



# TORREYANA

A NEWSLETTER FOR  
TORREY PINES  
STATE NATURAL  
RESERVE

Volume 9, Issue 3

Online version- May 2008

## PRESERVATION OF CARMEL MOUNTAIN

By Bobbi Krueger

Photo by Herb Knufken

Diana Gordon, Past President and Torrey Pines Association (TPA) Counselor and teacher at the French American School in La Jolla, relayed to the Docent Society at their April 12, 2008 meeting, the saga of preserving Carmel Mountain open space.



The story began some 20 odd years ago when Pardee began processing for approvals to develop the corridor between the I-5 and I-15 freeways. Their plans ignored preservation of identified wildlife corridors that connected from I-15, across the

county, westerly to Torrey Pines State Natural Reserve. Gordon's work involved rallying troops to influence the City of San Diego, the granting body of development permission to Pardee, and the State, who could declare the mountain as preserved open space.

Gordon's efforts to save open space on Flat Top Mesa and its unique characteristics (e.g. vernal pools and *Dudleya brevifolia*) lead to the formation of Carmel Mountain Conservancy with the help of Ed Navarro, then the District Supervisor. Their work raised awareness but not in time to stop bulldozers from starting their destructive work. But a group of Conservancy members standing in front of the machines stopped their progress, raised more public interest and led to the preservation of Carmel Mountain in its present 355 acre open space condition in 1998.

As with so many causes, watch what you wish for. With preservation of the space comes problems from encroaching urbanization. Kids play in the Carmel Mountain Preserve and modify flora and terrain with forts and paint ball games. Motor bikes modify spaces and bring accelerated erosion. Off trail horse riding brings other problems. Carmel Mountain and Peñasquitos Canyon Preserve share rangers, which means there is minimal and sporadic formal

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surveillance on the mountain. Now the City of San Diego is looking at developing more trails through the Preserve – once funding is identified.

This winter the rain pattern did not create opportunities for vernal pools and fairy shrimp. But there are still many plants that appeared that are common to both TPSNR and Carmel Mountain. Local residents adjacent to the Preserve have taken a special interest in preservation of this natural resource outside their backyard. They informally watch over the area as unofficial "docents". □

### HELP- Lodge Duty Request for May:

Please look at the Calendar (p 10) and if you are able to help out, especially as a 2<sup>nd</sup> person on weekends, call the desk and sign up for one of the more than 60 empty slots.

Thanks! **Irene Larrimore and Lillian Lachicotte**

The **Torrey Pines Docent Society** publishes the *Torreyana* bi-monthly. Items for publication may be submitted to Editor Bobbi Krueger, bkrue@earthlink.net. In alternate months, TPDS publishes the *Torrey Pinecone*, edited by Sharon Clay Rose, clayrose@roadrunner.com. The *Pinecone* includes the monthly duty calendar, announcements and information concerning membership meetings. Submissions for either publication are due on or about the 20th day of the preceding month.

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or [www.torreypine.org](http://www.torreypine.org)

TPA [www.torreypines.org](http://www.torreypines.org)

Visitor Center phone **858.755.2063 dial 0**

**TPDS Board Members:**

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Dir. of Children's Program, Cecily Goode

Dir. of Programs, Ken Baer

Dir. of Training, Jeff Spivak

Dirs. of Duty Coordination, Lillian Lachicotte  
& Irene Larrimore

Extra newsletters are available in the Docent Library.

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Rangers: Kyle Knox, Mike Winterton and  
Martin Urbach

Park Aides: Larry Adelson, Troy Garcia,  
Laura Lowenstein (Vol. Coord.), Laura  
Ohman, Moira Reagan

**Torrey Pines Docent Society**

**Since 1975**

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Many thanks to Editor Bobbi Krueger, the docents contributing to this newsletter and to Copy Editors Walt Desmond and Lillian Lachicotte. And thanks to Vernie McGowan for mailing and distribution.

*Roger Isaacson*

Director of Communications

## From the President

The Sixth Annual Park Advocacy Day was held in Sacramento this past April 7th. Torrey Pines State Natural Reserve was represented by Rick Vogel, Mike Gonzales from the Torrey Pines Association and me. This annual event sponsored by the California State Parks Association is a unique opportunity to meet with legislators and their staff and to present first hand our concerns regarding the State Park system in general and the Reserve in particular. This year, the event took on added significance due to the threatened budget cuts and the possible closure of 48 state parks and the reduction in lifeguard staffing at 16 state beaches, including Torrey Pines State Beach. This was also a wonderful opportunity to work together with representatives of many other park units throughout the State and to share our passion for these precious resources. This year was the largest gathering in the six year history of the event, with 235 advocates coming together. We all came away with a renewed commitment to the protection of this wonderful legacy.

We also came away with a deeper understanding of the tremendous financial challenge facing the Park system, the fact that this threat is bipartisan in nature and that the situation will not improve quickly. California is one of only three states that require a two-thirds majority in the legislature to pass its annual budget. In this context, budget options have been limited by the fact that all but one of the Republican legislators has taken the pledge to oppose any increase in taxes or fees. Accordingly, it is virtually impossible to increase revenues and, in order to eliminate the estimated \$14 billion budget deficit, services will have to be cut.

The fundamental problem, however, is a bipartisan lack of priorities on the part of our elected officials. Rather than identify what services are essential and must be protected, the Governor has proposed and the Legislature is considering an across the board cut to all government services. As a result, essential functions such as education and health services as well as valuable resources like the State Parks are being critically undermined. An intensive bipartisan exploration of ways to improve efficiency and reduce wasteful spending, however, has yet to begin. While our legislators pay lip service to the State Parks, few have been willing to commit to keeping the system intact.

The message to us is clear. If we are to protect and preserve our beloved Reserve, we will have to do it largely on our own. To this end, the establishment of the Endowment has been an essential step forward. The work of the Whacky Weeders and the crew that has been refurbishing the benches are also excellent examples of this effort. Finally, our decision to participate in the repair of the Guy Fleming House is an important example of our commitment to the Reserve. We must not only continue these efforts but we should explore other ways in which we can maintain and preserve this unique habitat. If Torrey Pines State Natural Reserve is to be sustained, it will come down to us, in cooperation with the Torrey Pines Association and the DPR to do the job.

Thank you again for your dedication and hard work. I look forward to seeing you around the Reserve!

*Steve Usher*

President,

Torrey Pines Docent Society

## Docent Chronicles April 07

### Next General Meeting May 10, 2008 9 a.m.

National University, just across the highway from the Torrey Pines Golf Course (15 min walk from the Visitor Center)  
11255 North Torrey Pines Road.

Program: *A Walk on the Beach*  
Docent Brett Lear will discuss the ocean and the intertidal zone. Emphasis will be on the physical factors that organisms have to contend with in the intertidal zone and the strategies they use.

Presentations by 3 Science Fair Awardees

### Torrey Pines Docent Society General Meeting April 12, 2008

*Excerpted from notes from the TPDS General Meeting, by Secretary, Ann Williamson. Complete minutes in docent library.*

Board President Steve Usher called the meeting to order at 10:10 AM.

**Frank Burham** was selected Docent of the Month for his willingness to help out wherever needed.

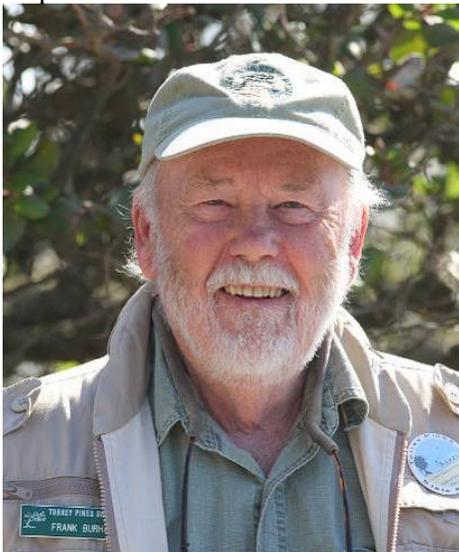


Photo by Herb Knufken

Frank is devoted to Lodge Duty, Children's Program, Guided Nature

Walks, Trail Patrol and bench refinishing. Frank also created a wooden display case for the Visitor Center.

**Cheryle DeWitt** expressed concerns about the position of the concession stand, on top of vegetation close to the snowy plover nesting site. The stand is also the source of trash being thrown about. Donna Renner, at 619-688-3343, is in charge of concession stands for State Parks. Steve Usher noted last year, when he wrote to State Parks expressing concerns about having the stand at Torrey Pines, that Renner was sympathetic to our concerns. If you pick up trash near the stand, photograph it first and send the photo to State Parks with comments. The trial period for the concession stand is two years. **Tony Summers** noted that if we object to the stand location, we have a better chance of getting it moved if we propose an alternative location.

**Carol Smith** shared an article in the San Diego Union that the Del Mar Union School District is considering padlocking two fence gates that lead from a school to a Torrey Pines Extension trail. Carol reports that the trail, steps, and amphitheatre near the gates are in good condition. Cliff Hannah, a TPA counselor and Del Mar Terrace resident, is concerned because parents walk their children to school along this trail. There are five access points to the Extension in this area of Del Mar Heights. The other accesses are not affected by the proposed gate locking. Steve Usher suggested, and **Alan Bennett** moved that a coordinating committee be formed between TPDS and TPA, with Carol Smith as our coordinator. It passed.

#### Board Reports:

Steve Usher (for **Priscilla Lewis**) reported we have approximately \$78,500 in assets.

Steve Usher (for **Margaret Fillius**) announced we had 13 Special Walks

in March and raised \$1,700 with \$450 on its way. **Jack Friery** led 5 of the 13 walks. Seventeen docents participated. Many groups have told Margaret how much they enjoyed the walks.

The Children's Program Report from **Cecily Goode** included our receipt of a \$210 donation from Susan LaVorgna Elementary in Temecula, the second time we have received a donation from a school in Temecula. [See her article on p. 4 for more CP information.]

Jeff thanked **Jeannie Smith** and **Sherry Doolittle** for taking over the Training Program while he was gone.

**Don Grine** will lead a geology walk on the beach Sunday, April 13, at 10:00 AM. The bird walk on April 26 will start at 8:30. Bring binoculars. Both docents and trainees are welcome.

Two Lodge Duty shifts were unfilled tomorrow, according to **Irene Larrimore**; double hours were offered. If you have trouble using the new phone Jody said just let it ring. There is a booklet on how to use the phone.

The video screen, originally provided by the TPA is no longer working. TPA is considering repair or replacement.

#### Ranger's Report: Jody Kummer

Blue agaves at the head of the Guy Fleming Trail are being removed. Jody will be on vacation April 14<sup>th</sup> through April 28<sup>th</sup>. Since the Del Mar Heights School gates are on school property the district will make the decision.

Brian Gaudet was asked for an estimate to repair the Parry Grove steps. Parking machines are in both beach parking lots but staff has not yet been trained on their use. All cars need to display a pass. Docent passes should be on your dashboard with the logo and 2008 face up. Early visitors can use the parking machine in the South

Beach parking lot. Maintenance will pick up plant material removed by Earth Day participants. There is no update on the leach field. Staff will close the left turn lane into the Reserve when the parking lot is filling up to prevent traffic back-up coming down the Torrey Pines Road hill.

### **Guy Fleming House Slide Show: Torrey Pines Lifeguard Ed Vodrazka**

Ed Vodrazka and his wife and young daughter feel blessed to live in the house built by Guy Fleming and his carpenter father and listed in the Historical Registry of California Buildings. Ed's daughter is named after the jade plants blooming when she was born, planted by Margaret Fleming.



*Photo by Herb Knufken*

The site was chosen to be out of sight of park visitors and protected from the ocean winds. Ed's duties as occupant of the Guy Fleming House include lifeguard, aquatic call out, enforcement call out and after hours caretaker. As caretaker they got rid of the rats, refinished the floors and refurbished Guy Fleming's upstairs office to be a bedroom.

The beams Guy Fleming had scavenged from the Natural History Museum 1926 fire were rotted and housed nesting bees. The bees were removed professionally, although not the honey. Ed used wood from old redwood picnic tables to repair them. He did short-term repair on the roof, walls and plumbing. He has spent an estimated one thousand hours and \$4000 to buy time until a funding source is located to make proper repairs.

In anticipation of funding, Ed has requested a permit for the next phase of work. Judy Schulman moved that we contribute \$5,000 for Guy Fleming House repairs. The motion passed unanimously. The TPA and possibly another foundation will also contribute.

### **Bookstore: Nancy Woodworth**

*The Autobiography of Delfina Cuero* will be on the shelf in two weeks. Through information from Jeannie Smith we are buying it directly from the Indian museum.

### **Trail Patrol: Sherry Doolittle**

There were 266 Trail Patrol hours recorded in March; 25% by **Theo Tanalski**. There were lots of enforcement issues related to flower picking.

Two blue brushes in the docent library can be used to erase off-trail footprints. A sign with the brushes describes how to use them..

Sherry encouraged us to show our presence at the Torrey Sandstone formation near the Guy Fleming Trail birdbath. It deters visitors from climbing the Lion's Paw formation.

### **Library: Mike Yang**

There are two DVD copies each of the Mike Hastings and Diane Greening presentations. Mike reminded us to write a phone number on the library card. Trainees, please also put an email address. Return library materials before it is necessary to send out a late notice. There is a new CD share box. If you wish to share a photo CD, please put your name on it and put it in the box. No formal library checkout of these CDs is needed, but please return them.

### **Recycling: Alan Bennett**

A coalition of Keep America Beautiful and the American Chemistry Council is putting recycle bins in all state parks including at Torrey Pines at the upper level. Alan thanked everyone who had

worked on recycling and is inviting others to join the team after a one-and-a half hour training session.

Alan thanked docents who hosted the Whalers at Torrey Pines. The feedback on presentations and guided hikes was very good. Alan is setting up an exchange with Cuyamaca, probably the end of May.

Jack Paxton suggested bringing your own mug to the meeting and not putting out any styrofoam cups in May.

Walt Desmond reminded us to pick up ID cards from Laura Lowenstein and pay our dues.

Barbara Wallach asked those interested in Earth Day activities to meet in the North Beach Parking Lot at 8:30 AM, Saturday, April 19<sup>th</sup>. Bring shopping bags, gloves, water and a snake stick.

Connie Beardsley will coordinate the Plein Air Festival in early November. Dawn Thieding will arrange for the musicians. Steve Usher will coordinate the caterers. Anyone interested in helping, please contact Steve or Connie.

President Steve Usher reported on Sacramento Park Advocacy Day. (See his message page 2)

## **CHILDREN'S PROGRAM April 2008**

The 2007-2008 Children's Program is coming to an end with just 5 weeks left of scheduled walks. The last school to end the year is on May 30<sup>th</sup>. Thanks to all those docents who have been a part of this great program.

A few of the docents in training have been seen tagging along on various hikes. There is still time to fulfill one of the requirements and see what the Children's Program is all about.

The docents are meeting on May 1<sup>st</sup> for a hike and discussion on the Native

American, Kumeyaay. This topic is the most requested and is equally as important in its presentation.

*Cecily Goode*, Children's Program Coordinator

### Docent Coordinators

**Bird Count-** Kathy Estey  
**Bookstore-** Nancy Woodworth  
**Children's Program-** Cecily Goode\*  
**Duty Calendar-** Lillian Lachicotte,\*  
Irene Larrimore\*  
**Library-** Mike Yang, Bonnie Hornbeck  
**Membership-** Walt Desmond  
**Pinecone-** Sharon Clay Rose  
**Programs-** Ken Baer\*  
**Recycling-** Alan Bennett  
**Refreshments-** Barbara McCardle  
**Special Walks-** Margaret Fillius  
**Torreyana-** Bobbi Krueger  
**Trail Patrol-** Sherry Doolittle  
**Training-** Jeff Spivak\*, Jeannie Smith  
**Whacky Weeders-** Stephanie "Steve" Tarkington

\* means Board Member

See Roster for phone or email.

## TORREY PINES EARTH DAY

By Barbara Wallach

Guy Fleming said; "The sanctity of this refuge can only be preserved insofar as the people, whose heritage it is, zealously guard and maintain it in its primitive beauty."

It seems every year this becomes a more difficult task that requires an increased amount of time, energy and hard work. However docents and volunteers always make an effort to help when activities are planned and opportunities to participate are available.

On Earth Day 2008, twenty docents, volunteers and friends worked in several areas in the reserve removing invasive plants. Our efforts were only a drop in the bucket but every invasive we removed is a plus for the native plants. This year the native wildflowers showed their appreciation

for our hard work (over the last few years) by rewarding us with the most beautiful wildflower display in decades.

Thank you all for your participation and a special thank you to **Steve Tarkington, Laura Lowenstein, Alan Bennett**, Ranger Kyle Knox and to maintenance for their help in making the morning a success. Next year let's make Earth Day even better by planning early, encouraging increased participation and offering a delicious barbecue afterwards. We hope those who had prior plans this year can join us in 2009. See you on the trails!

## Musings on an Old Map

by Maryruth Cox

More than a century ago a hardy band of surveyors tramped over the hills now known as the Torrey Pines State Natural Reserve. They measured contours in 25 ft. increments from sea level to the highest point in the extension, 403'. Their topographical map was issued by the U.S. Geological Survey in 1889.



Today this old map allows us a glimpse into the world of Torrey Pines in the eighteen hundreds. On the portion shown here you can see the

California Southern Railroad slashing across Soledad Valley to Sorrento but the route was different in those days. It cut through the hills west of the extension, across cultivated fields that are now Sea Village and Del Mar Terrace, to the point that juts into the lagoon between Point Del Mar and Portofino. It crossed the eastern edge of the slough on a causeway that is marked today by a row of utility poles. Near the present sewage pumping plant the old route joined the present Amtrak and Coaster line.

A sidetrack, the Beach Shingle Railroad, is shown as leaving the main line near Portofino. It ran along the north side of the lagoon to the beach. No sign of it exists today. What was its story? Were there excursion trains to the beach? Or was it used for hauling rocks to San Diego construction sites?

The map shows the slough emptied into the sea at the extreme northwestern corner of Soledad Valley. When the rail line was moved to its present location in 1909, its embankment interfered with this outlet. And when the coastal highway was built in 1932, its fill pushed the mouth of Soledad Creek further south to its present location at the bridge.

The black curvy track at the bottom of the map heads north along the top of the mesa towards the present site of the Lodge. There it turns to the northeast and goes down a ridge to the lagoon where it crosses the wetlands to the northern side. I searched for traces of this track and concluded that the concrete road south of the Lodge follows the old track along the edge of a big canyon. At the Discovery Trail the old track turned to the northeast and then went down the ridge. Now a big bite has been taken out of the ridge by the coastal highway. But you can still imagine a fervent horseman plunging down the ridge through the chaparral and pine to the lagoon, then galloping over the pickleweed and salt flats to the other side.

Perhaps Guy Fleming climbed up this same track in the spring of 1916. In his paper published in 'California Garden' in July of that year, he wrote that he and a friend took a train to the Sorrento stop, then walked two miles along El Camino Real (Sorrento Valley Rd.), turned to the west and crossed a plain through exuberant vegetation ("snapdragon, with a growth of six feet"), and climbed to the top of the mesa.

It was on this excursion that Fleming noticed the poor condition of the rare Torrey pines, vandalized for firewood. Alarmed, he wrote articles to urge their protection. The power of his pen inspired the San Diego Museum of Natural History (and many individuals) to fight for the preservation of the Torrey pine. On his camping trip in 1916, Fleming counted 200 trees. Today there are thousands in the reserve, a tribute to the vision and concern of Guy Fleming and many, many others.

## Docent in a Bind

By Jack Paxton

*A few short years ago SANDAG spent \$14.7 million pumping sand onto our beaches and there are plans UNDERWAY to spend even more to repeat this exercise in futility! BTW- SANDAG was mad at then Governor Gray Davis for not giving state funding to this exercise!*

*But first the news from California State Parks Foundation*

<http://www.calparks.org>

"As if closing more than 17 percent of the parks system outright isn't a bad enough idea, slashing lifeguard services on state beaches in Santa Cruz, Orange and San Diego Counties is a dangerous proposal. Californians will continue to flock to state beaches, and a lack of skilled lifeguards to protect those beach goers is not only a recipe for disaster, it will potentially increase costs to the state and also increase the state's risk and legal

liability if people are hurt or injured at the beach. Closing state parks is not simply an economic exercise. The plan will impact millions of California teachers and schoolchildren who rely upon parks, reserves, historic museums and missions to showcase our state's rich history. Achieving a mere \$9 million savings by hacking at the heart of our state parks system inflicts maximum physical pain for minimal financial gain.

### State Park Cuts in the FY 08-09 Budget

- Closure of 48 state parks, including 17 state parks, 17 state historic parks and museums, 3 state beaches, 9 state recreation areas and 2 state reserves
- Reduce staffing at least 50 percent for lifeguards on state beaches in Orange, San Diego and Santa Cruz Counties
- \$4.4 million cut from management and operations of state park system

*I suggest we convert our lifeguards at Torrey Pines State Beach from lifeguards to sand-guards, to show the public where our real priorities lie. Maybe they can protect an investment in what we really cherish.*

*Alternatively we could slip a 50 cent a gallon tax on gasoline in CA to balance the state budget in one year, from the 46.2 million gallons per day we use in California. This could hasten implementation of CA carbon dioxide greenhouse gas reduction, which the USEPA recently blocked. In other developed countries gasoline costs almost twice as much.*

*Or we could levy 1 cent per gallon on water imported to southern California, which might modestly reduce waste and rise over \$5 BILLION per year! Time to educate our leaders as well as fellow citizens.*

## TPDS GSDSEF Professional Organization Judging

By Rhea Bridy

TPDS (Torrey Pines Docent Society) has given GSDSEF (Greater San Diego Science and Engineering Fair) Professional Organization Awards for nine years, to promote understanding of nature and natural resources in the TPSNR region. Starting from a brief March 2000 conversation between **Walt Desmond** and **Theo Tanalski**, the TPDS GSDSEF judging committee has grown to eleven, with backgrounds that have included homemaker, engineer, marketing consultant, scientist and speech therapist. This year, docent committee members will mentor each student awardee with written article assistance and oral presentation review. The selected six middle and high school students also receive a year's pass to the Reserve from Supervising Ranger Jody Kummer. Four of the projects will receive a \$200 award check. The TPDS team members are: **Rhea Bridy, Frank Burham, Eileen Conway, Wes Farmer, Bill Key, Bobbi and Sheldon Krueger, Suzan Potuznik, Theo Tanalski, Sally Whitlock and Mike Yang**. Theo is committee chairman.

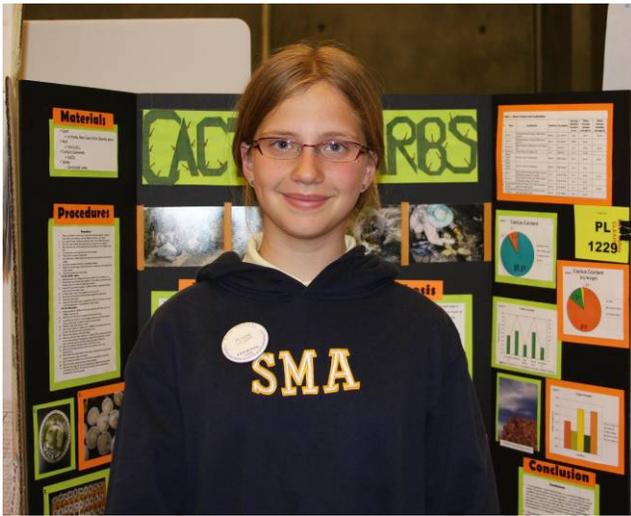
Students' articles/abstracts will appear in our publications prior to their presentation to us at the monthly docent meeting. The first three are below.

### Cactus Carbs

By Julia Slupska

Photo by Mike Yang

The inspiration for this project came to me during a hot desert hike when my father cut a prickly pear cactus fruit and I tasted its refreshing juice. Frequently observing these desert plants around San Diego, and knowing that they can be used as food, I decided to make it the subject of my science project.



content and their surroundings. However, the relationship between the environment and cactus carbohydrate content is more complex than I predicted in my hypothesis. Possible explanations for these surprising results might include plants' higher need for storing food, a need for stronger fiber or the need to conserve water by lowering osmotic pressure in harsh, dry environments.

I formulated the question "What are the effects of the cactus' environment on the amount of carbohydrates in the cactus?"

I hypothesized that I would detect the most carbohydrates in cacti growing at the locations with milder weather conditions and that, similar to strawberries, the sweetest cacti would be found at cactus farms.

I collected cactus samples from locations that differed in altitude and average rainfall. The samples were dried, ground and analyzed for sugar content. I extracted the simple (soluble) sugars from the dried powder with water. To determine total sugar, I suspended the dried cactus powder in heated acid to hydrolyze the complex carbohydrates. The amount of simple sugars and total sugar in each sample was determined by High Pressure Liquid Chromatography.

I found that the relationship of carbohydrate content to environmental conditions was not as I predicted. My data showed that the harsher the environment, the more carbohydrates were present in the cacti. The lowest amounts of carbohydrates were discovered in the cacti from the farm and the seashore, while higher amounts were found in cacti growing in drier places or at higher altitudes.

I concluded that there is a direct relationship between cacti water

## EARTH, FIRE & WATER...THE CONNECTIONS

*By Matt Friedman  
Photo by Mike Yang*

My interest in Lake Hodges water quality and the San Dieguito watershed increased when, in October 2007, the Witch Creek Fire began a destructive march west and eventually burned through the Lake Hodges area. The objective of my project was to determine if there was a difference in water quality and soil characteristics between a burn zone and non-burn zone on the shores of Lake Hodges following the wildfire. I hypothesized that water and soil quality in the burn zone would be poorer than in the non-burn zone due to runoff contaminated with burn debris.

Four sample areas in the Lake Hodges community of Del Dios were studied. A total of 405 tests were conducted on water and soil samples collected on nine different dates. Water samples was tested for ammonia, pH,

alkalinity, nitrites, nitrates, chloride, phosphate, hardness, DO, BOD, iron, copper, chromium, lead and turbidity. Soil samples were tested for pH, lead, nitrogen, phosphorus, potassium and porosity.

I was surprised to find few differences between the test results from burn and non-burn sample sites. No metal contaminants were found at sites of either category. In general, the rain events did not exaggerate the test result differences between burn and non-burn sites. Levels of most test variables increased with rain. Biochemical oxygen demand levels increased at all sites following rain. The soil pH levels and potassium levels were affected irregularly across the test sites.



Water quality in the burn area was better than anticipated, even after rain events. Effects of the Witch Creek Fire on the Lake Hodges watershed were not as negative as expected overall.

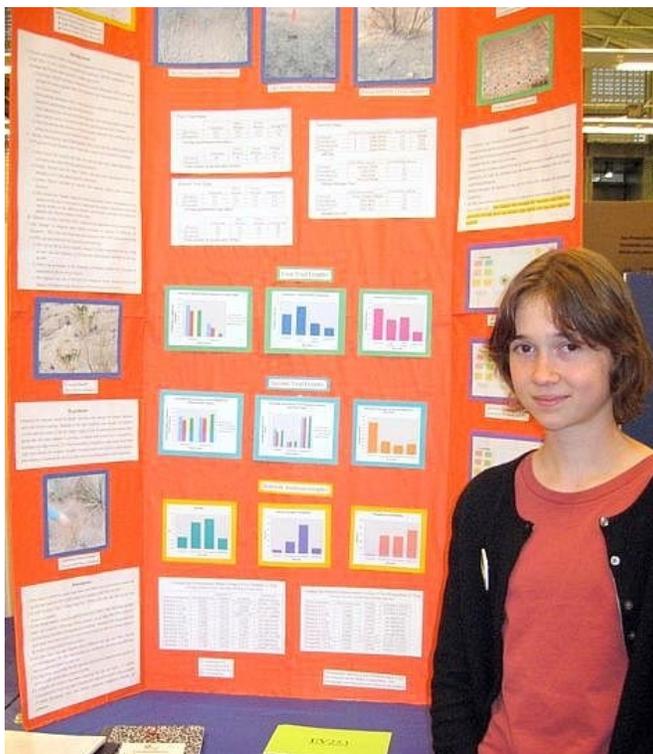
The Lake Hodges area is a significant water and recreational resource for San Diego County. This area is a complicated and important ecosystem that deserves to be studied and preserved.

# Fire Frequency and Invasive Plant Dynamics in Coastal Sage Scrub

By Sara Zlotnik

Photo by Bill Key

The *fire regime* of an ecosystem is determined by the frequency, intensity and type of fire which occurs in a particular environment. The coastal



sage scrub of Southern California, a habitat composed mainly of low, drought-resistant shrubs, is adapted to a specific fire cycle, which has been largely altered by human activities. My experiment explored the effects of fire frequency on the germination of two native and one invasive plant species in order to determine whether more frequent fires increase the abundance of exotic weeds. In order to accomplish this, soil samples were collected from three nearby areas with different fire histories: the Del Dios Preserve had not experienced any wildfires in recent years; Lake Hodges was burned in the Witch Creek Fire (Nov 2007); and Poway Road was burned both in the Cedar Fire (Oct

2003) and the Witch Creek Fire (Nov 2007).

Two native plant species (Coyote Bush and California Buckwheat) and one invasive species (Field Mustard, a close relative of the common Black Mustard) were grown from seeds planted in the different soils. One plug tray was used for each soil type, and 96 seeds of each plant species were placed in each tray. The number of

sprouts in each sample was noted every day for two weeks. From this data, two quantities were calculated for each plant and soil type: The germination rate (the average time it took for a seed to sprout) and the percent germination (fraction of 96 seeds that sprouted).

The percent germination decreased with increasing fire frequency for both the native and invasive species, as shown by the decrease in percent germination for the native buckwheat (unburned: 33%, once-

burned: 23%, twice-burned: 7%) and the invasive mustard (unburned: 79%, once-burned: 68%, twice-burned: 66%). These results show that with increasing fire frequency, the invasive weed was much more likely to germinate than the native plants. The germination rates (the number of days between planting and sprouting) did not vary significantly among the different samples for the native plant species. The mustard, however, germinated significantly faster in the once-burned soil in comparison to either the unburned or twice-burned soils.

Although all three species seemed to be negatively affected by more frequent fires, they were affected to different degrees, showing that fires do

have the potential to alter the complex dynamics between native and invasive species. Chemical tests revealed an increase in pH, nitrogen availability and phosphorus availability in the burned soils, which could help to explain the differential germination success between the various soil types. The soil pH and other nutrient concentrations could increase to toxic levels, showing why the three plant species all exhibited less abundant growth in the more frequently burned soils.

Further experiments of this kind would help determine what the optimal fire regime is for native plant survival over invasive competition. Additionally, with more studies such as this, one might indicate better methods for restoring coastal sage scrub habitats following a fire to make the area more hospitable for native plants to grow.

## Two Docent Exchange Events

By Alan Bennett

The Cuyamaca Ranchero State Park Interpretive Association (CRSPIA) Volunteers are coming to Torrey Pines State Natural Reserve (TPSNR) 12201 Torrey Pines Park Road, San Diego, at 12:00 noon on **Saturday May 10, 2008!** They will have lunch in the picnic area. We will meet up at the South Parking Lot entrance kiosk and lead walks from there. Please plan to help escort these dedicated volunteers around the TPSNR Saturday afternoon. We will probably be on the trail for about 1 1/2 hours so everyone should be back at the Torrey Pines Lodge about 2:00 p.m.

The CRSPIA volunteers will show us their wonderful park on **Saturday, May 17, 2008.** We will meet at the CRSP Visitor's Center at 10:00 a.m. CRSP is east of San Diego, on Highway 79, five miles north of I-8. If you are more comfortable getting printed instructions from a service like <http://www.mapquest.com>, the address

is: 12551 Highway 79 , Descanso, CA 91916

I have seen the photos of this year's flowers and the area is spectacular! The volunteers have promised to take us to some remote spots, seldom seen. Remember to bring a lunch and beverages -- and Slip (on long sleeve shirt), Slop (on sunblock), slap (on a hat) and wrap (on sun glasses)!

Call Susan Buxbaum (858) 720-1819 [buxbaum@sa.rr.com](mailto:buxbaum@sa.rr.com) or Alan Bennett (619) 955-3275 [alanbennett@hotmail.com](mailto:alanbennett@hotmail.com) if you would like to carpool. We will provide more information about CRSP at the TPDS May 10th general meeting.

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## RARE Plants at TPSNR

By Margaret L. Fillius

We have a significant number of species – especially coastal plants – in the rare habitats of TPSNR that are threatened or endangered because of coastal development. It takes a lot of effort to get plants listed as endangered or rare. Studies must be made of where a species exists and in what density etc. and submitted to authorities for acceptance. Therefore it is quite likely we have species that are rare but not listed.

One such plant is False Golden Aster (*Heterotheca sessiliflora* ssp. *sessiliflora*) that, I have been told, may occur in a few locations in the Extension, in a location along Flintkote and at San Elijo lagoon. We may also have species growing that have not been noticed or identified.

*Chorizanthe orcuttiana* is listed as Federally Endangered (since 1996) and California Native Plant Society listed 1B.1 (rare, threatened, or endangered in California and elsewhere; seriously endangered in California). It was always thought this plant might be found at TPSNR, but

there were no confirmed reports. Three reports were from Encinitas and Point Loma. But while mapping some of the rare plants of Torrey Pines for Darren Smith in April, I saw a plant I that might be it. Marty Blake-Jacobson and I had it confirmed by Dr. P. Jon Rebman, Curator of Botany at San Diego Natural History Museum, as being *Chorizanthe orcuttiana*.

Because we never know where or what may be found, we need to be ever more diligent in protecting this rare environment. We need to educate people not to make new trails, but stay strictly to the mapped ones. Many of these plants are tiny and can be easily overlooked. We must also try to eliminate picking of plants, flowers or seeds so we can continue to have plant diversity in our Reserve. People who are accustomed to cultivated flower gardens expect that there will always be more of the flowers to enjoy and that the supply is unlimited. We must make them understand that this paradigm does not apply to wildflowers. Wildflowers that are picked and destroyed are not replaceable, and if future generations are to see them they must be left to propagate in the wild.

## PROFUSION OF FLOWERS VISITED BY MULTITUDE OF MOTHS

By Bobbi Krueger

Photos by Herb Knufken

Will wonders of nature never cease?! April 11th through the 13th saw the air above flowering plants and bushes thick with darting moths and even butterflies.

Naturalists attribute the spectacle to the timing of the rains, and the profusion of wildflowers this spring. Those who visited the Reserve during that weekend were distracted from the fact that many of the wildflowers were beginning to die, because little flying creatures were so much more

noticeable. How fortunate we are that nature is never "routine".



White-lined Sphinx Moth



Painted Lady



Caterpillar-Western Tussock Moth

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### \*\*\*DUTY CALENDAR AGAIN\*\*\*

Summer is a busy and fun time for all, so your duty coordinators are finding it challenging to fill duty shifts. Please look at the Calendar when you are at the Lodge and sign up for shifts. You can also do this at the General Meeting.



Torrey Pines Docent Society  
 PO Box 2414  
 Del Mar, CA 92014  
 (858) 755-2063/755-8219  
[www.torreypinesreserve.org](http://www.torreypinesreserve.org)

### May 2008 TPDS Visitor Center Duty Calendar- Updated 4/26/08

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
Lodge Duty Hours L- 9-12 (DST)  L- 12-3  L- 3-6		Walks  W Sat/Sun/Hol 9:30 (Start 10:00)  W Sat/Sun/Hol 1:30 (Start 2:00)		L- Arnold  L- Stiels  L- Coram	1  L- Fiorentino  L- Sogo  L- Heinemann	2  L- Blantz/ W- Sanseverino  L- W- Stiegler  L-	3
L- Lombardi W- Rowbottom L- J. Smith W- Kamen L- Hartung/Reich	4 L- Pfleeger  L- Lundstrom  L- Larrimore	5 L- Fiorentino  L- A Marshall  L- B&F Eckles	6 L- C&B Hornbeck  L- Oppenheimer  L- Heinemann	7 L- Pfleeger  L- Ivany  L- Coram	8 L- Tarkington  L- Sogo  L-	9 <b>Meeting</b> L- W- L- Ugalde W- King L-	10
L- Schulman W- L- Schulman W- L-	11 L- B Arnold  L- F Doolittle  L- Heinemann	12 L- Woods  L- A Marshall  L-	13 L- Neumeister  L- Oppenheimer  L- Heinemann	14 L- Pfleeger  L-  L- B&F Eckles	15 L-  L-  L-	16 L- Scholfield/ W- Sanseverino L- Hartung/ W- S. Rose L- Hartung/Reich	17
L- Rowbottom W- Grantham L- Parsick W- Brav L-	18 L-  L- F. Doolittle  L- Larrimore	19 L-  L- Ivany  L- S&S Rose	20 L- Lettiere  L- Oppenheimer  L-	21 L- Lettiere  L- Coram  L-	22 L-  L- Stiels  L- Lombardi	23 L- / W- Farness L- / W- Stiegler L-	24
L- W- L- W- L-	25 Double hrs L- Schumacher W L- Parsick W L-	26 L-  L- Leonard  L-	27 L- Parsick  L-  L-	28 L- Lombardi  L-  L-	29 L- Lombardi  L-  L-	30 L- Scholfield/ W- L- / W- L-	31

To sign up for an opening, call docent on duty (858 755-8219) to confirm the time & write your name in the Logbook. If you cannot do your duty, please try to find your own substitute by switching with another docent or using the short-notice list. Then call the docent on duty to make the change in the Logbook. **Coordinators:** Irene Larrimore (858 509-9604) & Lillian Lachicotte (858 481-6237)