



# Edgewood Explorer

PRESERVE • EDUCATE • RESTORE

June 2013

Volume 20 Number 2

## Gala 20<sup>th</sup> Birthday Party in the Park

By Frances Morse (photos © 2013 Kathy Korbholz)

The Friends of Edgewood and San Mateo County Parks joined together on Saturday afternoon May 11 to throw a grand party to celebrate the 20<sup>th</sup> anniversary of the founding of FoE and the designation of Edgewood Park as a Natural Preserve. Approximately 80 people attended – veteran and new members, current and former Parks personnel, state and local politicians, park neighbors, and hikers and docents returning from their wildflower walks. The weather was perfect, Bay checkerspot butterflies "flitted" on the yummy birthday cake and in origami form, and the spirit of Edgewood was everywhere.

The day's activities started with Carol Hankermeyer reading her new children's book – *Frisky Finds a Home*. The opening ceremonies featured remarks from Park Superintendent Scott Lombardi, county Supervisor Don Horsley, and



State Senator Jerry Hill who each presented FoE with official resolutions honoring our service and



history. Bill Korbholz was interrupted in his opening remarks by a Happy Birthday call from President Obama (ask him how he arranged that!). Bill then unveiled a beautiful quilt, designed, sewn, and donated to FoE by someone who



clearly loves and understands Edgewood - retired Edgewood ranger and Parks Superintendent Lynne Fritz.



The ceremonies concluded with the world premier of "It Could Have Been a Golf Course" – a lively animal puppet skit written by Frances Morse and Carol Hankermeyer. The skit tells the history of Edgewood and what makes it special, seen from the viewpoint of some of the critters who live here.

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## Take a Hike!

San Mateo County's Take a Hike is scheduled at Edgewood on June 8, 9 AM.

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Cast: Woody Woodrat (Howie Smith), Olivia Owl (Carol Hankermeyer), Frisky Squirrel (Kate Connors), Oreo Skunk (Julia Bott), Buddy Bluebird (Frances Morse), and a Bay checkerspot butterfly (Levi Sofaer-Morse)

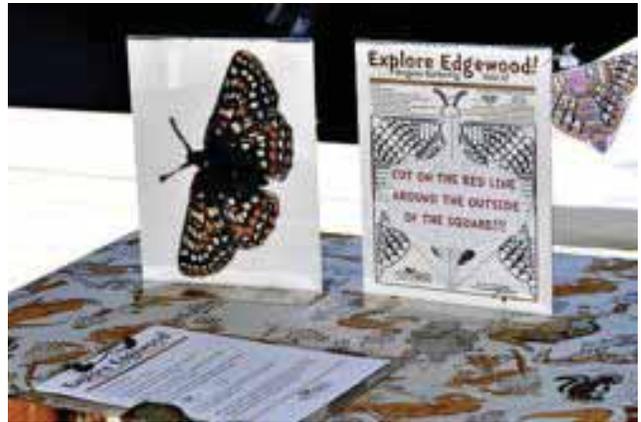


Oreo Skunk (Julia Bott) Buddy Bluebird (Frances Morse)

Everyone then walked to the meadow for refreshments and outdoor activities (e.g., scavenger hunt, leaf keying, Build a Tree),



and a family-oriented Responsible Geocaching workshop generously run by REI. REI also donated 100 reusable water bottles as giveaways.



This party was clearly a team effort between FoE and the Parks Department. Frances Morse headed up the planning committee of Laurie Alexander, Jan Casazza, Kate Connors, Carol Hankermeyer, and Martha Vercoutere. They were assisted by over 20 volunteers on party day. The Parks Department furnished tables and canopies, made signs, controlled traffic, beautified the park, installed new recycling cans and boot brushes, and donated magnets for giveaways. Thanks to Carla Schoof, Steve Kraemer, Gary Lockman, and Scott Lombardi.



The event was such fun that during cleanup, several people suggested that we do this every year! (Frances has NOT volunteered!) "Viva La Edgewood!"

*Special thanks to all the volunteers: Eric Anderson, Nancy Baum, Julia Bott, Jan and Marco Casazza, William Connors, Kathy Dollard, Alf Fengler, Roger Humphrey, Bill and Kathy Korbhholz, Linda Leong, John Morse, Thanh and Bob Mougeot, Cynthia Schreurs, Howie Smith, Levi Sofaer-Morse, Majida Thalji, Ellen Wang, Mary and Dennis Wilson.*



Source: <http://en.wikipedia.org/wiki/Bumblebee>

### **Bumblebee ESP (Electro-Sensory Perception)**

by Carolyn J. Strange

The relationship between bumblebees and flowers appears to be more charged than anyone realized and, perhaps, even more of a win-win cooperation as well.

Flowers pioneered advertising, marketing—and possibly electric signs. They attract attention with petal shapes, colors, textures, contrasting “runway” stripes, fragrances, nectar rewards and more, all to lure “customers” into helping with reproduction by transporting pollen. Bees expend a great deal of energy flying around, and they learn to find the best deals by reading floral cues carefully, perceiving them in ways we can barely imagine.

People have long known that bees acquire a positive electrostatic charge as they fly through the air. Plants have varying negative charges. When a bee approaches a flower, sparks don't fly but pollen often does, sometimes even before the bee lands. But there's even more going on. Recently, British researchers working with a common European bumblebee have shown that the insects can distinguish between fake laboratory flowers based on electrical field alone.

Metal disks, coated in plastic to avoid shocking the bees, substituted for flowers. Half of the disks were wired at low voltage and held sugar water. The other half, unwired, held a bitter, distasteful solution. Bees quickly learned to find sugar water 80 percent of the time when the flowers were charged. But, with the power turned off, the bees dropped back to random-chance success.

Combining color with electric charge helped bees learn faster. Likewise, choosing between two similar color shades became easier when one shade was

paired with a charge. The perceptivity is more sophisticated than mere presence or absence of an electrical field. Bees could distinguish between fake flowers having a bulls-eye ring of charge and fake flowers having uniform electrical field.

No one knows how bees detect the electric fields. It's thought that perhaps they feel bending in the tiny bristles covering their bodies, just as we feel static from things like TV screens and balloons pull our hairs.

Not only is insect perception apparently more sophisticated than previously imagined, so too is flower communication. Puffing an aerosol of colored, positively charged particles over various flowers revealed striking patterns. Scientists speculate that these electrical field patterns might be offering bees another perceptual layer of guidance.

Further, the electrical communication between bees and flowers appears to be dynamic and interactive. Electrodes placed in real petunias revealed a shift in electric potential when a bee landed — sometimes even before — that remained minutes after the bee left. Is it possible, researchers wonder, that the field shift is a flower's way of saying, “Come back later” while the flower replenishes its rewards stock? It would be in the plant's best interest because, while attracting a bee without providing a reward might accomplish a one-time pollen transfer, it's no way to maintain a long-term relationship. Bees would likely avoid unreliable flowers and visit more honest and encouraging blooms instead.

Considering the long and mutually beneficial co-evolution between flowers and bees, one researcher commented, perhaps it's not so surprising that we're still discovering how remarkably sophisticated their communication is. 🐝

Reference: <http://www.sciencemag.org/content/early/2013/02/20/science.1230883>

If the sight of the blue skies fills you with joy, if a blade of grass springing up in the fields has power to move you, if the simple things of nature have a message that you understand, rejoice, for your soul is alive. ~Eleonora Duse

## Another Excellent Year for the Bay Checkerspot Butterfly at Edgewood

By Christal Niederer

Things just keep getting better for the Bay checkerspot population at Edgewood.

Checkerspot monitors saw 699 checkerspots this season. This is up from 333 checkerspots in 2012, 129 in 2011, and only 13 in 2007. Our volunteer monitors walk a permanent course off trail, counting the number of checkerspots they see in 1.5 minutes on each of 35 50-meter segments. This year's higher numbers are likely the result of both cool weather last spring and additional translocations.

Weather patterns are always important to the survival of our spotted friends. The most critical point of their lives is whether they can grow large enough as larvae (caterpillars) in late spring to enter diapause before their host plants dry out. Reaching this dormant phase is critical for survival during the long, hot summer when their food sources are no longer present. You can think of it as a race between larvae and the plants.

Last year we had a cool spring, with high numbers of larvae likely making it to diapause. Our volunteer monitors observed peak flight in the first week of April, and host plants dwarf plantain and owl's clover stayed fresh until the second week in May. This gave the butterflies plenty of time to mate, lay eggs, and hatch tiny pre-diapause larvae. We think high numbers of those larvae won the race to reach diapause before their host plants dried up.

Although overall precipitation was low this year, the early rains caused dwarf plantain to germinate early as well. Early germination is a positive sign because it allows the larvae to emerge from diapause and begin feeding. Starting the race early increases the likelihood the larvae can move through their life cycle in time. Heavy rains in the early winter soaked the soils to capacity, allowing for a decent, if brief, wildflower year. Once the new year began, rain and even clouds were sparse, and we had long periods of low temperatures. The larvae grow quickly in sunny conditions, while plants tend to grow slowly in cool temperatures. More good news in the race!

Pupating butterflies can be vulnerable to rain damage. The sunny weather later in the season probably kept pupal mortality low, allowing lots of adult butterflies to emerge. The flight season began early this year. The first checkerspot was seen February 25. Last year they

were first noted on March 4, and in previous years they were not observed until mid-March. The early flight season will be critical this year because things did start to heat up and dry out very early. Peak flight this year was March 18 (50 butterflies seen in a 2-hour period), with some host plants hanging on until the last week of March. While we had high numbers of butterflies and abundant host plants, we hope that plenty of eggs were laid on cool slopes, where host plants remain fresh longer.



Photo: Male (left) and female (right) Bay checkerspot butterflies; © 2012 Christal Niederer

We released an additional 5000 larvae this year, translocated from very high-density locations on Coyote Ridge in south San Jose. The populations there were also on the increase this year. In fact, our collections may even help those larvae from overshooting their carrying capacity. By thinning the ranks, we may reduce the likelihood that those source larvae will eat all their host plants before they can reproduce. So, too many checkerspots can be a problem. On the other hand, 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 could increase the likelihood that they will fly away looking for other individuals.

Many of the larvae we translocated were included in two 2013 Year of Edgewood Adopt-a-Caterpillar events. We allowed a limited number of people to sign up in advance to sponsor and release a caterpillar into the restored habitat. This event was hugely successful, with adults and children savoring the chance to be part of a threatened species comeback at the preserve they love.

Efforts to restore the last remaining population of Bay checkerspot butterflies in San Mateo County have

*(continued on page 5)*

(continued from page 4) 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 (nitrogen oxides and ammonia) from cars driving by on I-280 actually act as a fertilizer on the grasslands. The fertilizer boost given to the non-native grasses, which do not normally grow well in the nutrient-poor serpentine soils, allows them to outcompete the native wildflowers. In time, the wildflowers are reduced to such small numbers that they can no longer support the butterfly.

The habitat is being restored through a rotational mowing and dethatching 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 in 2007 to transfer larvae and adults from a healthy population at

Coyote Ridge to 15 acres of prime habitat at Edgewood.

The effort to bring the butterfly back to Edgewood in 2007 was not successful due to very dry weather conditions and a small number of transferred caterpillars. Through the setback, mowing continued to keep the site ready for the eventual butterflies’ homecoming. A second, multi-year (2011 to 2015), permit was obtained, and in February 2011, more than 4,000 caterpillars were introduced. To further the odds of firmly reestablishing the species, another 4,852 caterpillars were introduced February 2012, and (as previously reported) 5,000 caterpillars have been introduced in 2013. Translocations may continue in 2014 and 2015.

Partners of the San Mateo County Parks 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. 

## Explore Edgewood!

by Laurie Alexander



© 2013 Kathy Korbholz

This spring, Friends of Edgewood introduced *Explore Edgewood*, a series of fun activities to help the young, and young at heart, connect more closely with nature.

The first *Explore Edgewood* activity that we rolled out was “Our Hawk Diary”, which invited visitors to record in words or pictures what they saw happening in or around the Red-shouldered hawk (*Buteo lineatus*) nest in the Eucalyptus tree visible from the Bill and Jean Lane Education Center. Visitors sharpened their observational skills when taking the time to share their experiences in the journal. Reading other people’s entries and comparing them to the nearby article on Red-shouldered hawk nesting, budding naturalists had fun guessing where the birds were in the nesting cycle.



© 2013 Kathy Korbholz



Photo: “Treasure Hunt - Find it” encourages young explorers like Lucas to contemplate their favorite thing at the park.

© 2013 Laurie Alexander

Several activities were introduced at FoE’s 20<sup>th</sup> Birthday Party on May 11. Many guests enjoyed “Origami Butterfly – Fold It!” and “Butterfly – Color it!”. “What Leaf Is It? – Key it!” introduced dichotomous keys using six trees and shrubs in the Day Camp area. “Treasure Hunt – Find It” challenged those aged 6 to 106 to discover and map an entrance to an animal home, find a tree with more than 100 holes in it, and search for a tree growing a beard, all in the Day Camp area. The accompanying “Nature Guide Cheat Sheet” gave hints to a child’s accompanying adult on where to look, with questions to encourage wondering and respectful investigation.

Visitors to Edgewood can pick up printed copies of the activity sheets when the Ed Center is open, or they can print their own copies or access the activities online by visiting [www.FriendsofEdgewood.org/Explore-Edgewood](http://www.FriendsofEdgewood.org/Explore-Edgewood).

*Explore Edgewood* activities were created by Martha Vercoutere, (Junior Explorer Docent and Ed Center host), Kate Connors (Junior Explorer Coordinator), Laurie Alexander (Ed Center Coordinator), and the Twentieth Anniversary Birthday Party Planning Committee.

Our next *Explore Edgewood* activity will be an updated version of the California State Symbol coloring book by Kathy Korbholz. The next step with these activities is to provide web pages with more information about the topics in *Explore Edgewood*. Can you help? Do you have or would you like to develop an idea for *Explore Edgewood*? If so, contact Laurie Alexander at [EdCenterCoordinator@FriendsofEdgewood.org](mailto:EdCenterCoordinator@FriendsofEdgewood.org) or leave a message at 1-866-Go-Edgewood.

## Visitors Help Defy Extinction

by Kathy Korbholz



Photo: Christal Niederer helps distribute caterpillars to the lucky participants © 2013 Kathy Korbholz

On February 21<sup>st</sup> and 24<sup>th</sup>, forty-three lucky Edgewood visitors had a rare chance to help defy extinction by “adopting” a caterpillar.

After meeting at the Clarkia entrance, this select group was asked to brush their boots free of any hitchhiking weed seeds. Then they were escorted by consulting biologists Stuart Weiss, PhD and Christal Niederer into the normally off-limits Bay checkerspot butterfly habitat.

The wildflowers in this area, normally viewed only at a distance from the western Ridgeview Trail on our public walks, were in full glory. The Tidy-tips, Goldfields, Linanthus, and Poppies were ablaze. Abundant California Plantain and budding Owl’s clover heralded sufficient food for the hungry caterpillars the visitors were about to meet.



© 2013 Kathy Korbholz

Dr. Weiss told the rapt visitors the story of the Bay checkerspot butterfly’s extirpation (local extinction) – see our June 2012 Explorer (<http://friendsofedgewood.org/wp/wp-content/uploads/2012-06.pdf>) for more details. Then the

scientists opened the blue coolers they had carefully carried along the trail. With much excitement, kids and adults alike crowded around to peer in and see the ventilated plastic cups temporarily housing 50 caterpillars each.

As the participants spread out about 10 feet apart along the PG&E access road, Dr. Weiss and Christal carefully lifted individual caterpillars and placed them on eagerly waiting open palms. Then, all were asked to walk abreast into the butterfly habitat and place their caterpillar near a vigorous patch of California Plantain. The process was repeated on each side of the road. On each successive placement, participants were asked to stay a little nearer the road to avoid stepping on the newly deposited caterpillars. Smiles, wonder, awe, and tenderness abounded.



© 2013 Kathy Korbholz



© 2013 Kathy Korbholz

When all the caterpillars had been placed Bill Korbholz gave each participant an adoption certificate.

Before the walk, some participants had named their respective adoptees. One family submitted the names Faith, Hope, and Chrys. State Senator Jerry Hill adopted a caterpillar and named it Eureka. Many of the visitors made donations or named their caterpillar in honor of a friend or relative. On the walk, comments like “Awesome” and “That was cool!” were overheard. Many visitors thanked the scientists and support crew for what truly was a once-in-a-lifetime opportunity!



## Education Center Visitors

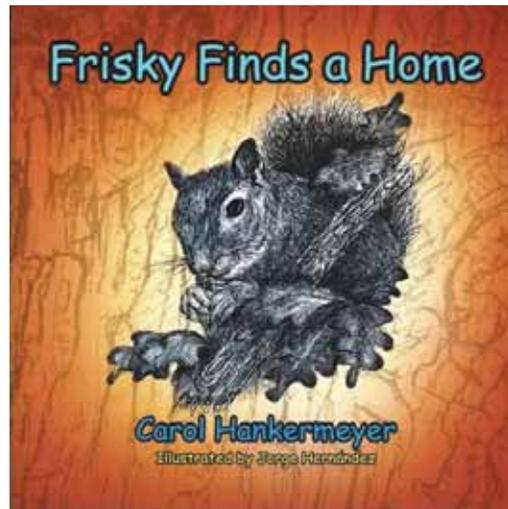


Time Period	Adults	Children	TOTAL
Apr '11 - Mar '12 (Inaugural Year)	7474	2363	9837
Apr '12 - Mar '13	6884	2478	9362



Photo: Julia Bott and Bill Korbholz proudly display the official San Mateo County resolution recognizing Friends of Edgewood on its 20th Anniversary Year; presented to FoE by Supervisor Don Horsley on May 7, 2013.

© 2013 Thanh Mougeot



*Frisky Finds a Home* is a charming and educational tale appropriate for grades K-2. Beautifully illustrated. By Friends of Edgewood member Carol Hankermeyer.

## 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 06/2013, membership runs through June 2013.

Questions? Lv msg at (1-866) Go-Edgewood (1-866.463.3439) or contact [membership-coordinator@friendsofedgewood.org](mailto:membership-coordinator@friendsofedgewood.org)



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City/State/ZIP: \_\_\_\_\_

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Eve. Phone: (        )        -        \_\_\_\_\_

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- Please list me as a donor.     Please list me as "anonymous".
- I prefer to be listed as \_\_\_\_\_.
- Digital Newsletter Only     Digital Plus Mailed Newsletter

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- \$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

Mailed Newsletter Only     No Newsletter, Please



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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.friendsofedgeswood.org](http://www.friendsofedgeswood.org)*

**PRESERVE • EDUCATE • RESTORE**

**Bill and Jean Lane  
 Education Center (EC) -  
 Summer Hours and By  
 Appointment\***

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

\*Subject to volunteer staffing.

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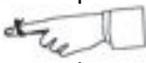
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 John Morse  
 Thanh Mougeot  
 Cynthia Schreurs  
 Jack Stovel  
 Mary Wilson



**UPCOMING EVENTS**

**Adopt-a-Highway**  
 Next Sessions: 6/1, 7/14, 8/3, 9/8  
 To volunteer or get more  
 information, contact Ken Seydel at  
[adoptahighway-  
 coordinator@friendsofedgeswood.org](mailto:adoptahighway-coordinator@friendsofedgeswood.org)

**Wildflower Walks**  
 Through 6/9, Sat/Sun, 10 AM  
 Admission is FREE!

**Year of Edgewood**   
 Special Evening Events  
 Coming soon in Jun, Jul, and Aug  
 Registration Required

The Edgewood Explorer is published quarterly by the Friends of Edgewood Natural Preserve, a nonprofit organization dedicated to preserving and restoring Edgewood and to educating the public about its treasures. 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 website at [www.friendsofedgeswood.org](http://www.friendsofedgeswood.org), mail us at PO Box 3422, Redwood City, CA 94064-3422, leave a message or fax us toll-free at (1-866) GO-EDGEWOOD (1-866-463-3439), or email us at [info@friendsofedgeswood.org](mailto:info@friendsofedgeswood.org).