FRIENDS OF EDGEWOOD NATURAL PRESERVE

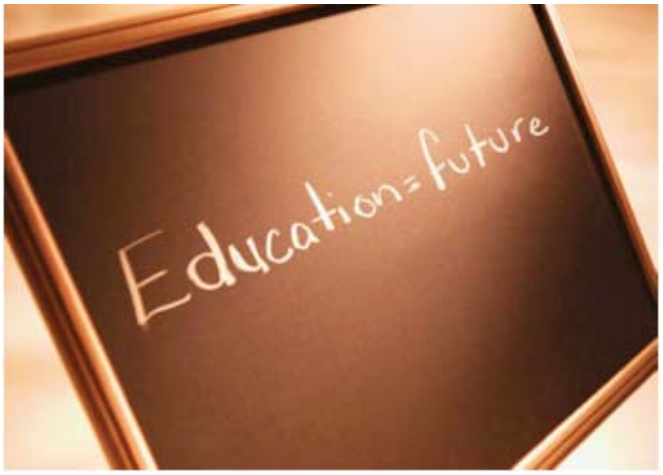
Edgewood Explorer

June 2012

Volume 19 Number 2

2012 Docents Graduate!

By Mary Wilson, Docent Training Coordinator



Friends of Edgewood's Docent Training Class graduated 13 new docents this year. We really appreciated the two San Mateo County Parks rangers who also attended the training class. In addition, docent training served as enrichment for one BJLEC host, one Weed Warrior, and one Americorps participant.

Please welcome our new docents on the trails: Nancy and John Baum, Penny Bennett, Celeste De Martini, Roger Humphrey, John King, Martin Manley, Ruth Norris, Laurel Shimer, Linda Smith, Peggy Smullin, Jack Stovel and Trina Warren. The rangers who attended were Dinora Dunsmore-Bertoni and Greg Escoto. The BJLEC host, the Weed Warrior, and the Americorps participant who attended were, in order, Ellen Wang, Paul Dixon, and Shira Tiffany.

Thanks are also due to our trainers Toni Corelli, Ty Freiberg, Paul Heiple, Mary Wilson, and, especially to Alf Fengler who substituted for John Allen and Ken Himes.

This was an interesting and talented class. It was a great pleasure to get to know them all!

Education Center Visitors

Time Period	Adults	Children	TOTAL
Apr '11 - Mar '12 **(Inaugural Year)**	7474	2363	9837
Apr '12 - May '12	1788	538	2326

Take a Hike!

San Mateo County's Take a Hike is scheduled at Edgewood on June 16, 9 AM, (note earlier start) after which we will return to monthly interpretive walks on the third Saturday of the month. Interpretive Walks begin at the Education Center at 10:00 AM and end around 1:00 PM.

I go to nature to be soothed and healed, and to have my senses put in order. ~ John Burroughs

IN THIS EXPLORER...

Bluebird Summer

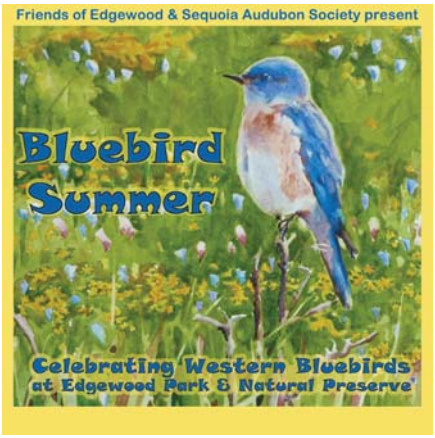
by Laurie Alexander

Why is a Bluebird not a blue bird? Do Western Bluebirds "cheat" on their nesting partner? How do invasive, exotic plants impact a Western Bluebird's ability to raise a family?

Find out! Friends of Edgewood, with the support of Sequoia Audubon Society, presents Bluebird Summer, A Celebration of Western Bluebirds at Edgewood County Park and Natural Preserve. The events are intended to educate and enthuse the public about lovely, fascinating Western Bluebirds, illustrate habitat loss issues and how people can make a difference, inspire visitors to take individual action or support organizations that help not only Western Bluebirds but also other local species. In particular, we'll show how the habitat restoration programs at Edgewood improve the habitat for Western Bluebirds, as well as the endangered Bay checkerspot butterfly and other species.

Public events include a family-oriented, hands-on "Bluebird Discovery Day", July 22, 10 am to 2 pm; a "Bluebird Celebration" for pre-schoolers, June 28 at 3 pm or July 14 at 10 am; and bird walks, led by Sequoia Audubon Society members, on the serpentine grassland trails at Edgewood. Docent-level events (for birders and other naturalists who want to volunteer for Bluebird Summer activities) include a Bluebird Discovery Workshop on June 16, 4 pm to 7 pm, and a Bluebird walk.

Learn more: www.friendsofedgewood.org/bluebird-summer; also see http://friendsofedgewood.org/wp/wp-content/uploads/2008-03.pdf
Want to make this YOUR Bluebird Summer? Get involved in making these fun and educational events happen: www.friendsofedgewood.org/get-involved-with-bluebird-summer



"Western Bluebird" by Trevlyn Williams, Watercolor © 2011 www.trevlynwilliams.com

Many thanks to Frances Morse and Cynthia Lockhart for developing this program, along with Laurie Alexander. Also, Lee Franks recently donated several bird books to the Ed Center library, including species accounts from the American Ornithologists' Union's "Birds of North America" series that cover many of the birds, especially cavity nesters, that flourish at Edgewood. Friends of Edgewood and other interested birders are welcome to peruse these informative articles inside the Education Center when it is open - just contact the host on duty.

© Laurie Alexander

Left: BJLEC visitor Arina Vetrova gets a kick out of interacting with one of the new puppets.

The Nostalgic Honeysuckle

by Mary Anne Leary


© Alf Fengler

The beautiful Hairy Honeysuckle, *Lonicera hispidula*, graces the riparian and woodland areas of Edgewood Preserve with its white- and pink-colored flowers during the months of May and June. One may be tricked into thinking that the flowers will be fragrant since the blooms of garden variety honeysuckles have a lovely scent. The flower of the native species does not have a fragrance; however, the interesting gesture of the flower with its irregular shaped petals, and later in the season, the appearance of the bright red cluster of berries, do add to the plant's allure. Perhaps insects would beg to differ in terms of whether the flowers have a fragrance!

The plant is a deciduous vine that often takes the form of a shrub or twines its way around plants or structures that are close by. As its name implies, the leaves have bristly hairs, as do the flowers and stem of the plant. It is thought that the plant is deer-resistant, which is good to know by those who have a native plant garden. Hairy Honeysuckle, however, does attract birds, hummingbirds, and butterflies.

Hairy Honeysuckle is found from British Columbia to southwest California. There are many species of Honeysuckle with most being native to China. There are far fewer species of Honeysuckle in Europe and in the states. The Hairy Honeysuckle is also commonly called Pink or California Honeysuckle.

The berries have a bitter taste and, as Toni Corelli states in her book, *Flowering Plants of Edgewood Natural Preserve*, they are not edible by humans. Some species of Honeysuckle with edible blue-colored berries are being studied for their phenol content and its effect upon certain disease states.

The stems of the Honeysuckle are hollow and sturdy and were used by the Pomo, Kashaya, and other native peoples as smoking pipes. The native tribes also burned Honeysuckle wood, using the ashes to make a paste for tattooing.

Interestingly, Honeysuckle deals with nostalgia and living in the past. Although it is important for us to look back in our lives in order to learn from our experiences, it is also important to integrate the wisdom of those experiences and focus on living in the present. When we are in a dream-like state yearning for past circumstances or relationships, we fail to fully engage in the present and live our lives to the fullest. The Honeysuckle flower essence helps the individual to learn how to face the difficulty of life's challenges so we do not need to dwell upon happier times from the past or reminisce about times that in retrospect are remembered as being more desirable. When one can embrace the importance of learning from life's lessons and how to purposefully move forward in life, then one can experience the freedom of living in the present while also looking forward to the future.

Often people who dwell in the past are easily influenced by others since they are not focused upon living in the here and now. Their minds are so preoccupied that they are not aware that they aren't paying attention in current time. Breaking the emotional attachment to the past requires developing the capacity for change and the ability to establish new connections. Symbolically, the story of Lot's wife from the book of Genesis in the Old Testament reveals the Honeysuckle state of mind. Though told not to look back to the past so she could concentrate her energies upon the escape from Sodom, Lot's wife could not resist the lure of turning back and was thus turned into a pillar of salt. Though it is highly unlikely such a fate would await any of us, we can use the lesson of Honeysuckle and of Lot's wife to remind us to live with a healthy relationship with the past, learning from life's lessons, and creating anew for a rewarding present and promising future.

References:

- *Flower Essence Repertory,* Patricia Kaminski and Richard Katz
- *The Healing Herbs of Edward Bach,* Julian & Martine Barnard
- *Phenolic profile of edible honeysuckle berries (genus lonicera) and their biological effects.* PubMed.com http://www.ncbi.nlm.nih.gov/pubmed/22269864
- *Goodrich, Jennie and Claudia Lawson 1980 Kashaya Pomo Plants. Los Angeles. American Indian Studies Center, University of California, Los Angeles*

Nature News Nuggets

¶ *Horsetail Jumpers and Ferny Flingers*

By Carolyn J. Strange

Most plants may be stuck in one place, but many compensate for their sedentary life sentence with considerable engineering feats that equip their progeny to disperse. Some designs are extremely tiny, ultra-fast, and very old.

Several hundred million years ago, horsetails were a diverse plant group that dominated the forest understory. Some species reached tree-size. Now, the horsetail family (Equisetacae) is alone in its class and contains only one surviving genus (Equisetum) of about twenty species. Members of this familiar living fossil family still grow in wet soils worldwide, including Edgewood. They reproduce via spores having strong wanderlust — spores that take "walks" and jump.

Spores are microscopic spheres, about half the diameter of a human hair. Predominant forces operating at that scale tend to cause the spores to stick to things—to each other and to everything else. However, four ribbon-like, twirled appendages, called elaters, extend from one place on the tiny sphere, and they work like moisture-sensitive springs. In wet conditions these arms curl around the spore. When humidity drops, the arms unfurl. Botanists have long assumed that deployed elaters help the spores float away on breezes. (Just as "elation" describes lifted spirits, the elaters lift the spores.) Recent research reveals the ancient spores to be much more fascinating than passive floaters that sit around waiting for a ride.

Time-lapse photography of the spores under repeated cycles of dryness and humidity showed them moving around. With each wet/dry cycle (each elater-deployment cycle) spores take a step about the same size as themselves and in a different direction. Such movement, known as a random walk, achieves more than just flailing around the starting point; it's possible to cover some distance.

But horsetail spores can do even better. Sometimes, a humidity change causes some spores to high-jump, launching themselves at about a meter per second, and traveling centimeter distances—orders of magnitude more than their size. Apparently the elaters somehow alter the grip on the ground while storing elastic energy as the arms change shape with changing humidity. When that grip gives way, the spores spring aloft. Researchers say the ancient spores might also provide inspiration for designing new "motile elastic structures."

Nearby in the woodland, some ferns fling their spores with ingenious catapults. Science has understood the basic mechanism for some time, and fern-inspired engineers have even created tiny evaporation-powered motors. But high-speed photography has recently revealed more details.

Human-devised catapults store tension or potential energy (say, by winding rope around a fulcrum). Rapidly releasing that energy causes a lever-arm, carrying the payload, to rotate rapidly up through the air. As the lever-arm reaches an approximately vertical position, it strikes a fixed crossbeam that stops the rotation, thus launching the payload. With no ropes or crossbeams, ferns manage a similar feat hydro-mechanically.

The capsule that produces and contains spores, the sporangium, includes a rib-like partial ring of about a dozen specialized cells, called the annulus, which acts as the lever-arm. (The nubbins, or sori, that you see on the undersides of fern leaflets are clusters of sporangia.) Annulus cells are asymmetric, having thinner cell walls on the outside of the sporangium. As water evaporates to the outside through these thin walls, the annulus bends strongly outward, pulling the sporangium open, and storing elastic energy.

The thicker inner cell walls resist collapse as evaporation continues, and dropping intracellular water pressure eventually causes cavitation bubbles to form within annulus cells. As the bubbles push the thin cell wall back outward, restoring cell shape, the prior annulus shape also returns but in two steps. The first recoil step is rapid with an abrupt pause partway that, like a crossbeam, hurls the spores away. Then the sporangium regains its closed shape.

Even if we had a thousand words to explain it, the cavitation catapult is still worth a picture. Check out this 4-minute video <http://tinyurl.com/8778bop> so you can better appreciate the awesome ballistic expertise of some ferns.✳

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http://www.sciencenews.org/view/generic/id/338945/title/Plants_reproductive_weaponry_unfurled
http://en.wikipedia.org/wiki/Cavitation

Photo of Spore-bearing strobilus: http://en.wikipedia.org/wiki/Equisetum_telmateia

Bay Checkerspot Butterfly Reintroductions Suggest Positive Results

By Christal Niederer



Photos: Edgewood's 2012 Bay checkerspot butterfly release © Laurie Alexander

Things are looking up for the Bay checkerspot population at Edgewood.

Checkerspot monitors have seen 333 checkerspots this season compared to just 129 in 2011 and only 13 in 2007. Although this winter was dry, the weather remained cool, and the checkerspot's host plant, dwarf plantain, stayed plentiful and fresh. The checkerspots flew about two weeks longer this year compared to last year. All of this is very good news for the checkerspots as it increases likelihood that a high percentage of the new generation of larvae will grow large enough to enter diapause before the dwarf plantain dries out. One negative sign, however, is that there is much less owl's clover this year (i.e., checkerspots' second-favorite food), which remains fresh longer into the season. We will monitor larvae next year to get a feel for how many survived the hot, dry summer in diapause.

Efforts to restore the last remaining population of Bay checkerspot butterflies have been in place since the butterflies suffered a local extinction in 2002 due to a decrease in dwarf plantain. Ecologist Dr. Stuart B. Weiss dubbed what happened to the Bay checkerspot butterfly as "drive-by extinction" when his research showed how exhaust fumes (nitrous oxides and ammonia) from cars driving by on Interstate 280 act to fertilize the grasslands. The fertilizer boost given to the non-native grasses, which do not normally grow well in Edgewood's nutrient-poor serpentine soils, allows them to outcompete the native wildflowers. In time, the wildflowers were reduced to such small numbers that they no longer supported the rare butterfly.

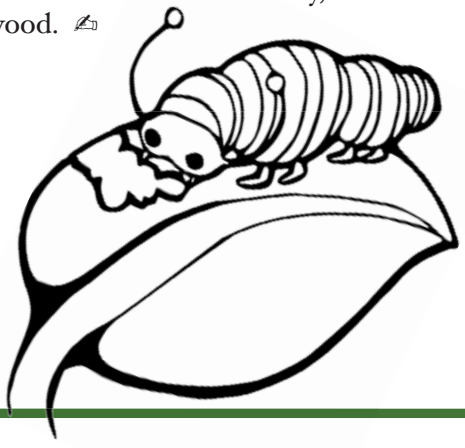
Habitat is being restored through a rotational mowing program, and checkerspot host plant and nectar sources are abundant in the area once again. With adequate habitat in place, the US Fish and Wildlife Service granted a permit to transfer butterflies, in both the caterpillar and adult forms, from a healthy population at Coyote Ridge in south San Jose to 15 acres of prime habitat at Edgewood.

"An added benefit of the restoration is that the native carpets of wildflowers have been restored," said Ranger John Trewin. "We ask people to stay on trails to protect the sensitive habitat[,] but the views from those trails are spectacular. One day when the butterfly population multiplies and has a chance to reestablish itself over the next few seasons, visitors may be able to see adult butterflies fluttering about."

An early effort to reestablish the Bay checkerspot butterfly population in 2007 was not successful due to very dry weather conditions that year and a small number of transferred caterpillars. Through the setback, mowing continued to keep the site ready for the eventual butterflies' homecoming. In February 2011, more than 4,000 caterpillars were introduced to Edgewood. About 2,000 caterpillars, offspring of the resultant butterflies, were noted this winter (i.e., early 2012). To further the odds of firmly reestablishing this unique species in the Preserve, another 4,852 caterpillars were introduced February 2012.

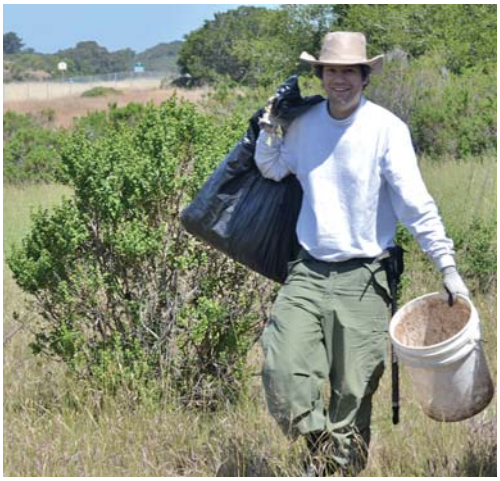
Butterflies judge habitat quality by the presence of others. They need a critical mass to settle down and develop a sedentary tendency. Introducing too few butterflies may increase the likelihood that they will fly away looking for other individuals.

Partners of the San Mateo County Parks, the organization leading the reintroduction effort, include: Creekside Center for Earth Observation, San Mateo County Parks Foundation, United States Fish and Wildlife Service, Pacific Gas & Electric Company, the Jiji Foundation, Microsoft, the California Native Plant Society, and the Friends of Edgewood. ✍



Meet a Friend - Drew Shell

by Linda Leong, Newsletter Editor



© Linda Leong

One warm, sunny, Saturday morning, I trekked along the Edgewood Trail from near Canada Road toward the West Kiosk where I hoped to learn where I could meet up with the leader of Edgewood's Weed Warriors, Drew Shell. Luckily, the location selected for the day's weeding event was the Yampah Meadow, immediately adjacent to the West Kiosk. Nearby, I spied Drew discussing weeding activities with a fellow weeder (FoE board member Cynthia Schreurs), and I slowly made my way over to them to see if I could interview Drew for this article while he worked. Graciously, he accommodated me by quickly assessing the nearby field and determining that he could work on pulling out specimens of prickly sow thistle in a relatively compact area so that I could interview him without having to move too far. Following is just a brief glimpse into the life of Edgewood's "Best Friend of 2009."

How did you learn about Edgewood Natural Preserve? "In the late 1990s, my partner Julie and I began exploring local parks on weekends for recreation, often learning about edible or useful plants but not really focusing on natives or ecology. As we looked around, we noticed certain places that just did not seem right… we couldn't say why, but they seemed 'out of whack' with the surroundings. A neighbor introduced us to Edgewood Park, and eventually the weeding program. Various people I met through my visits to Edgewood showed me how I could learn more on my own. That is, they gave me the tools and introduced me to numerous resources that have allowed me to continue to learn and grow through much reading and self-teaching. It was through these efforts that I became acutely aware of the negative impacts of invasive plants on native species and began to understand that this was a major reason why some areas looked so unnatural."

How long have you been a Friend of Edgewood? "I joined Friends of Edgewood around 2004 or 2005. However, beginning around 2000, I became a Weed Warrior and had the good fortune to meet Ken Himes, Weed Warrior extraordinaire, and from there I became intensely involved with the California Native Plant Society (CNPS), one of Edgewood's major partners in its conservation activities."

What are the benefits of being a Friend? "I've never been a joiner; I've always been a doer. I want to find ways to help. Being a Friend of Edgewood has allowed me to better cultivate more doers. Soon after joining the weeders, I saw a need for more and better outreach. Not only am I interested in recruiting new and more Weed Warriors over time (to address ongoing attrition), but I'm also passionate about the idea of conservation and think it is important to educate as many people as possible and to encourage them to get involved as well, in whatever way is appropriate for them. As more people get to know us and begin to understand the importance of our efforts, we will be able to share the magic of Edgewood and, hopefully, this will provide them with a path/desire to learn more and/or to do more, perhaps by joining a docent walk or participating in an Adopt-a-Highway cleanup."

In what ways do you support Friends of Edgewood (FoE)? "My employer, Microsoft, offers an unprecedented Employer Match program whereby it will match an employee's donations to qualified charitable organizations, up to $12,000 per year! In addition, 4 to 5 years ago, Microsoft also began to match volunteer hours at a rate of $17 per hour donated. The process for the donation matching program is almost entirely computerized/automated. After an organization has been properly vetted, the employee only needs to enter his/her donations and number of hours, and periodically (e.g., quarterly) Microsoft sends a check to the organization - it's that simple!" Recently, Microsoft matched Drew's 2011 FoE membership renewal of $100 and also gave FoE $1,717 for Drew's 101 hours of FoE volunteer time in 2011. Amazing when you consider that Drew actively donates his time to 4 to 6 organizations each year! Since CNPS and Edgewood activities overlap, Drew has had to develop a personal guideline - he credits all field activities/hours to CNPS; he credits most non-field activities (e.g., website, flyers, planning) to the Friends of Edgewood. Thanks, Drew!

(continued on p. 7)

(continued from p. 6)

What do you find "special" about Edgewood Park? "It's an amazingly diverse and beautiful place. In a span of just a couple days in May I found two new native species inside the park. The park is "energizing". It's wonderful to see people recognize its wonder and magic and then to have them work to further spread the message.

One of the unique benefits of being a Weed Warrior is the frequent opportunity to stumble upon some amazing scenes in nature. Recently, I was able to capture a photo of a young fawn that had been hidden beneath a shrub while it's mother foraged for food during the day. After snapping my photo, we quietly moved the group to another area so as not to disturb the fawn."

♥♥♥♥♥♥♥

"Drew is not only a tireless volunteer, but he brings his gift of strategic planning to the weeding and restoration programs. Successful programs require diligent followup and commitment over several years. Drew is always focused on making sure we use our time as effectively as possible." ~ Christal Niederer

© Drew Shell

Editor's Note: The **Edgewood Weed Warriors operate under a permit** issued to the California Native Plant Society. They meet regularly to remove invasive plants at Edgewood, thereby allowing for greater biodiversity, natural habitats, and those beautiful wildflower displays that everyone enjoys.

Did you know?

Friend of Edgewood Ellen Wang is not only an Ed Center host, but she also visits monthly to compile visitor and sales statistics for the Ed Center. Volunteers like Ellen, who handle necessary, ongoing tasks, help keep Friends of Edgewood a responsible, viable organization. Thanks Ellen!

Do you have a skill you can offer on a regular basis? Let us know by filling out the form below. You can mail it to the address on Page 8 or simply drop it off at the BJLEC.

MEMBERSHIP DUES

New or renewing members may clip and complete this section to pay tax-deductible annual membership dues. Please send your check, payable to Friends of Edgewood Natural Preserve, to the return address on the back of this panel. Renewing members can determine their membership expiration date by checking the six-digit code to the right of their name on the mailing label. For example, if the code is 06/2011, membership runs through June 2011.

Questions? Lv msg at (866) GO-EDGEWOOD (866.463.3439) or contact membership-coordinator@friendsofedgewood.org

Name:

Address:

City/State/ZIP:

Day Phone: ( ) -

Eve. Phone: ( ) -

Email:

- ❑ **$10 Student/Retired** (includes quarterly newsletter)
- ❑ **$25 Friend** (newsletter)
- ❑ **$50 Advocate** (newsletter, set of 6 Edgewood greeting cards)
- ❑ **$75 Supporter** (newsletter plus choose one)
  - ❑ Set of 6 Edgewood greeting cards and 1-year subscription to *Bay Nature* magazine
  - ❑ Toni Corelli's *Flowering Plants of Edgewood Natural Preserve*
- ❑ **$100 Steward** or ❑ **$250 Guardian** (newsletter, set of 6 Edgewood greeting cards, plus choose one):
  - ❑ 1-year subscription to *Bay Nature* magazine
  - ❑ Toni Corelli's *Flowering Plants of Edgewood Natural Preserve*
- ❑ **Please keep the premiums and maximize the value of my dues.**
- ❑ **I am enclosing a gift of _____.**

Please send (subject to availability):

____copies of *Common Native Wildflowers of Edgewood* @ $1.50; ____copies of the *Edgewood Vascular Plant List* @ $3.00; ____copies of the Apr-Jun 2004 *Bay Nature* magazine @ $6.00; ____copies of *Flowering Plants of Edgewood Natural Preserve* @ $12.00. All prices include tax, shipping & handling.

I would like to participate in the following:

- ❑ Docent program
- ❑ Education Center host
- ❑ Newsletter/web
- ❑ Public relations
- ❑ Junior explorer program
- ❑ Habitat management
- ❑ Organizational support
- ❑ Adopt-A-Highway

Bill and Jean Lane Education Center (EC) - Hours of Operation*

Wed	9:30 am to 12:30 pm
Fri	1 pm to 4 pm
Sat	9:30 am to 4 pm
Sun	9:30 am to 4 pm

*Subject to volunteer staffing.

*Director Emeritus

UPCOMING EVENTS

Adopt-a-Highway

Next Sessions: 6/2, 7/8, 8/4

To volunteer or get more information, contact Ken Seydel at adoptahighway-coordinator@friendsofedgewood.org

Weed Warriors

Next Sessions: 6/16, 7/21, 9/29

Interpretive Walks

3rd Sat, 10 AM, beginning July

Admission is FREE!

The Edgewood Explorer is published quarterly by the Friends of Edgewood Natural Preserve, a nonprofit organization dedicated to preserving Edgewood for the human, plant, and animal generations to come. The newsletter is edited by Linda Leong and is supported by contributions from many Friends. For more information about the Friends of Edgewood, visit our web site at www.friendsofedgewood.org, mail us at PO Box 3422, Redwood City, CA 94064-3422, leave message or fax us toll-free at (866) GO-EDGEWOOD (866-463-3439), or email us at info@friendsofedgewood.org.

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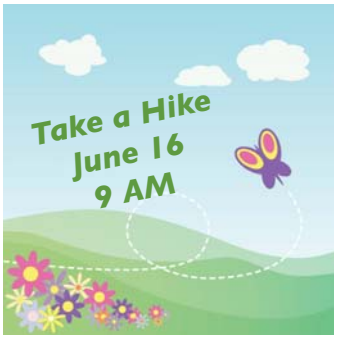

Mission Statement of The Friends of Edgewood *— To protect and celebrate Edgewood as a unique treasure by promoting exemplary stewardship, and by reaching out with informative public programs.* www.friendsofedgewood.org