 pm. People interested in the work of the chapter are welcome to attend as a guest of any board member. Email us at yerba.buena.cnps.chapter.gmail.com for more information.

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CHAPTER NEWS

VOLUNTEERS NEEDED FOR THE NEWSLETTER

Would you like to be more involved in the CNPS-Yerba Buena Chapter? We’d like to hear from you if you are. In addition to the need for Outreach and Social Media Event volunteers announced earlier, we are seeking volunteers to help with mailing the Newsletter. While we encourage everyone to choose to receive it electronically, there are still many of you who prefer the printed version. To get the Newsletter to your door, it must be folded, stickered, labelled, and stamped, and for this we are seeking volunteers. It is just four times a year for two hours on a Thursday evening, and promises good camaraderie and a feeling of satisfaction. If you (and friends) are interested, please contact us through our chapter email: yerba.buena.cnps.chapter@gmail.com

Are you a writer? If so, please consider joining the Newsletter team to spread the word about native plants, the value of gardening with natives and the importance of biodiversity. We welcome your talents and new ideas. Please contact us at the email above.
Learn to understand California’s unique flora and help to preserve this rich heritage for future generations.

Yes, I’d like to join.

Affiliation: Yerba Buena Chapter

Membership Category

__ $2,500 Benefactor
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Make your check out to “CNPS” and mail with this form to:

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Sacramento, CA 95816-5113

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