

Edgewood

EXPLORER

FRIENDS OF EDGEWOOD • SUMMER 2024

Familias Unidas Comes to Edgewood

Story by Barrie Moore; photos by Barrie Moore, Laurie Alexander, Elisa Chavez

On Saturday, May 18, Friends of Edgewood partnered with the San Mateo County Parks Foundation (SMCPF) to host Familias Unidas, a local organization that empowers families to become engaged community members and help their children achieve academic success. The field trip to Edgewood was a reward for families who had completed a reading challenge this past month.

Most of the 50 participants had never been to Edgewood before, so it was a great opportunity for them to discover the preserve. Adriana Arriaga, Program Coordinator for SMCPF, organized the event.

After an ice-breaker where everyone shared their favorite books, we split up into small groups for docent-led hikes, which were conducted in both Spanish and English. We then met back at the picnic area for a delicious catered lunch of tacos and quesadillas.

The kids had been given backpacks filled with a magnifying glass, toy binoculars, a bug jar, and nature journal, all donated by Life Science Cares. It was pretty neat to see the observations and drawings they made on their hikes. The families seemed to have a great time. I think Max, age 8, summed it up best when he said, “Mom, can we do this again tomorrow?”

Special thanks to Sabra Abraham, Laurie Alexander, Caroline Bowker, Elisa Chavez, Emily Fawcett, and Carol Hankermeyer, who joined me to help lead hikes and welcome this wonderful group to Edgewood! ❖



2024 Docent Class Graduates

by Sandy Bernhard

With spring wildflowers each year comes a new crop of Edgewood docents. Should you meet them on the trails, please congratulate, welcome, and encourage the 11 graduates of our 2024 Docent Class: Betsy Althaus, Melisa Clarke, Martha Elderon, Nancy Enzminger (yes, that's our Ed Center Coordinator!), Larry Goity, Melissa Hero, Xochitl Lockwood, Bernelle Saperstein, David Saperstein, Allen Shah, and Alex Wentworth. Melisa is a high school sophomore and took the training accompanied by her delightful Danish grandmother, Dorthe.



Beginning in January, class members dedicated at least 16 hours of their time to evening classes and 32 hours to field hikes, plus many more hours preparing talking points, shadowing public wildflower hikes, and working with their mentors. Each one stepped up to the challenge and into the fun of becoming an FoE wildflower docent. We wish all our graduates many happy years sharing Edgewood's beauty and stories.

Without instructors, we would have no program. Heartfelt thanks go out to each member of our dedicated team: Kathy Korbholz (history), Paul Heiple (geology), Gina Barton (wildlife), Howie Smith (morphology), Rebecca

Reynolds (woodlands), Alf Fengler (grasslands), and Laurie Alexander (hikes with families). Joining the team this year was James Higbie, our new shrublands instructor. Each of our instructors is a Friends of Edgewood volunteer with years of experience in the preserve. How fortunate we are to have these dedicated folks in our community!

To find out how you can become a Wildflower Docent visit foew.org/become-a-docent or contact me, Sandy Bernhard, the training coordinator at docent-training-coord@friendsofedgewood.org. ❖



Fun was intertwined with learning when Friends of Edgewood celebrated **Earth Day** on Sunday, April 21. Outside the Ed Center, visitors young and old were encouraged to paint pots and then plant California poppy seeds. We had a display of 50+ disposable plastic water bottles that Caroline Bowker had picked up on the trails in Edgewood since the beginning of 2024. We encouraged visitors to use reusable water bottles instead of one-time-use plastic bottles. *Photos by Barrie Moore*

Student Examines Effects of Habitat on Tick Populations

by Michele W. Conway

Friends of Edgewood congratulates Samantha Poblano, a high school senior in the Marin Academy Research Collaborative. She conducted research in Edgewood Park and Natural Preserve investigating the effects of plant community composition on the number and species of ticks in an environment. Samantha won first place for 12th Grade Biological Sciences at the Golden Gate STEM Fair for her project, with special recognition by the Yerba Buena Native Plant Society and NOAA. She was competing against high school students from all over the Bay Area.

Tick-borne diseases are the most commonly reported vector-borne diseases in the U.S. (CDC 2019). According to Samantha's report, the relationship between ticks and their habitats is vital for comprehending and managing the risks associated with tick-borne diseases. Understanding how environmental variables influence tick presence will

improve knowledge of disease exposure risks and inform management practices in a variety of settings.

Samantha examined three different habitats in Edgewood: oak woodland, chaparral with woody shrub cover but no tree cover, and grassland with no shrub or tree cover. Ticks were collected at 12 different plots (four per habitat) on five occasions between Jan. 2 and Feb. 27 this year.



Ticks were collected using a one-meter square piece of white flannel fabric attached to a dowel, held parallel to the ground to maximize the amount of surface area available for ticks to grab.

Two species of disease-carrying ticks were identified and counted: *Dermacentor occidentalis* and *Ixodes pacificus*.

Data showed significant variation in the numbers of ticks in the three habitats. In Edgewood, the chaparral habitat hosted the most ticks of both species.

Friends of Edgewood volunteers Paul Heiple and Laurie Alexander assisted Samantha and her mentor, Dr. Tara Roth, who is a vector ecologist with the San Mateo County Vector Control District. Laurie said, "Paul and I walked with Tara and Samantha to help them better understand the plants and geology of the habitats where they did their tick counts."

Tara said, "Thank you for going out with us and telling us all about the plants and soils of Edgewood! This would not have been possible without you two." ❖



Above: Samantha Poblano (left) with Dr. Tara Roth doing tick research in Edgewood. *Photo by Barrie Moore*
At right: Taking a closer look. *Photos by Laurie Alexander*

Considering Seasonal Variation and Deciduous Trees

by Bruce Homer-Smith

Green leaves serve as a kind of solar panel for trees, capturing light energy and converting it into chemical energy that the tree can use to grow and thrive.

Types of Leaves

Climate affects what sort of leaf works best:

- Trees in consistently cold climates often use variations on pine needles, which have adapted strategies to avoid damage when water in them freezes (chemical antifreeze, placing water between cells, structural strength, waxy coating, etc.).
- Trees in moist, tropical climates grow large, broad leaves to collect as much light energy as possible, increasing their opportunity to thrive in a neighborhood of other fast-growing trees.
- Trees in areas of strong seasonal change, with a good growing season followed by a stressful season, often grow deciduous leaves. They grow leaves to collect energy when conditions are good, and drop them when seasonal conditions become difficult.

Only 18,000 years ago, during the last ice age, glaciers were carving out nearby Yosemite Valley. Conditions in Edgewood were consistently cold. The pine needle strategy of redwoods and firs worked well.

However, as our area warmed in the last 10,000 years, deciduous trees made a comeback. They dropped their leaves at the end of a growing season, when conditions in much of California became hot and dry, and grew them over again during winter rains, ready to support rapid growth in the spring quickening.

Edgewood now has eight trees and 22 shrubs that are deciduous. You can see them on the Edgewood Plant List on plantid.net/?PlantList=Edgewood+Preserve. Click on “More Searches” and “Deciduous.” Twenty-seven of our 30 deciduous plants are native, having evolved or immigrated here before humans arrived.

Although it is somewhat costly for a plant to grow and discard its leaves each year, it is not as inefficient as you might think. Prior to leaf loss, the plant reabsorbs nutrients such as nitrogen, phosphorus, magnesium and carbon compounds back to its main body. Perhaps 90% of the nutrients invested in growing the leaf are reabsorbed. The leaf skeletons that fall to the ground decay and many of the remaining nutrients are reabsorbed through the roots.



This blue oak leaf skeleton has its nutrients mostly removed. It's a California endemic. Photo © Wilde Legard [CC BY-NC-SA 3.0](https://creativecommons.org/licenses/by-nc-sa/3.0/)



Another California endemic, Valley Oak, grows new leaves during spring rains and lets them fall after the energy they've created has been used to produce acorns. After the last ice age, oaks expanded rapidly to become dominant trees in California. Photo © Zoya Akulova-Barlow [CC BY-NC 4.0](https://creativecommons.org/licenses/by-nc/4.0/)

Not all California oaks have adopted the deciduous strategy. Our seasonal swings are mild enough to allow a second approach – growing leathery leaves with good water retention, coupled with the ability to change leaf size depending on local water opportunities. Photo © Keir Morse [CC BY-NC-SA 3.0](https://creativecommons.org/licenses/by-nc-sa/3.0/)



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Deciduous Trees from page 4

North America, the Climatic Trumpet

Well-known scientist and historian Tim Flannery has a fascinating theory as to why North America has a higher percentage of deciduous plants than are found on any other continent.

This map shows that North America is a polar-dominated continent, very wide in the north and narrowing to a point when it gets to Central America. In winter, the vast Canadian land mass, which cools faster than surrounding water, creates huge amounts of very cold air which flows south, powered by its weight and variations in the jet stream. Canada and northern U.S. states get snow that stays on the ground throughout winter. Southern central states like Texas get hard freezes as cold air is funneled south by the Rocky and Appalachian Mountains. Other continents don't have our arctic-oriented wedge shape and north-south mountains.

In summer, tropical air surges in the opposite direction, creating seasonally warm temperatures and great growing conditions up into Canada. In addition, the Gulf Stream warms the East Coast up into Canada. Finally, summer monsoons create seasonal rains in many of our Southwest deserts. These big seasonal swings create great growing opportunities followed by times of stress – the situation that deciduous trees are best adapted to. There is a much higher percentage of deciduous trees and shrubs in North America than on any other continent.



Google Earth – North America shape and topography

Widespread deciduous forests create a special set of ecological niches for animals. For instance, squirrels thrive in our extensive deciduous oak forests, but are not widespread elsewhere in the world.

Want more? Check out Tim Flannery's *The Eternal Frontier*, my favorite book this year. ❖



TAKE A HIKE

2024 CHALLENGE

- Take a selfie or group photo at the designated photo spot.
- Win a prize if you complete 4 or more routes!

Must be completed by 10/31/24



Visit the website or scan the QR code for hiking routes, photo spots, or to register for a hike with San Mateo County Parks:
www.smcgov.org/parks/2024-take-hike-challenge

Getting the Right Seeds in the Right Place at the Right Time

by Michele W. Conway

Friends of Edgewood joined other environmental nonprofit organizations and businesses in a letter to Interior Secretary Debra Haaland and Bureau of Land Management Director Tracy Stone-Manning, thanking them for their leadership in promoting native plants in ecological restoration and land rehabilitation activities, and addressing the national native seed supply.

At the National Native Seed Virtual Conference in February of this year, Secretary Halland and Director Stone-Manning announced the National Seed Strategy Keystone Initiative for native seed development, collection, storage, propagation, and use. The initiative was based on the National Academies of Science, Engineering and Medicine 2023 final report on the Assessment of Native Seed Needs and the Capacity for Their Supply.

The report and initiative indicate there is a long and growing list of threats to plant communities – such as invasive species, overgrazing, climate change, extreme wildfires – that have collectively accelerated the deterioration of natural landscapes across the country. Native plant communities are the foundations of thriving ecosystems, delivering goods and services that regulate the environment and support life, provide food and shelter for a wide range of native animals, and embody a wealth of genetic information with many beneficial applications.

Friends of Edgewood knows that as plant populations are lost, so too are the ecosystem services the plants provide, increasing the risk of erosion, the establishment of non-native and invasive species, and additional ecological damage. Actions to conserve and restore native plant communities strengthen landscape resilience and ecosystem biodiversity. Restoring impaired ecosystems requires a supply of diverse native plant seeds that are well suited to the climates, soils, and other living species of the system.

At the native seed conference, Secretary Halland said, “A reliable, abundant, and diverse supply of native seeds is foundational to ensuring that the ecosystems we all cherish can thrive for current and future generations. The new initiative ... will help ensure we get the right seeds in the right place at the right time to restore our public lands and bolster climate resilience.”

Friends of Edgewood has long been involved in the removal of non-native plants in Edgewood. FoE began the Green Grass Initiative with the goal of restoring

Edgewood’s non-native grasslands to their former floral beauty and species diversity by reducing or eliminating weeds and promoting greater cover of native plants. Native seed mixes specifically matched to Edgewood locations have been purchased, hand-collected, and grown at Edgewood Farms which was begun to create more native seeds for future restoration efforts. (Read more about Green Grass at friendsofedgeswood.org/trail-tales-grassland-restoration.) FoE hopes to contribute to and benefit from the national native seed supply. ❖

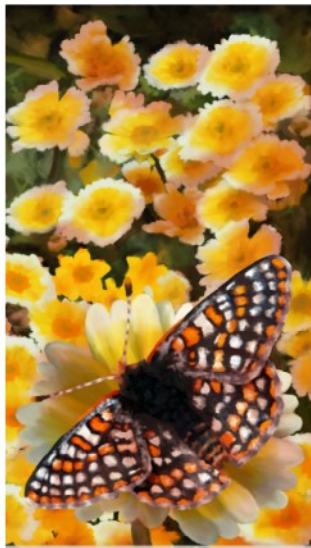


In May, this beautiful, lush crop of San Francisco collinsia bloomed in the Edgewood Farms beds behind the picnic area restrooms. As part of FoE’s Green Grass Initiative, seeds will be gathered for propagating next year. *Photo by Barrie Moore*

Sequoia Students Get Creative in Edgewood

by Barrie Moore

Sequoia High School civics teacher Jesse Bustos contacted Friends of Edgewood last September about potential volunteer opportunities for his students who are seniors this year. He had several students who were interested in working with nature-based organizations on a project that would combine community engagement and multi-media content creation.



Original digital artwork by Sequoia High School student, Evie Rosmando

Together we came up with a plan for Jesse and his students to take a guided hike in Edgewood. We discussed the importance of open space to our community, Edgewood's rich biodiversity, and ways of connecting people to the preserve. The students then worked independently to create content that Friends of Edgewood will share on our social media channels this summer.

The students I met were so engaged, professional, and talented; it was a delight to work with them! We hope to continue this partnership again next year. ❖



Sequoia High School teacher Jesse Bustos with students Jayla Thompson, Leslie Moreno, and Evie Rosmando on the Sylvan trail. Photo by Barrie Moore

Become a Friend of Edgewood!

JOIN or RENEW your membership ONLINE or by MAIL:

ONLINE: foew.org/donate

BY MAIL: Send this completed form with your donation amount circled to Friends of Edgewood, 3 Old Stage Coach Rd., Redwood City, CA 94062-3801.

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Please make me a Sustaining Member and charge my credit card \$_____ each month. (\$5 minimum)

EXPLORER newsletter preference: email mail

*Check if you wish to receive eligible thank you gifts:

6 Edgewood greeting cards for donations of \$100+

Plus 1 year of *Bay Nature* magazine for donations of \$150+

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Friends! A sustaining membership lets you make a monthly donation via your credit card and have a huge impact on programs like Project 467, free nature hikes, and more. Can you spare just \$5 or more per month to support Friends of Edgewood and the park we love?

Go to foew.org/donate and follow directions to become a sustaining member, or email us at mem@friendsofedgeswood.org and we will help you get set up.



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Friends of Edgewood

PRESERVE • EDUCATE • RESTORE

Friends of Edgewood Natural Preserve
3 Old Stage Coach Road
Redwood City, CA 94062-3801

ADDRESS SERVICE REQUESTED

Bill and Jean Lane Education Center at Edgewood Park and Natural Preserve

Open Wednesdays, 9:30 a.m. – 12:30 p.m. and
Saturdays and Sundays, 9:30 a.m. – 4 p.m.

To learn more about Friends of Edgewood, visit our website at foew.org, call us at 650-367-7576, or email us at info@friendsofedgeswood.org.



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Edgewood EXPLORER

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- When visiting Edgewood Park and Natural Preserve, please review trail maps, obey signs, and stay on approved trails.
- See friendsofedgewood.org to learn about our mission, find membership information, and discover volunteer opportunities.

UPCOMING EVENTS

Nature Tales

Story time for families with children ages 0-5
June 1, July 6, August 3 at 10:30–11:00 a.m.

Nature Hikes

See summer listings at [Eventbrite](https://www.eventbrite.com).

Volunteer Recognition Event

July 14, 3-5 p.m. in the picnic area
Save the date!

The Edgewood EXPLORER is published quarterly by Friends of Edgewood Natural Preserve, a nonprofit organization dedicated to preserving and restoring Edgewood and educating the public about its treasures. Friends of Edgewood Board of Directors: Laurie Alexander, Sandy Bernhard, Caroline Bowker, Junko Bryant, Elisa Chavez, Michele W. Conway, Nancy Enzminger, Peter Ingram (president), Bill Korbholz, Kathy Korbholz, Angela Mallett, Perry McCarty, Barrie Moore, Rebecca Reynolds, Matthew Tobin. The newsletter is edited by Michele W. Conway and supported by many friends.