

Edgewood

EXPLORER

FRIENDS OF EDGEWOOD • FALL 2023

FoE Outreach Brings Information, Smiles to Community

Friends of Edgewood made outreach to the community a priority in this 30th anniversary year. FoE volunteers staffed information tables at San Carlos Hometown Days, May 20-21, Redwood City's Fourth of July celebration, and San Mateo County Parks Foundation Summerfest at Coyote Point, Aug. 27.

Some visitors to the FoE tables at these events were familiar with Edgewood, hiking or running there often.

Some expressed interest in learning more about Friends of Edgewood and volunteer opportunities. Other visitors were not familiar with the park and preserve, and were pleased to learn about this treasure so close to home.

Kids were encouraged to color butterflies – a very popular activity! Families expressed special interest in the Ed Center, picnic area, and family hikes. Seed packets from Edgewood Farms were distributed. *continued on page 2*



Outreach *from page 1*

Cooperating with the San Mateo County Parks Foundation, FoE volunteers helped with Latino Conservation Week activities in Edgewood on July 15, welcoming 28 adult students from Upward Scholars. FoE docents led hikes, as did San Mateo County Parks interpretive rangers. One student said, "It was great because we don't always have or take the time to enjoy nature or experiences like these." Students commented that they were excited to return to the preserve with their families.

Special thanks to the FoE volunteers who helped staff the tables and lead hikes at these events, spreading the word in local communities about Friends of Edgewood and the park and preserve. ❖



Photos, page 1 top row: At Redwood City 4th of July: (left and right) FoE docent Kate Connors, by Kelly O'Connor; (center) by Laurie Alexander

Page 1 center photo: At Summerfest, by Barb Erny

Page 1 bottom row: (left) FoE board members Sandy Bernhard and Barrie Moore at San Carlos Hometown Days; (center) at Summerfest, by Barb Erny; butterflies at San Carlos Hometown Days, by Barrie Moore

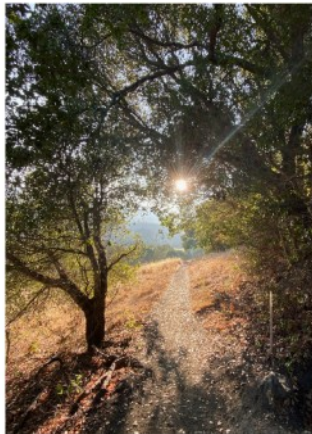
Page 2: At Latino Conservation Week: (top) participants in Edgewood; (right) FoE docent Deborah Anthonyson with hikers, both by Traci Nappi

Free 3rd Saturday Hikes
EDGEWOOD PARK & NATURAL PRESERVE

Changing Seasons Changing Climate



SATURDAY
16 SEPT.
2023



September marks the transition from summer to fall. Join Friends of Edgewood docents Saturday, Sept. 16, for a free guided hike where we will take a closer look at how plants adapt to the change in seasons and our ever-changing climate. This nature-themed hike will begin at the Sylvan trailhead in Edgewood Park and Natural Preserve. Reserve your spot on EventBrite. Space is limited! (<https://www.eventbrite.com/e/free-nature-hike-at-edgewood-park-and-natural-preserve-tickets-705541953977>)

Friends of Edgewood Annual General Meeting

We hope you will join us **Sunday, Oct. 8 from 3 to 5 p.m.** at the Friends of Edgewood picnic area for our 2023 General Meeting and 30th Anniversary Celebration in Edgewood Park and Natural Preserve. Thirty years marks **A Generation of Dedication!** We will both honor that legacy and look forward to future generations of support for Edgewood. There will be special guest speakers, refreshments, and a chance to catch up with friends.



HELP WANTED

Everyone Need Apply

by Kathy Korbholz

In this our 30th anniversary year, Friends of Edgewood is looking not only to the past but to the future. We want to enable our organization to continue serving Edgewood for the next 30 years. That means ensuring leadership continuity as well as developing new, younger, and more diverse leadership.

We are seeking willing volunteers to help share the work load of our program coordinators. Many of these coordinators have no back-up and could use extra hands. We hate to think what might happen if an FoE coordinator suddenly had to step down. We are asking for help, but this is not your traditional help-wanted plea, e.g. looking for one person to fill one job. To qualify, you don't need a graduate degree or years of prior experience.

Our coordinators are open to sharing roles and letting new folks try their hand at portions of the job. They are willing to orient you and allow you to shadow them while learning in order to help make a smooth transition. Perhaps you or someone you know could be that new helping hand. In this way we can lighten the load for our current leadership while developing our next generation of leaders.

These programs are most in need of a helping hand:

- 👤 **Membership Coordinator:** Keeps our member and volunteer databases up to date. Records membership and gift payments to FoE.
- 👤 **Volunteer Coordinator:** Includes recruiting, volunteer placement, onboarding, recognition, record keeping, and retention.
- 👤 **Enrichment Coordinator:** Schedules speakers and sets up in-person/Zoom sessions.
- 👤 **Trail Ambassador Coordinator:** Keeps Trail Ambassadors informed and transfers their individual field reports to our timekeeping system.

Don't be afraid to ask simple, informational questions to see if you are the right fit for any of these or other tasks. You can start by contacting me through our volunteer coordinator (vc@friendsofedgeswood.org). Please, seriously consider how you can help. If not you, suggest someone you think might be a perfect fit for one of these jobs. It feels good to be involved. ❖



Edgewood super bloom, Spring 2023

Photo by Kathy Korbholz

Springtime Wildflower Wrap Up

by Kathy Korbholz

In 2023, the twice normal rainfall after years of drought produced larger and more abundant flowering plants for our enjoyment. Some were so oversized, it was hard to recognize them at first glance. For many docents and visitors, it was their first time to experience Edgewood's version of a super bloom and perhaps see some shy flowers for the very first time. Also, some old floral friends, missing in action for so many drought-stressed years, came back to greet us.

Due to the soggy weather and squishy trails – even hail in one outing – we may have had fewer visitors this spring, but perhaps they were more engaged. In reading docent hike reports, it is clear that those who did venture out enjoyed the beautiful wildflower displays and learning the wildflowers' backstories from our docents. Rewarding visitor comments such as “I never knew there was such diversity here,” “We LOVE having a docent to educate us about things,” and “It is so wonderful what FoE is doing here,” make our collective efforts worthwhile.

The new docent class of 2023 joined us this year: Deborah Anthonyson, Steve Crawford, Vera Dadok, Ai Ching Lim, David Mendel, Kaushal Parekh, Sue Schmitt, Matthew Spotts, Holly Thomas, and Debbie Wright. (Ai Ching and Matthew are a parent-teen team. Help us spread the word that we encourage these partnerships!) They joined our current docents in leading nearly 100 springtime wildflower hikes to almost 500 visitors. In all, 37 different docents braved the weather and were rewarded with happy visitors and beautiful wildflowers displays.

Thanks to all who participated this year, making it another fantastic spring wildflower season for our visitors. ❖



Fire near PG&E substation. *Photo by Peter Ingram*



Fire in Korby Korner. *Photo by Kevin Torresdal*

Thanks to the immediate, effective fire-fighting response, the fire was contained to just 20 acres and got no closer than 100 feet from any homes. However, power outages affected 3,500 households extending from Hillsborough to Stanford University, which had to cancel its summer session for three days. Intermittent power surges and outages continued for weeks.

By June 26 mid-day, the fires were completely contained. CalFire is still investigating the cause, even after more than one year. Thankfully, no injuries were reported and the only effects on homes were from the aerial fire retardant and residual smoke.

continued on page 5

Solstice Fire One Year Later

by Bill Korbholz

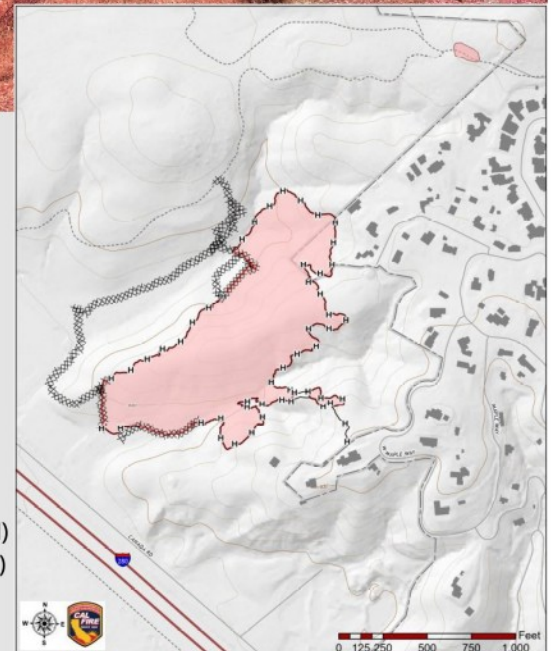
June 21, 2022, was a date that many of us will not soon forget. It was the summer solstice and it was a scorcher, in more ways than one. We were in a period of extended drought – well under half our normal rainfall for the year. And the temperature maxed out at 99.5 °F that afternoon.

Around 2:30 p.m., two separate fires broke out in Edgewood, almost simultaneously: one in the southeastern corner of the preserve that extended to the southeast into SFPUC property, and the other near the Sunset trailhead across from the PG&E substation in an area known as Korby Korner.

The fire started in grasslands, chaparral, and oak woodlands. With a light northerly breeze, its rate-of-spread was slow to moderate. Fortunately there were no significant fires in northern California at the time, so CalFire and local agencies were poised and available for action. They dispatched a large air tanker, six other tankers, three helicopters, and a lead plane over the fire, plus 10 fire engines and a bulldozer on the ground to create a fire break. The response was large because of the proximity of the fire to nearby houses. Mandatory evacuation was ordered for Edgewood Natural Preserve, Handley Rock Park, Emerald Hills, and parts of Woodside.



Above: Fire retardant and burned slope. *Photo by Peter Ingram*; The CalFire map shows the fire perimeter (pink) June 22, 2022, with hand (H) and dozer (X) lines completed.





Bulldozer track.
Photo by Laurie Alexander



ATV tracks east of PG&E substation.
Photo by Dan Krug

germination, both good and bad. As expected, the bare ground attracted weeds, especially Italian thistle (*Carduus pycnocephalus*) in the woodlands.

We were especially concerned about the colony of Western leatherwood (*Dirca occidentalis*), a 1B.2 ranked plant (rare, threatened, or endangered in California) along the eastern slopes. With relief, we have seen that many leatherwood plants

survived and are once again leafing out. The bulldozer tracks are no longer visible. Many of the shrubs and trees that were burned are stump-sprouting.

Paul Heiple happily reports that he has seen lots of germination of chaparral mallow (*Malacothamnus fasciculatus*) in the burn area and lots of peak rush-rose (*Crocantemum scoparium*) down the slope.

In general, the habitats are exhibiting remarkable resilience, showing good signs of recovery. ❖

Solstice Fire from page 4

How were Edgewood's habitats affected?

Because of the ambient heat and dryness, the fire killed a number of trees, shrubs, and grass plants throughout its footprint, in some places leaving nothing but gray ash covering the ground. And there was significant disturbance created by the bulldozer to the south fork of Laguna Creek and the slopes to the east of the Clarkia trail.

CalFire, San Mateo County Parks, PG&E, and Friends of Edgewood attempted to mitigate some of the environmental damage shortly after the fire. Trenches were dug to reduce erosion from rainfall downslope, and the altered part of the creek was restored somewhat. FoE volunteers collected bulbs along the bulldozer path for replanting. Netting was installed near the creek, and a sterile selection of an annual wheat (*Triticum sp.*) was planted to control erosion.

Where do we stand now after one year?

Thanks to the exceptionally heavy post-fire winter rains, there has been a lot of regeneration and new plant



Western leatherwood sprouts. Photo by Don Thomas



Hillside across from Clarkia trail right after the fire.
Photo by Barrie Moore



Same hillside one year later.
Photo by Bill Korbholz

Xylem and How It Works

by Bruce Homer-Smith

In Edgewood Natural Preserve, all of our flowers, grasses, trees, shrubs, and ferns are vascular plants. These beautiful, complex organisms are made possible by specialized cell systems that bring water and food to other cells. Water transportation cells, called xylem, free other cell systems to specialize, allowing for a more intricate and capable plant.

Read on to learn how xylem does its work.

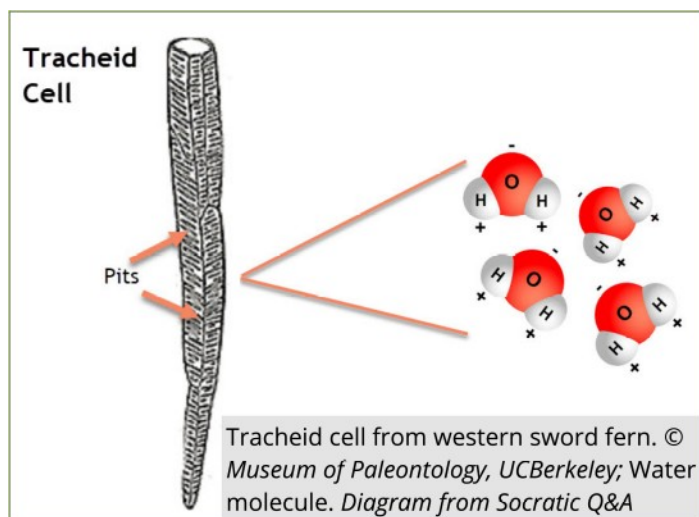
The Gymnosperms and Ferns

The first vascular plants started evolving about 400 million years ago. Before that, each living plant cell had to gather water and food for itself. Those plants mostly lived in water, where each cell could get its own supplies. Back then, most animals also lived in the water.

About 400 million years ago, some plants developed **tracheid cells** which had two useful characteristics. First, their walls were hard so they could be stacked like bricks, making it possible to build multi-cellular plants that could stand up from the ground. Second, they could hold water and transfer it through waterproof pores to adjacent cells.

At the time, tracheid cells were just one of many cell variations out there. In retrospect, however, tracheid cells turned out to be a big deal. Their water battery and stacking ability provided a key capability required for plants to move onto land and evolve into, for instance, the towering redwoods and delicate ferns we enjoy today.

Tracheid cells are tiny: thinner than a hair and about 1/100th of an inch long. You need a microscope to examine them. Here's a diagram:



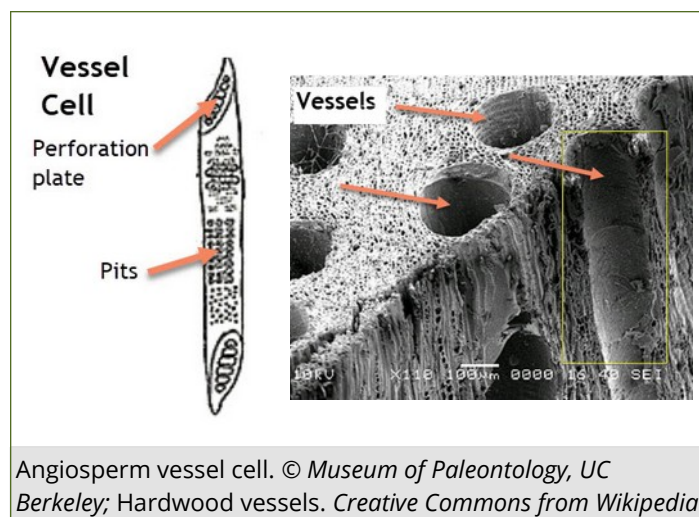
Tracheid cells, packed tightly together, are filled with water. The pits along their sides connect to those of adjacent tracheid cells, forming a many-celled water-holding battery called xylem.

Water molecules are really tiny, with 2×10^{22} in a teaspoon. (That's 20,000,000,000,000,000,000,000!) Each water molecule has a positive and a negative end. Since opposite charges attract, water molecules cling tightly together. This is what allows us to suck water up a straw. When we remove water at the top of the straw, all the water molecules cling to each other, drawing water from below up the straw. This is what happens in plants as well. As water evaporates and is used in photosynthesis higher up the plant, water gathered by the roots is sucked up to replace it.

With water supply taken care of, other cells can specialize. Stem cells allow plants to grow in new places, such as on land, generating buds and branches. Bark cells protect the stems. Leaves and needles gather sunlight and perform photosynthesis. These specialty cells are fed water by a xylem straw made of tracheid cells.

The Angiosperms

After roughly 300 million years, about 100 million years ago, cell specialization led to another fateful evolution. Some cell groups evolved into flowers that enhanced pollen exchange, replacing the naked seeds of pinecones and fern spores. The flowers attracted animals that helped with pollination, leading to specialized relationships. In this increasingly complex world, individual plants that could grow quickly prospered. Broad leaves produced more photosynthesis than needles, leading to faster growth. In broadleaf trees, a second type of xylem, **vessel cells**, evolved. Vessel cells were able to transfer water more quickly, allowing for faster growth. *continued on page 7*



Xylem from page 6

Vessel cells are wider than tracheid cells so they can pass water more efficiently. Also, each cell has perforation plates at its ends that allow vessel cells to line up like a straw, one above the other, allowing increased water flow. Increased water flow allows more photosynthesis, leading to faster growth, a competitive advantage in places with good growing conditions.

However, the vessel cell system has its limitations. The bigger straws require stronger cell walls and can be more easily damaged. Even though angiosperms took off like gangbusters, the oldest living and tallest trees today are from the more ancient gymnosperm lineage. Conifers, with their less efficient but more robust tracheid cell xylem, are better able to sustain themselves through hundreds of years of fires and other local disasters. Also, trees of the boreal north are conifers because they can withstand more stressful conditions.

Both tracheid cells and vessel cells are widely represented in the vascular plant kingdom today.

Sapwood – Xylem Services Even After Death

Xylem cells are created by cell division among living cells. However, as long as they maintain their waterproof integrity, xylem can still function as a straw even when its cells die. In trees, a good portion of the trunk, called sapwood, facilitates water transfer even though the cells are no longer living.



Coast redwood. Photo by Zoya Akulova-Barlow

It's interesting to me how some small adaptations can lead to overwhelmingly complex and beautiful results. For instance, the development of tracheid, vessel cells, and a few others led, over time, to vascular cell systems. These enabled a cascade of other cell adaptations, allowing plants to inhabit a wide variety of lands – including Edgewood Natural Preserve – around the world. ❖

Test Your Knowledge of Friends of Edgewood's 30-Year History

1. FoE's Adopt-A-Highway Program has enhanced views of the park and improved conditions for plants and animals by removing litter from the 1.7 mile portion of the I-280 roadside in the vicinity of the preserve since 1999 – 24 years! How many bags of trash were filled by the Edgewood Road Warriors in that time?
 - a) 1645
 - b) 3187
 - c) 5243
 - d) 8002
2. How many spring wildflower hikes have been led in the preserve since 1993?
 - a) 670
 - b) 1020
 - c) 1976
 - d) 2250
3. Edgewood is noted for its plant species diversity. How many taxa were listed for Edgewood as of July 23? (Hint: In January 1994, 440 were listed.)
 - a) 398 (some have gone extinct)
 - b) 467 (one per acre)
 - c) 509
 - d) 573

Our sharp-eyed TERTLES program is actively looking for more. Plus a pear tree was recently discovered by the Wednesday wildflower survey group.
4. Which two California state symbols have been added and can be found in Edgewood since it was declared a natural preserve in perpetuity in 1993?
 - a) Purple needle grass (2004)
 - b) Bald eagle(2014)
 - c) Red legged frog (2014)
 - d) Lace lichen (2015)
5. An early Explorer listed eight separate FoE programs/activities. How many does FoE have now?
 - a) 11
 - b) 20
 - c) 40
 - d) 60
6. How much money has Friends of Edgewood raised for support of its many projects in its 30-year history?
 - a) \$467,000
 - b) \$980,000
 - c) \$1,250,000
 - d) \$3,000,000

Quiz by Kathy Korbholz.
Answers on page 9.



FoE Volunteers Recognized at Summer Afternoon Fête

by Kathy Korbholz

We were blessed with a Goldilocks summer day for our annual Volunteer Recognition day July 23. Forty-four volunteers attended the late afternoon fête of wine, fruit, cheese, and delicious cookies baked by Nancy Enzminger. We asked those who had volunteered three years or less to put a butterfly sticker on their name tag. Thus identified, other guests could recognize them and be sure to welcome them to our volunteer community.

Peter Ingram, Friends of Edgewood president, welcomed the volunteers and did a quick recap of all the events celebrating our 30th anniversary as an organization. We scheduled these events to broaden our public exposure and to create more opportunities for volunteers to meet with each other. He thanked those present for their more than 13,000 volunteer hours in 2022 and for being on track to exceed 14,000 hours in 2023!

This welcome was followed by a fun trivia quiz that featured milestone achievements of many of our programs. Would you believe?

- FoE has added 276 docents to its ranks (since 1998 when FoE accepted responsibility for the program from CNPS) who collectively led 2250 wildflower hikes.
- Paul Heiple estimates our weed warriors have removed over 3 million yellow star-thistle plants.

- Our hosts have welcomed over 68,600 visitors to the Education Center.
- Our bluebird monitors counted 233 nests, 1044 eggs, and 751 fledglings.

Bill and Kathy Korbholz, who have been volunteering at Edgewood since before it was a named a preserve, were presented a beautiful, framed certificate of appreciation and interviewed by Barrie Moore. (See a video of the interview on YouTube: https://youtu.be/p_KZgbM7u3E).

continued on page 9



Volunteers Recognized *from page 8*

During the interview, Bill and Kathy mentioned they first discovered Edgewood as they were house hunting in the area. A chance encounter with volunteers planting needle grass plugs got them involved with the Save Edgewood Coalition. That group won the battle to keep Edgewood from becoming an 18-hole golf course.

One fun memory Kathy recalled was the dedication of the new bridge from the Edgewood outer parking lot. Bill and Kathy froze water from the stream below into ice cubes. Guests at the ceremony were given an ice cube and asked to make a wish as they dropped it into the stream.

When asked in the interview what they considered the highlight of FoE's restoration efforts, Bill responded: saving thornmint from extinction. Recall, thornmint went from a low of 249 plants in a single threatened location in the world to over 65,000 plants in multiple locations.

After the interview, all our volunteers arranged themselves in a large circle from newest to longest serving. Each person introduced the volunteer on their left and said the number of years that volunteer had worked for the benefit of Edgewood. The number of years tallied to 466 years! That equates to an average of over 10.5 years per volunteer.

As a thank you for all their hard work, attendees were given a commemorative 30th anniversary pin for their hat or lapel. ❖

Answers to 30-Year History Quiz *from page 7*

1.b) 3187, 2.d) 2250, 3.d) 573, 4.a) purple needle grass and d) lace lichen, 5.c) 40: 27 public-facing programs and 13 infrastructure, 6.c) \$1,250,000



Ringneck snake (*Diodophus punctatus*) in Edgewood in June.
Photo by Albert Downs

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.

\$25 \$50 \$100* \$150* 250* \$500* \$_____

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+

Name _____

Address _____

City/State/Zip _____

Email _____

Phone _____

Type of credit card: MasterCard Visa Discover

Name on card _____

Card number _____

CVC _____ Expires _____

Thank you for supporting the Friends of Edgewood.

Friends of Edgewood is a 501(c)3 nonprofit.

Donations are tax-deductible as allowed by law.

Switch to a Sustaining Membership Easier for you. Better for Edgewood.

Friends! A sustaining membership lets you make a monthly donation via your credit card and have a huge impact on programs like Project 467, Junior Explorers, 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.



Est. 1993

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.



www.instagram.com/friendsofedgeswood/



www.facebook.com/FOEdgewood/

Edgewood EXPLORER

FALL 2023 • VOLUME 30 NUMBER 3

IN THIS ISSUE

FoE Outreach to Community.....	1
Changing Seasons, Changing Climate Hike.....	2
Annual General Meeting	2
Help Wanted: Everyone Need Apply	3
Spring Wildflower Wrap Up.....	3
Solstice Fire One Year Later.....	4
Xylem and How It Works.....	6
Test Your Knowledge of FoE History.....	7
Volunteers Recognized at Summer Fête.....	8

- When visiting Edgewood Park and Natural Preserve, please review trail maps, obey signs, and stay on approved trails.
- Friends of Edgewood is celebrating its 30th year. See our website, foew.org, to learn about our mission, find membership information, and discover volunteer opportunities.
- Our annual general meeting is Oct. 8, 3–5 p.m. Details on page 2.



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, Michele W. Conway, Nancy Enzminger, Peter Ingram (president), Bill Korbholz, Kathy Korbholz, Linda Leong, Angela Mallett, Perry McCarty, Barrie Moore, Rebecca Reynolds, Matthew Tobin. The newsletter is edited by Michele W. Conway and supported by many friends.