Join Sam Young, CNPS IPA Manager, for a discussion on California's plant biodiversity, IPA methods, and strategies for realizing IPA conservation goals.

Hannah Ormshaw is a Natural Resource Specialist for the San Mateo County Parks Department, doing vegetation surveys and mapping, and coordinating habitat management activities. She is regularly out on the mountain monitoring butterflies, and is the primary staff person involved in the implementation and oversight of the San Bruno Mountain Habitat Conservation Plan. She is also the senior biologist for all natural resource management activities in all county parks.

Speaker: Hannah Ormshaw

**Management of the Rare Plants and Butterflies of San Bruno Mountain**

San Bruno Mountain State and County Park is a habitat island amidst a sea of urbanization, and is home to a variety of rare, threatened, and endangered plant and wildlife species, some of which occur only in this park. This talk will outline recent efforts to map and catalogue rare plant populations, describe the critical habitat requirements for the four protected butterfly species found in the park, and discuss the ongoing efforts for habitat management for the benefit of these protected species.

Hannah Ormshaw is a Natural Resource Specialist for the San Mateo County Parks Department, and is the primary staff person involved in the implementation and oversight of the San Bruno Mountain Habitat Conservation Plan. She is regularly out on the mountain monitoring butterflies, doing vegetation surveys and mapping, and coordinating habitat management activities. She is also the senior biologist for all natural resource management activities in all county parks.
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.

October 19, SATURDAY 10am - 1pm
San Bruno Mountain: Dairy Ravine-Cable Ravine
Leader: Doug Allshouse
These two north-facing ravines form most of the area above the parking lot opposite the park entrance. Their names allude to dairy ranching and to cables that descend from the communication towers on the summit. The two ravines share similar plant communities that are dotted with eucalyptus plantings threatening endangered butterfly habitat. To explore both ravines we’ll walk the Eucalyptus Loop to the Dairy Ravine and Summit Trails ascending to the mountain’s summit. Then it’s on to Kamchatka Point to see four species in Ericaceae, the Heather family, featuring three species that are endemic to San Bruno Mountain. The first two are San Bruno Mountain manzanita (Arctostaphylos imbricata) and a pretty form of bearberry manzanita (A. uva-ursi forma suborbiculata). We’ll see California huckleberry (Vaccinium ovatum), and a pending third endemic surprise. The $6 entry fee is payable by cash or credit/debit card at the pay station. Meet at the parking lot on the other side of Guadalupe Canyon Parkway. Turn right at the stop sign just past the kiosk and follow the road under the parkway. Due to the marine influence the mountain offers box-of-chocolates weather so bring layers. Heavy rain cancels. Contact Doug at dougsr228@comcast.net, call or text 415-269-9967 if you have questions.

ACTIVITIES

SEMI-ANNUAL FOUNTAIN THISTLE WORK PARTY
October 26, SATURDAY, 10am - 12:30pm
Intersection of I-280 and Hwy. 92, San Mateo
Our work at this site is a restoration success story. Once almost completely displaced by jubata grass (Andean pampas grass), the federally endangered fountain thistle (Cirsium fontinale var. fontinale) has largely recovered as a result of the work done by CNPS volunteers. Fountain thistle grows in an unusual specialized habitat, serpentine seeps, and is found only here and in few other nearby locations on the Peninsula. However, it is still under threat from other non-native plants, such as yellow star-thistle, sow thistle, and wallaby grass (Rhytidosperma caespitosum) and by woody plants trying to convert the area to shrubland or woodland.

Initiated by the Yerba Buena Chapter in 2008, the restoration became a joint project with the Santa Clara Valley Chapter. Jake Sigg is now relinquishing the leading role to Don Thomas from SCV. We’ll meet at the end of Lessingia Court in San Mateo. Take I-280 South to CA 92E (exit 33) toward SanMateo/Hayward. From 92 E take exit 9A for Ralston Ave toward Belmont. Keep right at fork, follow signs for Polhemus Rd and merge onto Ralston Ave. Continue onto Polhemus Rd. Turn left onto Paul Scannell Dr., then left onto Lessingia Ct.
For more information, contact jakesigg@email.com. Optional camaraderie over Greek pizza afterwards.

FALL PLANT ID WORKSHOPS
September 12, October 10, November 14, and December 12
THURSDAYS, 6–7:30 pm
San Francisco State University
1600 Holloway Avenue
Hensill Hall, Botany Lab, Room 440
Our seventh year of plant ID workshops will continue this fall and will bring us four exciting workshops. If you are searching for a fascinating way to spend an hour and a half once a month studying botany, this is the place. We learn about plants, observe their distinguishing characteristics, and dissect them. Botany graduate students give us a brief but informative PowerPoint lecture on the plant family under discussion and help us to key out the plants that have been selected for the evening’s workshop. The September meeting will begin with a brief review of essential botanical terms. Please bring Jepson Manual, 2nd edition, if you have one. Questions? Email Mila Stroganoff at milastroganoff@sbcglobal.net.
Ode to the Coyote Bush
By Jake Sigg

In years of leading field trips, I pointed out many rare or unusual plants to participants, but not once did I deign to mention coyote bush—too common; what can you say about it? It’s just there. Besides being so common it is unprepossessing, especially when not in flower. How dumb. How could I have overlooked such an important plant?

It seems that part of the human condition is being oblivious to the virtues of common phenomena which are encountered daily, and which may be of great importance. A master’s thesis by J.W. Tilden in the 1940s revealed a huge number of insects and other arthropods inhabiting *Baccharis pilularis*, especially important to pollinators during its long blooming period, August-December, when the flowers are a rich source of pollen and nectar. Another study (Steffan, 1997) recorded 54 insect species in just Sept.-Oct., including several species of bees, parasitic wasps, and ants. The evergreen foliage provides habitat for many beneficial insects, making the total number striking and in excess of what one normally finds on most plants.

Suffice it to say that from an ecological point of view it is a plant to be reckoned with. Good thing, too. Invasive plants are destroying habitats throughout the world, and California is suffering more than most places. San Francisco, being densely populated, is in the eye of the storm; its already small fragmented habitats are degraded by invasives. Coyote bush (along with poison oak and California blackberry), persists. It is one of the few natives that can hold its own with the invaders.

It can also establish itself in unlikely places -- like a parking lot that is part of the Balboa Reservoir site, on which a housing development is planned. It pushed itself through cracks in the paving and, according to one long time CNPS-YB member, has been providing shelter for birds and attracting insects since the 1970s. (N.B. Because neither coyote bush nor the birds & insects are threatened or endangered, there are considered to be no significant environmental impacts if this habitat is destroyed.)

In the June 2019 *Yerba Buena News* I extolled the virtues of plants, mostly in the Compositae (Asteraceae), the sunflower family, that are active in summer and autumn, and encouraged you to include them in your garden for that reason. As I write this I think of how many different composite species there are, each trying to grab the attention of some insect. I walk down the street and see them taking advantage of every crack and cranny in concrete structures at this time of year. They won’t win beauty contests, but they are very good looking if you’re an insect—mostly tiny lepidoptera—busily taking advantage of long, warm summer days. They are not all native, but in this case that doesn’t matter; they serve the insect’s purpose, are not invasive, and are ephemeral.

As I stated in June, the champion in this family is coyote bush. This is the promised piece featuring it alone. I take great pleasure in seeing the female plants (fuzzy-wuzzy, they’re called, due to the parachute attached to the clusters of seeds for wind dispersal) or, better, the quiet light yellow of the male plants, the color provided by pollen grains. My pleasure is more than just visual. Again, think insects.

**VOLUNTEER SPOTLIGHT**

Volunteer Spotlight
George Suter, the Quiet Man Behind the Scenes
by Linda Shaffer

George Suter and his wife Mary have been CNPS-YB chapter members for so long that George doesn’t remember when they joined. Like many members, they attend chapter programs and go on field trips. George also served on the chapter Board as Membership Chair for a short period before finally settling into a volunteer role few people know about (or understand!), but one that is absolutely critical.

Have you ever wondered how your chapter newsletter gets its individual mailing label? Libby Ingalls, now the chapter’s Newsletter Chair, and Linda Shaffer, long-time proofreader, knew George was responsible for this “miracle”, but not how it happens. So the two became intrepid Reporters-for-a-day, and visited George at his home, determined to go behind the scene.

Boy, were they enlightened and impressed! The computer-driven process, which takes HOURS, starts with getting access to the CNPS state organization’s current membership list for our chapter. Then that list has to be sorted in various ways. The names of individuals who get the newsletter electronically, new members, and those whose memberships have lapsed, must all be identified with special codes. There are also institutional and other special memberships to deal with. Finally, a master list of names and addresses for those who will receive the current edition in the mail is compiled, and welcome letters, renewal reminders, and mailing labels get printed.

The next step: George provides information about how many stamps will be needed, and then shows up at the quarterly “mailing party” with the letters and mailing labels, all ready to be used by the other stalwart volunteers who insert, fold, stamp, seal, and stack. All so you could get your personal copy of the *Yerba Buena News*. Finally, he sends an email to all those who have chosen to get their News electronically, giving them the link to the current edition. Whew!

So when you receive your newsletter, take a second to think “Thank you, George!”

PS. Signing up to receive the Newsletter electronically will still keep George busy, but will save trees, chapter funds, and volunteer time. Just send an email to yerba.buena.cnps.chapter@gmail.com with subject line Electronic News.
Super blooms were the rule, not the exception as spring spilled into summer and some well-timed May showers helped extend the blooms and may encourage some late-summer botanical fireworks. I’m hoping pink everlasting (Pseudognaphalium ramosissimum) goes crazy in August. On June 30th we put a stellar 2018-19 rain season to bed. 29.68" fell with January, February and March combining for a bit over 19" and May threw in 2.35", almost 10 times the second-best May (2015) in the last 6 years!!

Anyone familiar with our native California blackberry (Rubus ursinus) knows that, despite its smaller berry, the flavor is more luscious than the larger fat berry of the non-native Himalaya blackberry (R. armeniacus). It’s been my experience that the native has always been a shy bearer of fruit, at least in the cooler, wetter bog and saddle area. For some reason this season has brought forth profusely bearing canes of California blackberry—maybe that wet May? What a great time to get acquainted with this delicious and interesting plant.

California blackberry is a dewberry with biennial canes that are trailing, not erect or arching, that tip-layer to spread vegetatively by roots forming where the tip touches the ground. The cane is generally red with fine prickles up to 3 mm long. The prickles are not thorns, although the terms are often used interchangeably. Technically a thorn is a modified branch or stem and has a vascular supply. A prickle is comparable to a hair, only coarser from epidermal tissue and has no vascular bundle inside. The prickles of the California blackberry are very irritating, due to a chemical that makes you notice them, hours after they lodge in your skin. The leaf has 3 leaflets that are irregularly toothed. The inflorescence has 1-5 white flowers that are distinguished from other blackberries by their rather narrow petals. As is common with other Rubus species, the primal cane is vegetative the first year and reproductive the second year by producing floricanes. The sweet edible fruits, which require a constant source of moisture, are not usually prolific in the wild. One reason for this is that the canes are dioecious with male flowers and female flowers on separate canes and only the female cane bears fruit. Its genes were a key component in the development of the loganberry, youngberry, marionberry and boysenberry. As a secondary invader along with poison oak and coyote bush it can crowd out other plants and create impenetrable thickets.

Sensual entertainment in the form of cacophony rarely presents itself on quiet mornings, but occasionally it appears in spades. One memorable foggy morning inside the Crocker Gate I was greeted by a bunch of robins in distress. I immediately looked up to scan the branches of a eucalyptus tree searching for either an owl or hawk. After spotting the bird I waited for the head to move to identify it as a Red-tailed Hawk. I walked about 30 feet before turning around and raised my binoculars to see it and spotted a second hawk a few branches away. No wonder those robins were agitated! I turned and walked about another 30 yards and heard a pair of male Swainson’s Thrushes; one in the eucalyptus to my right and the other up the hill in some blackberries to my left singing in stereo. What a hoot I thought, and about 25 seconds later I heard the scream of a Red-shouldered Hawk up a Monterey cypress! Cacophony rarely gets any better than that.

Defending a nest is tough and daring work and perhaps no bird does it more courageously than a Robin. This became evident to me one morning while walking the Old Guadalupe Trail. A Steller’s Jay wandered a bit too close to a nest and was immediately engaged by the male. I watched as he chased the jay in an arc from my right to left through the branchlets and leaves of an acacia on the other side of the road. Four to five holy feathers suddenly appeared, floating in a breeze; a self-defense mechanism usually employed by the bird being chased, usually by a larger bird of prey. When the predator grabs the prey, the feathers are jettisoned leaving the predator with a foot full of feathers. They both reappeared in the same arc in the opposite direction and disappeared into the acacias on my side of the road. And lo and behold, there was a primary wing feather spinning perfectly vertically as it plunged toward earth. I had no idea whose feathers I saw (I presumed it was the jay’s) but it affirmed that the idea of wandering too close to a robin’s nest can extract quite a prize.

Lichens are extremely interesting organisms, and I use the plural not only to refer to the thousands of species but also to the multiple organisms that it takes to create a lichen. The body that is visible to our eyes is a fungus, which cannot produce its own food. It needs something to nourish it. A mushroom is the fruiting body of underground mycorrhizae that supply a vast network of tentacles to gather water and minerals to plant or tree roots in exchange for sugars. The fungus of a lichen is like the structure of a greenhouse and the algae or cyanobacteria are the plants that photosynthesize sugars from light. An amateur lichenologist recently discovered that a certain kind of yeast is the necessary glue to create a lichen. Teloschistes flavicans, Golden Hair-Lichen, is one of my favorites for its pure beauty. Many people confuse it with Usnea rubra, Red Old Man’s Beard. Teloschistes resembles an orange Brillo pad and can be found mid-brANCH, well below the tip. Red Old Man’s Beard is reddish-brown with longer, wispier tentacles that will stretch when it is moist.

Poison oak (PO) leaves are beginning to turn red which seems to signal the full swing of summer. This generally begins toward the end of June when the plant runs low on water. PO is a schizophrenic plant. Not only does it have urushiol, an irritating sap (Toxicodendron is Latin for poison tree), but it is wildly diverse in its form and leaves (diversilobum means differently lobed). Chlorophyll is the pigment that gives leaves their green color and enables them to perform photosynthesis. When the chlorophyll breaks down other pigments that are present take over. Anthocyanin gives leaves their red color, carotenoids their orange color, and xanthophylls their yellow color. Sometimes more than one pigment may be present in a leaf giving it a multicolor effect. After dropping its leaves, it just might put out new leaves in October or November during a warm spell especially after an autumn shower or two…. only to suddenly drop them again until breaking out for good in February or March. Of course, the birds love the berries, making poison oak the most widespread shrub-vine-tree in the West.

See you on the Mountain...
FOCUS ON RARITIES

The Mediterranean-Type Ecosystems, Part 1
by Michael Wood

Growing up in Southern California, I took for granted the ubiquitous chaparral and scrub habitats of the coastal and interior hillsides. It wasn’t until my college years that I began to appreciate the landscape surrounding me. I was recently reminded just how special these vegetation types are during a trip to explore of the fynbos of the Western Cape Province of South Africa. More about this amazing place later. First, I thought a brief primer of the Mediterranean-type ecosystems (MTEs) might be of interest.

The so-called Mediterranean climate is characterized by mild winters and warm, dry summers. About 90% of the precipitation falls during six months from late fall to early spring. There are five regions of the world that exhibit this type of climate. These include the Mediterranean Basin; Chile; California and the Baja California Peninsula in Mexico; the Western Cape of South Africa, and southern Australia. The Mediterranean climate is thought to have appeared during the middle Miocene Age (around 14 mya). Although annual precipitation is substantially higher than what might fall in deserts (20 inches per year versus less than 10 inches per year), the complete lack of rainfall for as long as eight consecutive months has exerted a profound evolutionary effect on the plants and animals that inhabit the MTEs.

The vegetation of the five MTEs consist of dense thickets of evergreen shrubs and small trees and occur in proximity to their respective coasts. In California and southern Portugal, it is known as chaparral. It is called matorral in Chile. In the Mediterranean Basin it is collectively known as garigue but has local names such as tomillares (southern Spain), maquis (France), macchia or gariga (Italy), phrygana (Greece), and batha (Israel). In South Africa, this vegetation type is known as fynbos and the Australians call theirs mallee or simply “bush”. Two MTEs evolved on continents that were once part of the supercontinent Laurasia. The present-day land masses that are derived from Laurasia include Europe (excluding the Balkans), Asia (excluding India) and North America. The remaining three MTEs evolved on continents that were once part of the other supercontinent, Gondwana. The present-day land masses that are derived from Gondwana include Africa, Australia, South America, India and Antarctica. Once part of a single land mass called Pangaea, Gondwana and Laurasia split apart between 215 to 175 mya (in the late Triassic period).

Each MTE supports vegetation exhibiting similar physiognomic and physiological characteristics. One of the defining characteristics exhibited by the vegetation found in these geographically removed regions is sclerophyll. Sclerophyllous plants have physical features that conserve moisture within their tissues, adaptations evolved in response to water stress. These features include hard, lignified leaves to prevent wilting and resist heat damage of the chloroplasts (the cells that perform photosynthesis); reduced leaf surface area; leaves with an oblique orientation on the stem to reduce insolation (exposure to the sun’s rays); and leaves with a reduced internode length, making them look congested on the stem, a trait that reduces moisture loss into the ambient air. Other features include a reduced number of stomata (the pores in leaves that permit gas exchange necessary for photosynthesis); location of stomata only on the lower leaf surface; leaves with a thick, waxy cuticle; and the loss of leaves entirely, having photosynthetic stems.

So, what are the geophysical features responsible for this so-called Mediterranean climate? Each of the five MTEs occurs between 30 and 40 degrees latitude on in the Northern and Southern Hemispheres, where freezing temperatures are not usual. The primary environmental driver that maintains this climatic condition is a cold water oceanic current flowing from the polar region along a warm continental edge. These currents are California Current off California, the Humboldt Current off Chile, the Canary Current that flows across the mouth of the Mediterranean Sea, the Benguela Current off South Africa, and the Western Australia Current off coast of Perth. Geology is perhaps the second most critical evolutionary factor that resulted in the creation of this ecosystem. Soils are typically thin, poorly developed and nutrient-poor. They can be acidic or alkaline, siliceous or calcareous. They are also highly prone to erosion. The third most important factor is topography. All five regions exhibit diverse topography with low mountains and valleys running parallel to the coastline.

With the exception of Chile, fire has exerted a strong evolutionary force on MTEs. Given the extended hot, dry summers, it’s not surprising. Taking humans out of the equation for the moment, a common, natural source of ignition is lightning (which often occurs without precipitation). And not only have plant species in the MTEs evolved “strategies” for surviving fire, a great many actually depend on it for regeneration. Methods of avoiding or surviving fire include thick bark (a trait found in our coast and Sequoia redwoods), the ability to sprout from lignotubers (a woody swelling of the root crown with a concentration of buds that sprout after fire), and by retreating underground during the hot summer months (a trait exhibited by geophytes, or plants that produce bulbs, corms, rhizomes, or tubers). Another important means of regenerating after fire is the production of long-lived, heat resistant seeds that accumulate in the soil in what is known as a “seed bank”. The germination of such seeds is then triggered by the heat of a fire, the removal of the old canopy, and/or contact with certain chemicals that enter the soil when the first rains leach through the ash. Finally, some plants produce seeds protected inside closed, hard, woody cones that remain on the plant for years and are triggered to open by the heat of a fire.

Despite the similar climatic conditions shared by the five MTEs, there are notable distinctions. For example, the dry season is the most extreme in California and Chile, which may receive no precipitation for as many as eight consecutive months, while those MTEs in Australia and South Africa have dry seasons characterized by periodic light rains and higher humidity. In terms of natural fire, the MTE of Chile is a notable exception to the importance of fire in shaping the vegetation. The landscape of central Chile is not subjected to lightning storms during the dry season and fire does not appear to have played a significant role in the evolution of the native flora. At the opposite end of the spectrum, the fynbos of South Africa and Australia’s bush have a fire-return interval of as few as ten years. The fire-return interval in the Mediterranean Basin is 25-50 years and that of California’s chaparral is 40-60 years.

All of these conditions have resulted in the

(RARITIES continued on page 6)
HABITAT RESTORATION

Alemany 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@natureintheheights.org

Half Moon Bay State Beach
Various restoration. See website: http://www.pf.org

Herons' Head Park
Various opportunities at http://sfport.com/herons-head-park

Linda Mar Beach, Pacifica
Visit pacificabeachcoalition.org

Marin Headlands Native Plant Nursery
Various workdays and weekends. Contact (415) 561-3044 or volunteer@parksconservancy.org

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

McKinley Square Hillside
2nd Saturdays, 10am-12:30pm. Contact into@mckinleysquare.com

Mission Creek South Bank
Generally Saturday mornings. Contact Ginny Stearns for times. Call 415-552-4577 or ginnystearn@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.pacificaenvironmentalfamily.org

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

San Bruno Mountain
Guadalepe 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
Contact volunteer@parksconservancy.org or 415-561-3044

Save the Bay
Contact volunteers@savethebay.org

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
Contact Jake Sigg at jakesigg@earthlink.net

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

RARITIES (continued)

creation of highly distinctive ecosystems which, despite comprising only slightly more than 2% of the world’s land area, support around 50,000 plant species, 20% of the world’s total of 250,000 named species (Rundel and Cowling, 2013). Only lowland tropical rainforests exhibit higher regional species diversities. All of these five ecosystems are considered biodiversity hotspots based on their high degree of species diversity and endemism (for a discussion of endemism in the California flora see my articles in the chapter’s 2001 newsletters vol. 15, nos. 3 and 4). The origins of this diversity are complex and lead to a number of important questions relevant to understanding global patterns of species richness. To me, this is where things start to get really interesting. We’ll continue this primer to the Mediterranean-type ecosystems next time.

Literature Cited


Donate to Community Thrift. We clean up.

In terms of cash raised for the chapter, that is, amounting to over $1,100 last year. Thank you to all who have donated furniture, clothing, books, CDs, and housewares to Community Thrift at 623 Valencia St., and got a tax deduction by designating CNPS (Charity #152 on their list) as the beneficiary of the non-profit’s revenue sharing plan. The donation door around the corner on Sycamore Alley is open from 10 - 5 daily. Please see their website www.communitythriftsf.org/donate/ for articles they cannot accept.
SIGN UP FOR CHAPTER EMAIL ALERTS!

There’s only so much information humans can cram into their cranium before a malfunction occurs. Why trust your grey matter to remember the next Yerba Buena chapter event when you could simply sign up for email alerts? Give your brain a break. Go to our website (cnps-yerbabuena.org) to join the mailing list, and we’ll send you reminders about every hike, plant sale, talk, and conservation action item.

AND WHILE YOU’RE AT IT – GO GREEN! switch to the electronic version of this newsletter! Help the chapter save on printing costs, AND WHILE YOU’RE AT IT – GO GREEN! switch to the electronic version of this newsletter! Help the chapter save on printing costs, and help the planet. Send an email to yerba.buena.cnps.chapter@gmail.com with the subject “e-news” and request the electronic version of the newsletter. Thank you!

VOLUNTEERS NEEDED

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 volunteers for the following jobs:

- **Garden Tour Spring 2020** - docents needed
- **Ecological Restoration** - volunteers needed at various public parks throughout the city for eradication of invasive species and habitat restoration, 2 or more hours per month, fun and a free exercise program
- **Hospitality Coordinator** - to help 2 hours per month at our monthly meetings
- **Social Media Event Coordinator** - to help with posting activities and events on social media websites

If you (and friends) are interested, please contact us through our chapter email: yerba.buena.cnps.chapter@gmail.com

Candidates for 2019 Chapter Election

President — Eddie Bartley
Vice President — Rowena Forest
Secretary — Bob Hall
Treasurer — Bob Hall

The election will be held at the October 3rd member meeting.

NO PLANT SALE THIS YEAR

The plant sale is on hiatus. We are hard at work on advocacy and biodiversity initiatives. Please support the plant sales at our partner organizations.

- **Mission Blue Nursery**  www.mountainwatch.org
  Native Plant Sale, starts at 9am, September 8th
- **Sutro Stewards**  www.sutrostewards.org
  Fall Native Plant Sale, date TBD.
- **CNPS Santa Clara Valley**  www.cnps-scv.org/events/plant-sale
  Fall Public Native Plant Sale October 19th.
- **CNPS East Bay**  https://nativeherenursery.org
  Open weekly for sales.

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.

OFFICERS & CONTACTS

President 
**Position vacant**
Vice President & Acting President 
Eddie Bartley 
eddie@naturetrip.com
Past President 
Gerry Knezевич 
gruicaknez@earthlink.com
Treasurer 
Bob Hall
bilgepump100@sbcglobal.net
Secretary 
Jacq Gamache
jackieshmackie@gmail.com
Chapter Council Delegate 
Eddie Bartley 
eddie@naturetrip.com
Conservation Chair 
Jake Sigg
jakesigg@earthlink.net
San Mateo County Conservation 
Mike Vasey
mvasey@sfsu.edu
Education Coordinator 
**Position vacant**
Field Trips Chair 
Noreen Weeden
noreen@naturetrip.com
Field Trips Coordinator 
Hannah Tokuno
hannahetokuno@gmail.com
Garden Tour Coordinator needed 
Hospitality Coordinators 
**Positions vacant**
Invasive Exotics 
Mark Heath
mark@shelterbeltbuilders.com
Legislation Chair 
Linda Shaffer
ljshaffer1@comcast.net
Lepidopterist 
Liam O’Brien
liamm56@yahoo.com
Membership Development 
**Position vacant**
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