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Introduce a Friend to The Elfin Forest



Amaze a friend by showing him or her the beauty of our small wilderness preserve even at the end of our long summer drought. Your friend will marvel at the flowers in bloom and the diverse bird and other animal activity even at this most stressful season of the year.

Pick up a trail guide where the 16th Street entrance meets the boardwalk or where the Bush Lupine Point spur leaves the boardwalk loop. Share the information in the trail guide and on the beautifully illustrated Interpretive Signs. Encourage your friend to become a member of SWAP.

Report your friend's reactions and especially wonderful or unusual sightings to the editors for "Visitor Comments" or "Elfin Forest Sightings" in a future issue of Oakleaves. See page 10.

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please report Elfin Forest sightings. See page 10.

Los Osos / Morro Bay Chapter
SMALL WILDERNESS AREA PRESERVATION
A Non-Profit Public Benefit Corporation
P.O. Box 6442, Los Osos, CA 93412-6442
(805) 528-0392 www.elfin-forest.org



MEMBERSHIP FORM

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☐ Member \$25 ☐ Defender \$100

☐ Steward \$50 ☐ Champion \$250

☐ Protector \$75 ☐ Guardian \$500

☐ Seniors & Students \$15

☐ Life Member \$1000

☐ I want to help, please call me!

Memberships include a subscription to
SWAP's bimonthly newsletter, *Oakleaves*.

All donations to SWAP are tax-deductible.

EVERY membership counts!

Make checks payable to: SWAP.

Mail to: Small Wilderness Area Preservation,
P.O. Box 6442, Los Osos, CA 93412-6442.

08/08



OAKLEAVES

A PUBLICATION OF THE LOS OSOS / MORRO BAY CHAPTER of SMALL WILDERNESS AREA PRESERVATION
P.O. BOX 6442, LOS OSOS, CALIFORNIA 93412-6442 ♦ (805) 528-0392 ♦ AUGUST / SEPTEMBER 2008

2009 SWAP Calendar Preview

By Debbie Levi

SWAP's Calendar Committee is pleased to present the 2009 Elfin Forest calendar. A preview event will be held in the Forest on Saturday, September 6, 2008. You are invited to join us anytime from 12:30 p.m. to 3 p.m. at the end of 12th Street by the Elfin Forest trailhead. Food and beverages will be served. Come and meet the featured artists as well as our generous sponsors.

We extend our thanks to all contributors. Their artwork highlights the beauty of the Elfin Forest. The unique works of twenty-two artists, in various media, represent different and extremely creative impressions of the Forest. We are proud to share their work. We appreciate the advice given to us by Jamie Lien, Conservation Manager of the Atascadero Mutual Water Company, in setting up a calendar with art images. Katy Budge is our graphic designer, and Hart Impressions is our printer.

The featured artists are: Jay Bonestell, Ed Chandler, Alice Cushing, Ken Christiansen, Stuart Denker, Deb Festa, Donald Griffiths, Dotty Hawthorne, Sandi Heller, Heather Johnson, Steve Kennington, Janine Kirkpatrick, Larry LeBrane, Sharon Meyer,

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San Luis Obispo County Supervisor Bruce Gibson and his Legislative Assistant, Sherie Aspuro, were interested to hear from SWAP Chair Ron Rasmussen (left, back to camera) about plans for a boardwalk extension into the Rose Bowker Grove. Photo by Yolanda Waddell.

Supervisor Bruce Gibson Visits the Elfin Forest

By Ron Rasmussen, SWAP Chair

San Luis Obispo County Supervisor Bruce Gibson (District 2) found time from his busy schedule on June 26 to spend an hour with SWAP's Board touring the Elfin Forest and receiving an update on our activities. He and Sherie Aspuro, his Legislative Assistant, met with the board at the 16th Street entrance to the Elfin Forest, and, after brief introductions, proceeded along the boardwalk.

Vice Chair Pete Sarafian gave a review of conservation work in the forest and indicated where continuing problems exist. He pointed out that volunteer labor had removed essentially all of the veldt grass in the central part of the forest, but that cape ivy had become an increasing problem, invading several hard-to-reach oak groves.

At the Rose Bowker Grove, SWAP Chair Ron Rasmussen described the pending boardwalk extension and the reasons for this

Bruce Gibson continued on page 2



SWAP BOARD OF DIRECTORS

*The Board of Directors
of the Los Osos/Morro Bay Chapter of
Small Wilderness Area Preservation (SWAP)
consists of the following members:*

Ron Rasmussen, Chair / Co-Treasurer

Pete Sarafian, Vice Chair

Yolanda Waddell, Secretary

Pat Akey, Member at Large

Debbie Levi, Member at Large

Bob Meyer, Member at Large

Pat Murray, Member at Large

The SWAP Board of Directors meets monthly
on the 2nd Monday at 7 p.m. at
the Community Center of
Sea Oaks Mobile Home Park,
1675 Los Osos Valley Road.

The next meetings are
Monday, August 11
and Monday, September 8.

All Board meetings are open to the public.

To confirm the date, time and location
(which are subject to change), call 528-0392.



CONTACT SWAP

If you have questions about SWAP activities
or want to volunteer, please call 528-0392 and
leave a message. A recorded message will have
information about our 3rd Saturday Walks,
Work Saturdays, and other events. If you have
questions, concerns or comments about any
problems in the Elfin Forest, call or write:

Chuck Lowe,

SLO County Parks Supervising Ranger,
1087 Santa Rosa Street, SLO, CA 93408,
(805) 781-4417.

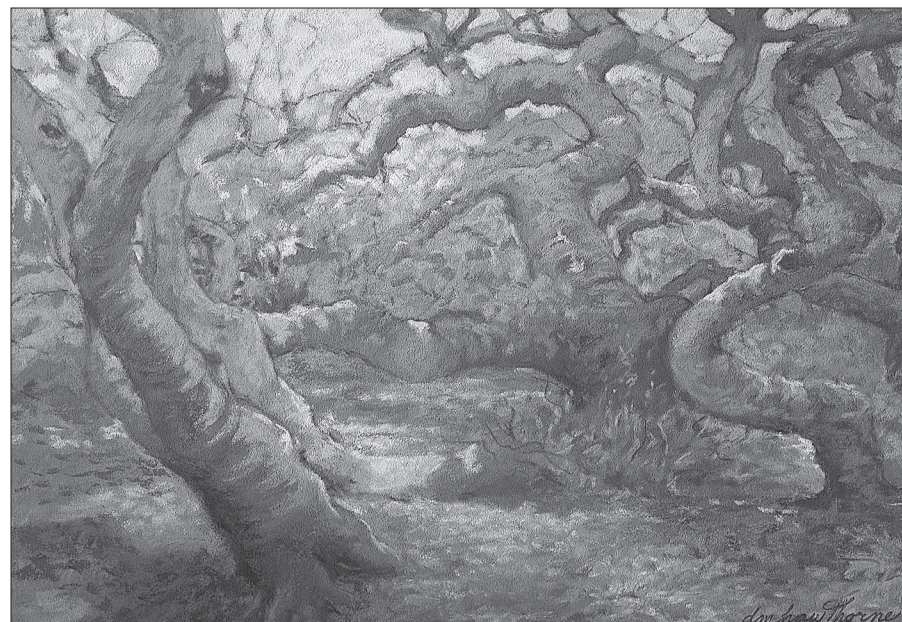
Owners of dogs off-leash can be cited. If you
witness dogs off-leash, vandalism or obvious
crimes, call the County Sheriff at 781-4550
or Chuck Lowe at 781-4417.

Calendar *continued from page 1*

Kathy Miller, Shirley Pittman, Barbara Renshaw, Barbara Rosenthal, Roseanne Seitz,
Mimi Whitney Hafft, and Rachel Winn Yon.

In addition, The Calendar Committee has received five more sponsors since the
June/July Oakleaves issue. They are: Phyllis Cameron of Prudential-Hunter Real Estate,
Conscious Colors Energy Center— owner Constance Hart, Jerry Gregory of Century
21 Realty, Peter Starlings of Johnson-Starlings Realty, and Robert Stilts, C.P.A. SWAP
thanks all of our generous sponsors.

Everyone is invited to preview this special calendar on September 6th. If anyone wants
to pre-order the 2009 calendar, please contact Debbie at 528-1911 or Pat at 528-1861.



*"Pygmy Oaks in Elfin Forest," a pastel by Dotty Hawthorne,
is the October illustration for the 2009 Elfin Forest calendar.*

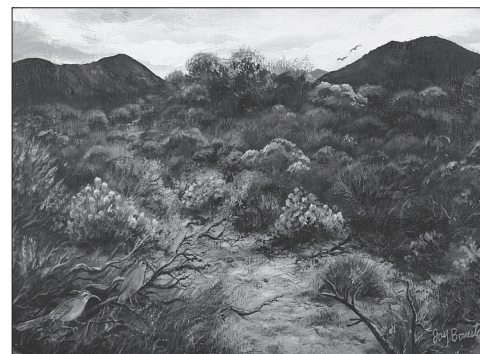
Bruce Gibson *continued from page 1*

new construction. Supervisor Gibson agreed that the extension was needed to protect
the oaks while allowing access for disabled persons. He suggested that a bench or two
could be placed on the extension deck so that visitors could sit and enjoy the quiet
space.

Pat Akey, from the Education Committee, reviewed SWAP's current programs of
Elfin Forest walks for elementary students. She noted that some student groups might
need to travel relatively long distances and can have problems financing a bus for travel-
ing to the Forest. Supervisor Gibson indicated that some county funds might be avail-
able to support travel for student groups and that SWAP's educational program may be
eligible for these funds.

The group continued on to Siena's View Overlook where Supervisor Gibson was
impressed by how much the back bay was being filled by sediment carried down in
Chorro and Los Osos Creeks. He also noted the lush growth of native plants in this
part of the forest. Returning to 16th Street, Mr. Gibson saw areas where replanting was
in progress and where a similar recovery was beginning since volunteers had removed
non-native species.

At the conclusion of his short visit, Supervisor Gibson praised SWAP and its many
volunteer groups for their dedication to maintaining the Elfin Forest Natural Area as an
educational and recreational resource for the region. He assured SWAP that he is firmly
in support of our activities and wishes us success continuing into the future.



New Item — 2009 Calendar!!

Call 528-1911 or 528-1861 to pre-order your SWAP 2009 Elfin Forest Calen-
dar, available in early September (see article page 1). The 9 X 12" calendar features
artistic paintings of scenes in the Elfin Forest and of some of the beautiful flowers
we enjoy every year. Shown here is "Woolly Star in Bloom and California Thrashers"
by Jay Bonestell, which is the image for the 2009 calendar June page.



SWAP Shoppers' Order Form

All Prices Include Sales Tax

1. MURAL SHIRTS

Mural design by artist Barbara Rosenthal on both front and
back. Words on shirt: "El Moro Elfin Forest Natural Area"
above mural and "Small Wilderness Area Preservation" and
"Los Osos, California" below mural.

Circle Sizes:

____ Short Slv. T-Shirt (Sm, Med, Lg, XLg, XXLg,
XXXLg) @ \$15.00 = \$_____

____ Long Slv. T-Shirt (Sm, Med, Lg, XLg, XXLg,
XXXLg) @ \$17.00 = \$_____

____ Sweatshirt (Sm, Med, Lg, XLg, XXLg,
XXXLg) @ \$25.00 = \$_____

2. PHOTOS OF THE ELFIN FOREST

Original photo note cards by Bob Meyer

____ @ \$3.00 or ____ 5 @ \$14.00 = \$_____

Original photo postcards by Bob Meyer

____ @ \$1.00 = \$_____

Indicate No. per View(s):

____ All 5; ____ Don Klopfer Trail; ____ Ocean View;

____ Wild Hyacinth; ____ Horned Lizard; ____ Dudleya

3. POCKET GUIDE

Useful 56-page guide to plants and animals of the Elfin
Forest. Charts for bloom season, form, color, and habitat
for 200 vascular plants plus lists of lichens and mushrooms
known to occur. Habitat and peak months seen are charted
for 187 birds. Also listed: 28 common mammals; 10 reptiles;
4 amphibians; 19 butterflies and moths (charted by size,
months in flight, color, and host plants); 104 other arthro-
pods and 7 gastropods.

____ @ \$2.00 = \$_____

4. ELFIN FOREST MURAL PRINTS

____ signed prints by artist Barbara Rosenthal,

image size 4 1/2 x 16 1/2 in;

mounted on foamcore

____ @ \$20.00 = \$_____

5. 2009 ELFIN FOREST CALENDAR

Enjoy the Elfin Forest all year round
with these creative views by outstanding local artists!

____ @\$15.00 = \$_____

Shipping cost if outside Los Osos/Morro Bay

Pocket Guides & Note Cards: \$1.50 = ____

All other items: \$3.00 = ____

TOTAL OF ORDER \$_____

(Please print when filling order, and indicate how many of each)

Name: _____

Address: _____

City/State/Zip: _____

Phone (w/area code) : _____

Make checks payable and mail to:
SWAP, P.O. Box 6442, Los Osos, CA 93412-6442.
Call in orders may also be made: (805) 528-0392.

Thank You to Our New and Renewing Members

Compiled by Betsy Kinter, SWAP Database Coordinator

The more members we have, the greater is our ability to obtain grants for continuing restoration of the Elfin Forest.

You can help SWAP by sharing this newsletter with friends and co-workers, and encouraging them to join.

RENEWING MEMBERS:

Thomas H. Alden
and Marjorie Sinel*

Robert Blakeley

Ray and Sonya Bracken*

David, Christine and Ben Braun*

Mark and Robin Cohen

Vic, George and Doris Croy*

Gerald and Katherine Davis*

Joanna Frawley

Bethany and Don Griffiths

Freeman and Worth Hall

Burton and Dorothy Harris*

Annette Lindeman

Duke McPherson*

Sheila C. Montooth*

Beverley and Bill Moylan*

Melvin and Mary Norby

Tim and Melissa Rochte

Bill and Callie Sandoval

Bob and Barbara Schwenoha*

Max and Helen Sicher

SWAP, Inc. –

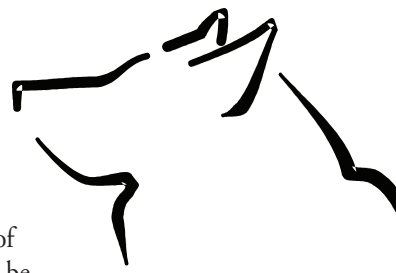
John Brunner, Treasurer

Bert and Elaine Townsend*

James and Jeane Wood

**Thanks to those listed above who donated more than the \$25 membership dues. The additional donations will be used for special projects in the Elfin Forest.*

Walks With Wolves



A very interesting group of visitors to the Elfin Forest will be seen on Saturday, August 9, at 11:00 a.m., beginning at the end of 16th Street. WHAR Wolf Rescue Inc., has organized a walk with hybrid wolves to demonstrate that these seemingly fearsome animals are quite docile when well-trained by their human caretakers. All of the wolves will be on leash, of course, in keeping with County Parks regulations.

For more information about the wolf hybrids and the rescue project, visit WHAR's web site at www.whar.org, or call 805-239-9427.

Elfin Forest Sightings

Residents around the 11th and 12th Street entrances have been treated to a coyote howling and yapping on several mornings in June. One resident who saw it says that it is a young one. Coyotes are an important part of the predator-prey relationship in the Elfin Forest, keeping rodents and rabbits under control. Dogs and cats in the neighborhood of the forest or any other small wilderness area should be kept in fenced yards or indoors at night.

Please Report Elfin Forest Sightings

Have you observed any unusual birds in the Elfin Forest? Mammals? Reptiles? Amphibians? Insects? Interesting activities or footprints of wildlife in our Elfin Forest? Unusual plants? Please report any interesting wildlife activity or plants that you see to Jean Wheeler at jeanwheeler@charter.net for inclusion in future *Oakleaves* issues under "Elfin Forest Sightings." You can also leave a message on SWAP's answering machine, 528-0392.



OAKLEAVES

is published six times per year beginning in February.
Co-editors are Yolanda Waddell and Jean Wheeler;
layout is by Katy Budge. Editing assistance by Pat Grimes.

Contributors to this issue: Dave Akey, Chad Cole, Betsy Kinter, Debbie Levi,
Bob Meyer, Ron Rasmussen, Pete Sarafian, Yolanda Waddell,
Dirk and Bonnie Walters, Jean Wheeler

Printed at Hay Printing, Morro Bay on recycled paper.
Labeled and mailed at Achievement House.

Deadline for copy to Oakleaves is the first Wednesday before the month of issue.
If possible, all copy should be submitted by e-mail to:
ywaddell@kcbx.net AND jeanwheeler@charter.net.

The Elfin Forest – Nature's Classroom

By Yolanda Waddell

This past Spring, the Elfin Forest received many young visitors on school field trips. Generally, teachers plan field trips for the Spring semester, after their students have a grasp of the topics that SWAP docents will present during a school walk.

Between February and June, our school walk docents led six school groups through the Elfin Forest, talking about plants, birds, mammals, insects, tides, erosion and ecological principles. A total of 187 students came from as far away as Visalia and Sacramento, and as close as Baywood School, just three blocks away from the Forest.

The largest group was 80 third graders from Grover Beach Elementary, who learned the differences among plant types: herbs, shrubs and trees. They measured heights of the plants, kept a watchful eye out for poison-oak, observed Spittle Bugs on Ceanothus bushes, and found out that oak galls are caused by a small wasp that stings an oak tree twig or branch.

Eighteen high school students from Arvin High School in Visalia were brought by their science teacher, Chad Cole (who sent us the adjacent photo of the group). Their focus was ecology, including climate adaptations of plants and animals, predator-prey relationships, and the value of the estuary and forest.

Baywood School first graders, led by their teachers Cheryl Dove and Kelli Gang, hiked to the Elfin Forest in June to learn about insects. They looked at a variety of insects close-up with hand magnifiers, learned to identify poison-oak (which is taught to every age level by our docents), and were fascinated by the Spittle Bugs.

After re-organizing and putting away all the walk materials for the summer, Education Chair Pat Akey met with Teresa Lees, the Education Coordinator for the San Luis Obispo Botanic Garden. She wanted to get ideas from Teresa for putting together a docent training manual, as the Botanic Garden has an excellent manual and a crew of well-trained docents.

During the summer, Pat and the Education Committee will develop a set of plant identification cards for students on school walks, and also a set of plant, insect and bird ID pages for docents in training, featuring those species that are common to the Elfin Forest. Pat plans to assemble training manuals in the early Fall, with an eye to begin docent training in Spring, 2009.

Needed by Pat Akey for the Education Committee: a volunteer who will act as an assistant to the Education Chair, to pack walk bags and accompany docents on school walks as an extra pair of hands.

Also, Pat would be happy to hear from anyone who is interested in joining the Education Committee or training as a docent. Call 528-4832.



Eighteen students from Arvin High School in Visalia came to the Elfin Forest in May with their science teacher, Chad Cole, to learn first hand about the principles of ecology. Photo by Chad Cole.



This group of third grade students from Grover Beach Elementary School measured plants with a meter stick and used the hand magnifiers that were provided to them to look at insects. Photo by Jean Wheeler.



Education Committee members (L-R) Yolanda Waddell, Dave Bowlus and Committee Chair Pat Akey examine their order of soil thermometers and vials for catching insects, just arrived from Carolina Biological supply. Photo by Dave Akey.

Elfin Forest Geology

By Jeff Grover, Cuesta College Geology Professor

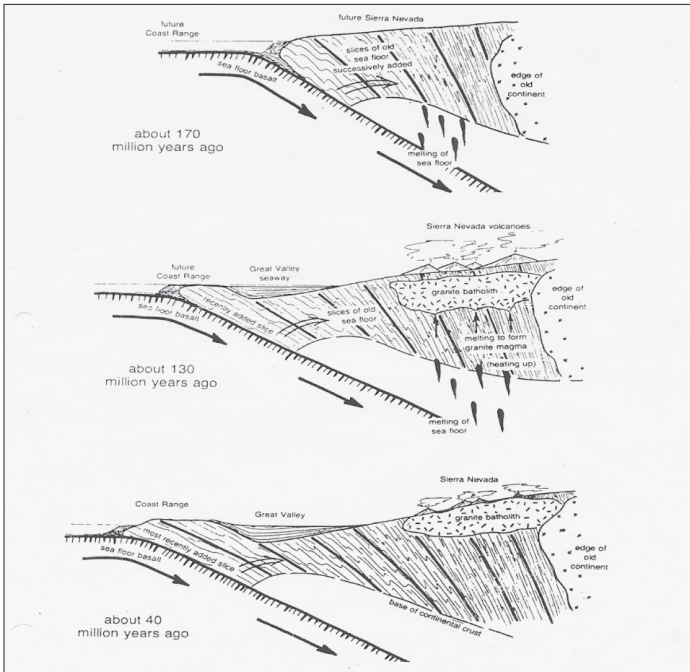
Within and around the Elfin Forest are rocks that preserve a rich geologic history spanning approximately 150 million years. Three distinct geologic chapters are recognized including one associated with the development of the San Andreas Fault, arguably the most important tectonic event in the history of Western North America. My approach will be to address this history in the order from oldest to youngest, beginning with the foundation rocks. Subsequent articles will explain the younger units exposed nearby in Montana de Oro and finally the formation of our modern landscape and the ubiquitous dune sand within Los Osos and the Elfin Forest.

Chapter 1. The bedrock geology.

In most settings we think of granite as typical bedrock geology. It is after all, the principal rock of the continental crust. But here on the central coast, our oldest bedrock is not granite but rather a complex sheared mixture that forms the rolling hills and isolated bold exposures seen along Highway One. These rocks are known as the Franciscan assemblage and they formed during the Jurassic or Cretaceous periods of the Mesozoic Era approximately 150 million years ago. They are the oldest and most unusual rocks within Morro Bay, and are exposed around the Elfin Forest in the foothills below the Morros and to the south along the base of the San Luis Range.

The Franciscan assemblage consists primarily of a mélange of sheared and mixed sedimentary, igneous and metamorphic rocks derived from a dismembered ocean crust and mantle rock sequence known as an ophiolite. A small road cut on Turri Road just east of South Bay Boulevard provides a good exposure of this typically hidden mélange. Complete ophiolites (loosely translated from the Greek as “ophio” or snake rock) from which the mélange is derived are several kilometers in thickness and contain four or five distinct layers: marine sediments, basaltic pillow lava, intrusive basaltic dikes, massive gabbro, and serpentized peridotite. Two complete ophiolite suites are exposed at Cuesta Ridge and south along the coast at Point Sal.

Ophiolites are produced by magmatic processes associated with sea-floor spreading at mid-ocean ridge/rift systems. Extension causes cracking and thinning of the crust along these zones and reduces pressure on the mantle (peridotite) to initiate melting and an upward flow of basaltic magma. This magma would pool in a chamber (now recognized as the massive gabbro) and periodically inject along fissures (basaltic dikes) to rise to the ocean floor (basaltic pillow lava). Ophiolite formation is a continuous process that forms new ocean crust at the ridge axis where the basaltic lava flows from the fissures and, with time, spreads laterally away from the ridge axis. Underwater eruptions at the ridge crest produce a nearly continuous sheet of pillow lava that covers the ocean floor. Over time, this lava is covered with a veneer of marine sediments, most commonly an ooze of pelagic and hemi-pelagic silica from



Schematic cross-section showing the process of accretion and the growth of California through time. From top to bottom: 170 million, 130 million and 40 million years ago. Note the westward growth of California due to the accretion of mélange and ophiolite.

plankton and wind blown dust that accumulates and hardens into the rock called chert, the source of arrowheads for local Indians.

How the ophiolite and its dismembered equivalent, the mélange, arrived in Los Osos is another story. It involves the process of subduction along a tectonic boundary between two converging plates (see diagram). In our case, the plates were the North American and the now consumed Farallon. This process occurred during Mesozoic and early Cenozoic time and spanned about 120 million years. Most of the rocks in the Coast Ranges, Great Valley and Sierra Nevada, nearly two thirds of California, formed during this time and are related directly to the subduction process. The basement rocks of the Coast Ranges, (our Franciscan assemblage) formed as a debris pile known as an accretionary prism in front of the westward moving North America plate (diagram). Like a squeegee across a wet and dirty window pane, North America scraped, squeezed, and sheared an enormous wedge of mélange along its leading edge. On occasion, it incorporated entire slabs of ocean crust and mantle that we see now as the ophiolite suites within the province. Entire island arcs or microplates were accreted en-mass in areas further north, producing a collage of so-called “suspect terranes”. This accretionary process added mass to the edge of the continent and California grew westward by nearly 200 kilometers!

The continental margin during the development of these Franciscan rocks is commonly referred to as Andean style for its similarity to the modern west coast of South America. The principal shoreline for California lapped against the volcanic arc at about the longitude of the modern-day Sierra Nevada foothills. West-

Geology continued on page 5

WALKS in the ELFIN FOREST Third (& Second) Saturday Walks

August 16, 9:30 a.m. – Digital Photo Walk

Do you have a digital camera that mainly takes pictures of family events and parties? Morro Bay Museum docents Mike Baird and Kevin Cole will help you to develop your outdoor photography skills with a mini instructional photo tour on the boardwalk. All skill levels are welcome. They will cover the problems of dealing with light contrast in an oak grove, getting a good close-up photo of the Forest’s native flowers, and catching birds and butterflies in flight. Bring your tripod and macro lens if you have them. Many digital cameras have macro settings.

September 20, 9:30 a.m. – Elfin Forest Geology

Take a journey through time with Jeff Grover, Cuesta College geology instructor. Jeff’s diagrams and explanations of the geologic history of the Morro Bay area will bring to life the slow but at times very violent formation of the volcanic morros that are our most visible county landmarks. As he leads us through the geologically recent Elfin Forest dunes, he will talk about and show examples of the 150-million-year-old jumble of bedrock that lies beneath the dunes, a mixture of rocks called the Franciscan assemblage. Since our area is prone to earthquakes, Jeff will describe and answer questions about the area’s earthquake faults that are in constant motion. Join us for a lively and informative walk and talk.

October 11, 8:30 a.m. – Bird Walk Second Saturday – Note earlier time

The Big Sit!, an annual birding event, will be held on Sunday, October 12, at Bush Lupine Point in the Elfin Forest. Jim Royer, coordinator of the local team of birders participating in this event, will lead us on a Saturday walk beginning at 8:30 a.m. to identify the birds that the expert birders can watch out for the next day. With Jim’s help, we will see or hear at least sixty species of land and water birds. He’ll bring along his spotting scope so we can see some of them close up, and we’ll learn the calls of the Wrentit, Bewick’s Wren and Scrub Jay as well as many others. This walk is for those who just enjoy looking at birds as well as for more experienced birders. Bring binoculars if you have them.

October 18, 9:30 a.m. – Exploring Evolution in the Elfin Forest

Bob Field, Cal Poly adjunct physics professor, will lead us through the Elfin Forest on a search for the signs of five kingdoms of life and five billion years of global natural history. Bob says, “The rugged beauty of our evolving coast reveals the powers of the sea, sky, land, and life itself. Everything you see around the Elfin Forest changes over time - the land, sea, atmosphere, and biosphere. From daily and seasonal cycles to billions of years of physical and biological evolution, it’s all about relationships and energy flows.”



Horticulturist John Nowak led the May wildflower walk and gave fascinated listeners many good pointers about growing native plants. Photo by Yolanda Waddell.



Botanist Dirk Walters explains a halophytic (able to thrive in a salty environment) plant during his June walk on the Elfin Forest salicornia marsh. Photo by Jean Wheeler.

Walks in the Elfin Forest begin at 9:30 a.m. (unless otherwise noted). Park at the north end of 15th Street off Santa Ysabel in Los Osos and walk up the path at the end of the street to the boardwalk. The walk will begin at that point. Wear comfortable shoes, long sleeves and pants to avoid poison oak and mosquitoes. Please park carefully, avoiding driveways and mailboxes. Please leave pets at home. The easy paced walks last 1-1/2 to 2 hours. For more information call (805) 528-0392.



White-crowned Sparrows depend on seasonal fruit. This one found a ripe berry from a Coffeeberry bush. Photo by Jean Wheeler.



Coming Up in the Elfin Forest

By Jean Wheeler

The plants we see blooming in August and September are those that have adapted so well to our dry Mediterranean climate that they are still flowering or even peaking now, near the end of our half year of drought. Mock Heather blooms almost exclusively in these two months, its yellow flowers brightening much of the shrub cover in our Elfin Forest.

White flowering shrubs include California Sagebrush and Coyote Brush, both in the middle of their very long blooming seasons from March or April to December. Other white flowers that may still be enjoyed are California Croton and Dune Buckwheat (its white flowers aging to pink, then rust). California Goldenrod is in bloom, and pink flowers that may still be seen are Pink Everlastings, California Asters, and California Hedge Nettles. Coffeeberries are ripening from red to almost black.

Among our resident birds active now are White-crowned, Chipping, Lark, Savannah, and Song Sparrows; House and Purple Finches; Lesser and American Goldfinches; Bushtits; Bewick's Wrens; and Anna's Hummingbirds. Fairly common but usually staying low in the bushes are California and Spotted Towhees, California Thrashers, and Wrentits. The blue flash and noisy screams of California Scrub Jays are everywhere, and California Quail can be seen scurrying through the underbrush.

This is also a good time to watch for possible sightings of our summer or transit-only visitors. These include Tree, Violet Green, Northern Rough-winged, Barn, and Swift Swallows; Swainson's Thrush; the Black-headed Grosbeak; Wilson's Warbler; and the Western Tanager.

Western Fence Lizards dart actively along the boardwalk in these warmest months, and you may be lucky enough to see a Garter, Gopher, or California King Snake, none of which is poisonous. Coyotes have been seen regularly, even in the middle of the area within the boardwalk loop. Tracks of our nocturnal animals, notably Raccoons, can be seen in the sand next to the boardwalk on early morning walks.

The abundant and active life displayed by so many plants and animals adapted to our summer drought and dry sandy dune soils is marvelous to observe at this most stressful season of their year.

For detailed charts of colors, habitats, and peak seasons for hundreds of plants and animals, see our Pocket Guide, sold on page 11.

Elfin Forest Visitor

When Elfin Forest visitors are as young as Juliann Meyer, the delighted young lady in the adjacent photo, we can guess that she will be a good influence on members of her generation when it comes to caring for places like the Elfin Forest.

Photo by Bob Meyer.

Sixty-second in a Series

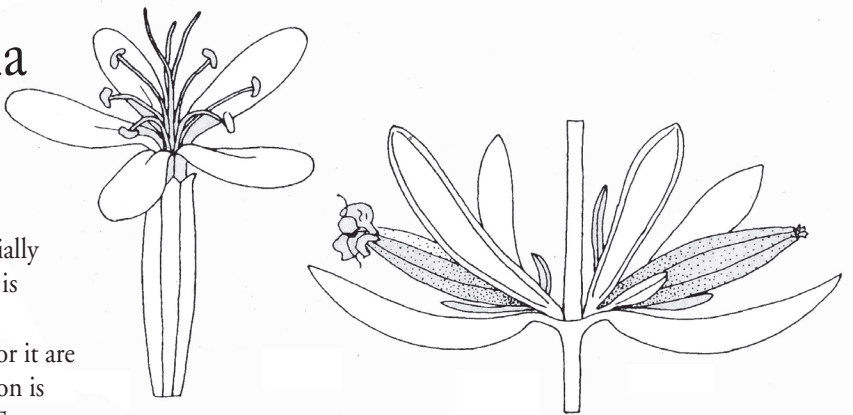
Alkali Heath or Frankenia

By Dirk Walters, Ph. D.; Drawings by Bonnie Walters

The plant profiled this time is our only common representative of the small family, Frankeniaceae, (4 genera and 90 species worldwide). The family is essentially restricted to salty or halophytic soils and our local species is *Frankenia salina*, which in older floras was identified as *F. grandiflora*. The only English common names I know for it are alkali heath or more commonly, 'frankenian'. The illustration is Bonnie's drawing used in Dr. David Keil's and my Plant Taxonomy textbook done several years ago. The pictured species of alkali heath is common in the salt marsh at Morro Bay as well as along the California coast from the Bay Area south into Baja. It is also found growing along the edges of salt flats in the desert interior.

From the overlooks along the Elfin Forest boardwalk or from South Bay Boulevard, the salt marsh looks to be as flat as a pancake. But a closer inspection will reveal its surface to be made up of small hills and shallow valleys. I must grant that the difference in elevation between the hills and valleys is only inches, but these elevation inches translate into extreme differences in soil salt concentrations. Soil salt concentration in the valleys is very high while that of the hills is significantly lower. Alkali heath is a plant of the 'hill' tops. It also tends to be the first common plant encountered around the outer edge of the salt marsh. Therefore, it prefers relatively lower salt concentrations.

The problem with salty soils for plants is that plant cells must extract water via physical and chemical cellular processes. In order to get water, the salt concentration within the plant root cells must either be higher than that of the soil in which it grows or the plant must expend valuable energy in a way that forces water to enter the cell. In both of these cases, only water with little or no salt enters the plant. Another possibility is for the plant to have a way of allowing salt water to enter the plant roots and flow through its plumbing (xylem) and then out the tips of stems and leaves. In this last situation, the cells bordering the plumbing are able to extract only the water from the salt water while allowing the ever increasingly concentrated brine to pass on to the plant tips where it is expelled. Alkali heath appears to use this method. My evidence



is the conspicuous salt deposits that develop on its leaves during the dry portions of the day. The salt water extruded by the leaves evaporates leaving salt deposits behind.

Alkali heath consists of an herbaceous top and a woody base (i.e., it is suffrutescent). Its small leaves are folded down (revolute) and it produces a few scattered small pink or flesh colored flowers at a time. Like a lot of plants that live in very harsh environments, alkali heath expends relatively little of its resources on sexual reproduction. The purpose of sexual reproduction is to produce variations as insurance against changing conditions. The more variable the offspring, the greater the chance that at least one offspring will be able to survive in a new environment. However, in harsh environments, where the probability of a seedling surviving is extremely low, plants tend to expend their limited resources in vegetative (asexual) growth or expansion. This is the main explanation why plants and animals of harsh and/or specialized environments are the most in danger of going extinct when conditions change.

Several of my references, including Dr. Matt Ritter in his *Plants of San Luis Obispo: Their Lives and Stories*, report that alkali heath is sold in health food stores under the name of yerba rheum. They report that it is used for treatment of diseases of mucus membranes and for inflammation of joints. On the other hand, our species is listed in J. C. Th. Uphof's *Dictionary of Economic Plants* as being an astringent used medicinally for dysentery, diarrhea, gleet, catarrh and leucorrhoea. Several authors recommend it as a garden plant, but I suspect it would take a die-hard native plant gardener to succeed at growing it.

Geology continued from page 1

ward, the San Joaquin Valley was completely submerged while further offshore, small islands rose up from the sea in the developing Coast Ranges block.

Fossil remains within Franciscan rocks are rare and often obscure due to their complicated mode of origin. By comparison to similar age rocks elsewhere, we conclude that the water surrounding our area teemed with life common to the Mesozoic and early Cenozoic ages. Large marine reptiles fed on ammonites (shelled mollusks similar to the modern day nautilus), fish and other reptiles. Dinosaurs walked the foothills of the ancestral Sierra Nevada and, no doubt, on the isolated islands within our area. Flying reptiles (pterosaurs) have been collected from sediments near Los Banos and though not yet discovered as fossils in California rocks, primitive birds were branching off from their dinosaur cousins to take command of the sky. Clearly our region was a fascinating world and a very different one from the estuary of today.



Conservation Chair Pete Sarafian leads the way back from a good morning's work in June, removing veldt grass and other invasives from the slope above South Bay Boulevard. Behind him (L-R) are Marty Levi, Rich Johnson and Prisila Johnson. Photo by Bob Meyer.



Standing behind their work at the end of the a veldt grass pulling fest on July 5th are (L-R) Bob Meyer, Sharon Meyer, Rich Johnson, Prisila Johnson, Pete Sarafian and Ron Rasmussen. Also contributing to the day's harvest were Jay Bonestell and Mimi Whitney Hafft. Photo by Yolanda Waddell.

South Bay Boulevard Boasts Improvement

By Pete Sarafian, Conservation Chair

Thanks to a lot of hard work over the years, the highway embankment along South Bay Boulevard is starting to resemble the rest of the Elfin Forest. There still are some nasty grasses and invasive broadleaf weeds. However, compared to the past, the future is looking bright. Next time you drive along the eastern boundary of the Elfin Forest, glance toward the forest and compare what you see there to the other side of the road. The difference is striking.

Like most vacant land in Los Osos, the terrain outside the Elfin Forest is almost 100% veldt grass. This year, we cleared grasses all the way to the bottom of the hillside. The top of the hillside is almost veldt free now. Finally, the bottom of the hill will be veldt free as well. Once the veldt and other grasses were beaten back, native plants began sprouting all over. And they are doing so mostly on their own. Many individual coast live oaks as well as mock heather, black sage and sagebrush plants are coming up. Even a native toyon is growing there.

There was a Land Conservancy project to plant natives along the hillside nearly a decade ago, but many of the plantings did not survive. In addition to the difficult growing conditions there, the failure to remove weeds for multiple years before the planting allowed the invasives to overwhelm the native seedlings from this early project. This difference clearly illustrates the remarkable success of the persistence of our weed warriors.

This spring, the Morro Bay National Estuary Program (MBNEP) supplied its watershed crew from the California Conservation Corps. The small crew helped pull weeds from the hillside; then SWAP's Weekend Weed Warriors did the mop-up, finishing the job during the June work party. Our crew consisted of Jay Bonestell, Steve Cake, Rich and Prisila Johnson, Marty Levi, Bob and Sharon Meyer, Pat Murray, Alon Perlman, Ron Rasmussen, Dar Reynolds, Pete Sarafian, Mimi Whitney, and Liz Will. Everyone did a terrific job! Thank you so much! This weeding should be the last on the hillside until next year.

Let's All Pull Together

For those who are not going away,
I look forward to having you say,
"We just cannot wait,
To share in deeds great,
And join you to work and to play."
There's always much more left to do,
Than one man or woman can chew.
So please lend a hand,
There's such a demand,
For you, our intrepid crew.

Yours in integrated pest management,
Pete Sarafian.

Stop; Look; Listen!

By Pete Sarafian, Conservation Chair

Again for the tenth year in a row (that I can count anyway), some "well intentioned" Elfin Forest user(s) is/are pulling out native vines. I am sure that this person thinks that he or she is doing a good turn.

The native Wild cucumber (also called Manroot) may look like Cape ivy, but it isn't. And it belongs in the Elfin Forest. "Helpful" people who pull the wrong vine, on the other hand, do not! That is, until they learn the difference between Wild cucumber and Cape ivy.

Cape ivy has shiny leaves that are smooth to the touch. It often has purple stems, and doesn't display climbing tendrils. Cape ivy has yellow composite flowers in bunches. Wild cucumber has tendrils, leaves with a rough surface, single white flowers growing along the stem, and prickly round cucumber-like seed pods.

If you happen to see anyone removing Wild cucumber vines under the mistaken impression that it is Cape ivy, please tell them these important differences between the two plants so we can help preserve the native Wild cucumber population in the Elfin Forest.

Wanted

DEAD

CAPE IVY

ALIVE

WILD CUCUMBER

Two look-alike climbing vines are loose in the Elfin Forest. One is the infamous alien invader from South Africa: Cape Ivy. It is known to be strangling-to-death Oak forests up and down the California coast. The other is a desirable native species, Wild Cucumber, which peacefully coexists with our Oak groves.

<p>Cape Ivy (Bad)</p> <p>Alias: German Ivy</p> <p>Alias: <i>Delairea odorata</i></p> <p>Distinguishing characteristics:</p> <ul style="list-style-type: none">Smooth rubbery feeling leavesNo tendrilsGrows under, in, and through trees, never in the openSmall clusters of yellow flowersSmall Dandelion seeds easily redistributed by wind or birdsDoes not die back in summer <p>Goal: total domination via monoculture. Often hangs out with, equally nasty, Bridal Creeper, alias: Smilax, alias: <i>Asparagus asparagoides</i></p>	<p>Wild Cucumber (Good)</p> <p>Alias: Manroot</p> <p>Alias: <i>Marah fabaceus</i></p> <p>Distinguishing characteristics:</p> <ul style="list-style-type: none">Leaves feel rough and "hairy"Has tendrils that curl as plant matures (see picture above)Grows in open, under trees and climbs both bushes and treesSmall single five petal white flowersProduces large green spikeball fruit (favorite of the Woodrat)Dies back in summer <p>Goal: just to get along.</p>
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Do not try to apprehend either "Cape Ivy" or "Bridal Creeper" by yourself. Special techniques are needed to prevent spreading their evil spawn. Instead join the Weed Warriors' posse at 9 a.m. at the north end of 15th Street on the first Saturday of each month. Weapons and refreshments provided. For more information call: 528-0392.

The flyer printed above shows that Cape ivy (*Delairea odorata*) and Wild cucumber (*Marah fabaceus*) look similar. But Wild cucumber, shown with tendril in the photo, is a native and Cape ivy is an invasive plant from South Africa. Photos and flyer by Bob Meyer.



CCC Crewmembers are required to learn the natural history of places they are working in. Here Conservation Chair Pete Sarafian tours the Elfin Forest with the CCC Watershed Crew. Photo by Yolanda Waddell.

Watershed Crew Supports Forest

By Pete Sarafian, Conservation Chair

This year, as in the past several years, the CCC has supplied several man-weeks of labor to assist SWAP in the Elfin Forest. This year the crew came from the MBNEP's Watershed Crew, about five or six young workers under the direction of Elizabeth Tolerton. They worked several projects in the Elfin Forest this time, pulling weeds, installing wooden erosion bars and generally helping all over. Without the CCC, we certainly couldn't have gotten so far ahead of the weeds in the last ten years.

This time, the Watershed Crew's work took them to the extreme southwestern corner of the park to pull out English ivy and Cape ivy. They also pulled out veldt grass just west of the 11th Street entrance and along the steep South Bay Boulevard hillside. They completed a project begun by SWAP earlier in the year to replace deteriorating straw wattles along the top of the hillside with wooden 4 x 4 erosion bars. Finally, they helped reinforce bio-logs that were installed last year along the hillside using re-bar which should keep the logs in place much longer than the wooden stakes that were installed originally. The MBNEP and CCC are invaluable to SWAP in helping to support the Elfin Forest. Thanks to all who have contributed. You are appreciated very much.

SWAP First Saturday Work Parties

SWAP First Saturday Work Parties are held at 9 a.m. to noon on the first Saturday of each month. Please dress for wind, fog, or sun. Layers work well. Long pants and long-sleeved shirts are best. Sturdy shoes are a must. Meet at the north end of 15th Street at the Elfin Forest entrance. Take care not to park in front of drive-ways or mailboxes. Call 528-0392.