Red Tides and Harmful Algal Blooms
Lecture notes by Lillian Lachicotte

John McGowan, Research Professor Emeritus of Oceanography, Scripps Institution of Oceanography, UC San Diego spoke to us about the red tides and harmful algal blooms in the Southern California Bight and at Torrey Pines Beach.

According to Dr. McGowan, a red tide is caused by large concentrations of single celled marine algae about the size of two or three red blood cells. There are one to two thousand species of these organisms and the immense amount of marine algae in the oceans produces one-half of the world's oxygen through photosynthesis.

Algae occasionally divide very rapidly and this is called an algal bloom. Changes in numbers take place quickly, often with no known explanation. Scientists are studying whether a sudden increase of nutrients and other variables can explain the increase and if an equally rapid decrease can be explained by consumption by other sea life.

Three hundred species of these microalgae are potentially toxic or harmful. Shellfish and other sea life ingest the harmful organisms and become toxic for human consumption. Algal toxins are problematic because they are not easily detected; there is no bad smell or taste and toxins are not destroyed by cooking or freezing. Physical contact with toxic algae has not been proven to be harmful.

Harmful algae blooms are not a recent phenomenon and have been recorded for thousands of years. The first written reference was in 1000 BCE, the first recorded fatality in 1793 and references indicate local Indian tribes did not eat shellfish during blooms.

Within the algae group are diatoms and dinoflagellum. Dinoflagellum swim through water using two slender strands called flagella: one flagellate stabilizes, the other propels. Diatoms have hard cell walls made of silica. Dr. McGowan showed pictures of many varieties of diatoms which have a multitude of beautiful shapes. Hobbyists have collected and arranged the organisms, taken photos of them and made beautiful works of art.

Diatoms reproduce by splitting in two, then four and so on, and if conditions are right, can cause an algal bloom in a very short time. Species of dinoflagellum can out-compete other species as they cause a bloom. Organic matter in the bloom uses up so much oxygen that there can be large fish kills and it can even change the viscosity of the water.

Samples of ocean water are gathered twice a week at Scripps Pier to be studied. W. E. Allen, a pioneer in the study of phytoplankton from 1919 to 1939 at SIO, spent 20 years collecting...
and counting cells off the pier to gather information about them. The files from his research are used today in continuing studies of algae and algal blooms.

[Ed. Note: The green blooms this year are from the algae genus called Tetraselmis, one that has been seen off the coast for the past three summers.]

**November 2010**

**Docent Meeting Notes**

Excerpted from notes from of TPDS

Nov. 13th General Meeting, by Secretary Bill Eckles. Complete minutes in docent library.

President **Rick Vogel** called the meeting to order at 10:45 am, thanking **John McGowan** for his interesting presentation on “Red Tides and Harmful Algae Blooms.” Rick distributed a thank you card to the ranger staff to all docents following the recent staff appreciation pot luck dinner.

Live Scans have still some 87 docents remaining to be fingerprinted. Active or supporting docents will not be able to receive their parking permits this spring if they do not get their live scans completed, so please take this requirement seriously and get it done promptly.

Thanks to the nominating committee for their work in constructing a strong slate for the 2011 Board of Directors:

- President: Ken King
- Vice Pres.: Barbara McCardle
- Secretary: Bill Eckles
- Treasurer: Mike Yang
- Hosting: Jan Lombardi and Irene Larrimore
- Children's Program: Sue Randerson
- Training: Janie Killermann
- Programs: Catherine MacGregor
- Communications: Lou Adamo

**Mayo Stiegler** moved and **Sheldon Krueger** seconded that the board nominees be approved by acclamation. The motion passed unanimously. Welcome to the new board!

Docents eligible for Lifetime Membership were requested to make their status known so appropriate name tags can be procured.

The arched, decomposing tree that welcomed visitors to the Guy Fleming Trail is no longer standing. Supervising Ranger Dylan Hardenbrook has promised to do his best to create an appropriate memorial to the tree. Rick mentioned that a photo from years past may be posted in memoriam.

Proposition 21, a vehicle registration fee increase to support the preservation and maintenance of the State Parks, failed on election day. Parks personnel are formulating a formal statement and action plan.

The "High Bridge" over the train tracks on Hwy 101 will begin being retrofitted for earthquake survival in the immediate future. Traffic will be impacted by this reconstruction, likely minimized by a second, parallel temporary bridge to be constructed with a bicycle lane uphill, but with bicycles assuming traffic flow on the faster downhill side. It is estimated the project will last for about 2 1/2 years.

Thank you to **Bob Doolittle** for arranging to park the recycle truck out of sight.

**Treasurer's Report:** (Ken King) Museum Shop sales of $4,200 are seasonally light, but stronger than last year. Credit cards continue to represent about 50% of sales.

**TPA:** (Pat Masters) Pat thanked the docents for support of the recent TPA Symposium. TPA supported Proposition 21 and attributes its failure to the current difficult funding time. The TPA will support a photo workshop in the spring as well as the Art in the Pines event on May 15, 2010.

**Other Announcements:** Ann Williamson announced the field trip to the Archaeological Center, scheduled for December 1. Contact Ann for information. **Linda Zlotnik** announced that decorating for the holiday party will take place December 4th, beginning at 10:00 am. The Holiday Party will be held the following week on December 11th at 11:00 am. Sign up and bring a dish. If possible, help with set up and tear down. [See p. 4]

**Children’s Program:** (Laura Lowenstein) Thank you to all the
helpers. Those who wish to become involved are invited to tag along with a group and soon become more involved.

**Art in the Pines:** (Janice Barnard) One more volunteer is needed to help coordinate this event. Otherwise, plans are progressing nicely.

**Lodge Hosting:** (Irene Larrimore) Irene announced the entire calendar for the month was full! Thank you docents!

**Training:** (Janie Killermann) We have a good group of recruits and look forward to another fine group of docents in 2011. Training will begin, as usual, in late February. Janie requested further participation from the Docent body as mentors, sharing their knowledge and enthusiasm with this new group.

**Communication:** (Lou Adamo) There has been some hacking into the off-site recording of docent hours, so please check that your hours have been registered. This does not affect hours logged at the Lodge, itself.

**Library:** (Mike Yang) Karen Lay will take over for Mike as he assumes the position of Treasurer.

**Museum Shop:** (Bobbie Krueger for Nancy Woodworth) A new batch of tracks T’s has been received, as well as additional supplies of the regular pine cone motif T’s. Barbara Wallach announced a new collector’s pin is available.

**Lillian Lachicotte** announced that pottery from Santa Catarina Paipai (Baja CA Kumeyaay) are on sale in the Museum Shop as well as cards with a gold “Indian” seal.

**Whacky Weederes:** (Barbara Wallach for Steve Tarkington) Barbara requested docent help to clear the area from the Extension entrance up the hill to the auto repair garage. She provided a signup sheet. Whacky Weederes meet at 8:30 am on Mondays to clear invasive plants. They are currently working on the trail connecting Razor and Yucca Points as well as at Yucca Point itself.

**Trail Patrol:** (Mike Pisor) Mike expressed thanks to all for overall docent support. Interpretive Trail Patrol training will begin in January, so sign up if interested.

**Seabees:** (Sheldon Krueger) Seabees are responsible for “Stay on the Trails” signage and they can use help from a docent skilled in the use of a router to help construct the signs. Sheldon requested refuse from the Whacky Weederes to be used to keep runners from going off-trail. Seabees meet Tuesdays at 8:30 am to noon.

**Sherry Doolittle** suggested the Society may be interested in a “Docent Cookbook” of a Torrey theme.

Rick adjourned the meeting at 11:45.

**Children’s Program**

Winter break for the Children’s Program begins on Friday, December 17. There won’t be a program that day; we will resume on Thursday, January 6.

To make up for a rained-out program, there will be a make-up day on Tuesday, December 14. That is not one of the usual program days, and extra help will be needed as 80 children are expected to attend. Please sign up online if you can help.

The Children’s Program calendar is filled for the entire school year. All available dates through the end of May have been reserved. The dates are listed online and docents can sign up now for any programs throughout the rest of the school year.

The latest long-range forecasts predict a dry winter, but with the early rains there is no sign of that yet. We have ambivalent feelings about the weather. Rain is great for the reserve, but if a program day is rained out, we have to scramble to try to find an acceptable alternate day, and then scramble some more to find docents who can participate. So please, check online or stay in touch with Laura following any rainstorms on Thursday or Friday mornings.

We hope to see many of you this fall as we start out again with our stellar program!

**Tony Summers,**
Children’s Program Director

**When Opportunity Knocks …**

We need to be ready for that unexpected, but willing, donor who wants to make a significant contribution to the Reserve. The Torrey Pines Association was founded by Guy Fleming in 1950 as a non-profit membership organization able to manage donations for the betterment of the Reserve. But there sometimes exists a big gap between intentions and successful donations! Here’s one of those stories.

One Saturday afternoon in October, Lillian Lachicotte was on Lodge duty when a woman came in and asked how she could donate to benefit the Reserve. The previous year, this same lady had asked about making a donation and her message was handed to a ranger who called back to inform her that it was not possible. She was referred to State Parks offices in Sacramento!

Fortunately, the potential donor returned this year and found Lillian, who referred her to the TPA. After we made contact, I learned that she lives in Wyoming and is a part-time resident in North County. She discovered the peace and beauty of Torrey Pines and comes here often to hike the trails. A love of our Reserve inspired her philanthropic wish.

She is a sophisticated donor, involved with large environmental groups in Wyoming. She had many pointed questions for me about TPA, its organization, staffing, and our activities in the Reserve.

If all goes well, she will be adding TPA to her list of supported organizations for distributions from
her donor-advised fund at a foundation. This designation may result in annual donations of several thousand dollars or more and will be used to support projects and programs here at Torrey Pines.

Moral of the story — Docents are the “first responders” for potential donors. It is wise to be prepared: know TPA’s role as fund-raiser for Torrey Pines State Natural Reserve, how to contact us, and donor information that can be found on the TPA website, www.TorreyPines.org. Major donors will want to talk to a person; I can always be reached at 858-480-1850.

Thanks for partnering with TPA to help preserve and protect this precious wilderness!

Pat Masters,
TPA President

Unique Gifts in the Museum Shop at the Reserve
by Karen Woods

Just in time for the Holidays ... The Museum Shop in the Visitors’ Center offers a wonderful opportunity to explore and shop for items unique to Torrey Pines. You will find a selection for all ages and interests. A beautiful array of handcrafted gifts, such as pottery mugs, pine needle baskets and Laird Plumleigh’s much sought-after ceramic tiles are available.

Choose from toys and books that encourage a child’s natural curiosity, from howling coyote puppets, jigsaw puzzles of dazzling insects, T-shirts covered with animal tracks, a book following the lifecycle of the Monarch Butterfly or an Audubon coloring book suitable for adults, as well.

Display your affiliation with TPSNR with a Torrey Pines medallion for your hiking stick or our elegant new collectors’ pin.

Gorgeous and informative calendars for the New Year feature photographs of Southern California’s wonders. Landscape and Legacy makes a memorable gift or addition to your personal library.

Those on your holiday list will enjoy memories of Torrey Pines from our collection of greeting cards displaying the art of Tsuyoshi (Mat) Matsumoto or photographs from the Reserve. Unusual ornaments such as pewter dolphins, handmade origami owls and craneflies, and adorable brushkin animals created from natural materials are ready to adorn your tree.

Come see all of the possibilities to complete your holiday shopping, support the Reserve and utilize your Docent discount!

Huge thanks go to docents working on items for the Museum Shop. Recently these include Bobbi Krueger overseeing the T-shirt orders – and bringing new colors and adult-sized tracks T-shirts into the Shop. The new collector pin is the fruition of Peggy Fiorentino’s and Barbara Wallach’s efforts. And Margaret Pluth and Meg Donnelly led docents in learning the art of paper folding. From their careful instruction and inspiration, aided with delicious refreshments and good conversation around the library table, a flock of origami birds is now alight on our Christmas tree.

Come to the Festive Torrey Pines Docents' Holiday Party
by Greg & Alison Howard

Our annual Holiday Party will be held Saturday, December 11th at 11am at the Lodge. This is a terrific opportunity to have fun and share holiday cheer with fellow docents and staff! The 2010 Class of new docents will host this event. We understand that, in years past, the food for this potluck has been extraordinary. Plan on bringing a favorite dish to share with your friends and colleagues at the Reserve. Choices include hors d'oeuvres, salads, main dishes, side dishes, desserts and drinks. Family members are welcome. Come and enjoy a great time!

For your convenience, you can leave your potluck item with a docent at the Lodge before you park. New docents— we would really appreciate it if you would come early to help set up and/or stay late to help clean up. We will be there at 9 am. Thank you and we look forward to a great time!

TPDS Lodge Exhibits and Interpretation Notebook

The Lodge Exhibits and Interpretation notebook has grown from a measly 1” binder to a 3” binder! It is located on the bookshelf behind the Lodge Hosting desk. Please peruse it when traffic in the Museum is slow. There is a complete index in the front, and tabs for each section.

If anyone has any additional information to add, or would like a subject covered that is not there, please contact me.

Thanks. --Diane Greening, Senior Park Aide/Interpreter

CALLING ALL COOKS!

Do you have a favorite recipe? One that you love to make for company or just for yourself? Here’s your chance to share your culinary delights with many others in a Torrey Pines Docent cookbook. The idea for a cookbook was mentioned at the Nov. 13th monthly meeting. The recipes would be inserted in a new cookbook that would include artwork from our beautiful Reserve. Just send in your favorite recipes via email or bring me typed recipes to the Holiday Party on December 11th. If neither of these
alternatives work for you, send typed recipes via snail mail to me at my address in the Roster. When the cookbook is finished, it will be offered for sale in the Museum Shop. Many decisions are yet to be made about the appearance of the book, but the beginning is collecting the recipes from you.

Thanks for your help with this fun project!
Bonnie Hornbeck

The Arch Tree
by Maryruth Cox
Photo taken November 2003.

On a summer day in 1977 Mat, the artist, trudged on the sandy south branch of the Guy Fleming Trail to a place between the markers 4 and 5. He set down his stool, gripped his sketchbook and turned to look back at the Torrey pine that stood next to the path across the canyon. Yes, this was the right place to do his drawing of the unusual tree that had twin trunks whose limbs embraced each other in a tangle of interlocking branches.

As he worked on his sketch of the tree he thought „This Path is Paved with Love,” and it became the caption for his drawing. He dedicated it to his good friends, Dave and Shirley Barrett, „an engaging young couple” (Bob Wohl), who often came to Mat’s gallery in La Jolla, across the street from the Post Office. Dave Barrett was the Premier of British Columbia, 1972-1975, an active politician who drove changes in British Columbia, „a new bill passed, on average, every three days”, (Times Colonist, 10-1-10), such as the Agricultural Land Preserve, Pharmacore, the first guaranteed income program for seniors in Canada, and many, many more.

The Barrett’s tree stood beside the Guy Fleming Trail, a symbol of love, for many years. Even when it fell down, across the path, Ranger Wohl and the staff decided to keep the solid arch under which hikers ducked for many more years. Finally rot claimed the tree, and now it has been taken away.

But still we have Mat’s drawing, available at the Museum Shop, of the Barrett’s tree that stood beside the “Path Paved with Love.”

DQOM (Docent Question of the Month)
December 2010  Courtesy of Jim Larrimore
Torrey Pine Needle Bundles: Really, how many needles?

Question: How many needles are in a Torrey pine needle bundle?

Answer: In Docent training, we learn that the Torrey pine has 5 needles in a bundle, although other hard pines have 2 or 3, while soft pines have 5. In 1999 Docent Vernie McGowan sampled three Torrey pines and found that all three had 5 needle, 4 needle and 3 needle bundles on them (see Torreyana, November 2010, page 4). What’s going on?

Vernie McGowan has the wonderful hobby of raising Torrey pine seedlings from the seeds. She sometimes puts a very young one on the desk in the Lodge, and a seedling in a pot at the front of the Lodge. I looked at her seedling on October 1. It was doing well and had grown to over a foot in height. The new growth at the top was verdant green, while at the bottom of the skinny trunk the needle bundles had turned brown and some had fallen off. With some difficulty, I counted needles in a top bundle - 4 needles. Then I picked up brown needle bundles lying at the bottom to count them - 3 needles! I counted more of the brown bundles still on the trunk - 3 needles. I counted more of the top bundles - 4 needles, seemingly in all the top bundles.
When I told Ann Williamson and Cecily Goode about my finding, they were skeptical. Ann asked how big my sample size was. Cecily said that they ask school kids to see if they can find a bundle with 4 needles and the kids come back with one - they tear one off of a 5-needle bundle. But when I told Vernie what I had found, she added more to the story. On a small Torrey pine seedling at home, she found that the first bundles produced have 1 needle! And then she reported that "Baby Japanese Black Pines have only one needle!"

To follow all this up, my wife Irene suggested we look for small Torrey pines on a walk in Crest Canyon. Wow! Here’s what we found: A young tree, about 12 ft high, had 3-needle bundles, 5” long, lying on the ground; its lowest branches had bright green, 5-1/2” long 3-needle bundles. Up a little higher there were some bright green 4-needle bundles, and above that, 5-needle bundles. We found a similar situation at another, older Torrey pine, perhaps 20-feet tall. The needles were longer and the needle color was gray-green. I collected from the lowest branches a couple 3-needle bundles, 8” long, and 4-needle bundles, 9” long. Higher up were 5-needle bundles.

So here’s a hypothesis: When a Torrey pine seed germinates and starts to grow, at first it produces little single needle stalks. As the seedling succeeds and grows, it produces larger stalks that split into three needles, and as it grows taller, the bigger stalks split into four needles. And when the seedling feels pretty confident that it will make it to a tree, it changes again and produces thicker stalks that split into 5 needles. Would someone like to do a Science Fair project to test this hypothesis, and also investigate whether the process applies to all pines? □

**HistTorrey A through Z: the letter U**
(U.S. Highway 101)

*by Judy Schulman*

*Postcard from mid-1930’s*

The road through the park has been called by several names and descriptions through the years. (Some of them probably unrepeatable in polite company by the drivers who had to go up the hill backwards in the 1920s because the gas in their gravity-fed gas tanks was getting low.) It has been referred to as just the park road, El Camino Real, Pacific Coast Highway, Roosevelt Memorial Drive, Torrey Pines Boulevard, Torrey Pines Grade, Torrey Pines Mesa Road, and Torrey Pines Park Road. But no matter what it had been called in the past, by 1925 it was part of U.S. Highway 101.

Our short road (approx 2 miles) is actually part of the much longer highway that, at one time, ran the entire length of California, Oregon, and Washington. It was officially designated U.S. Highway 101 in 1925. This was the result of the Federal Highway Act of 1921 which resulted in funding to help state highway agencies construct a paved system of two-lane interstate highways. Signage in our area didn’t appear until 1928.

U.S. Highway 101 was the original road between Los Angeles and San Diego. During the latter part of Prohibition it was used as the fastest way to get to Tijuana to buy alcohol.

During WW II, it became the eastern boundary of Camp Callan. In 1998 the state legislature granted all of U.S. Highway 101 historical status.

Our section of the road is described in John Steinbeck’s *Cannery Row* and Raymond Chandler’s *The Long Goodbye*. In the 1944 movie *San Diego I Love You*, there is a brief view of the road as it runs through Torrey Pines.

For a more complete history of our park road, please refer to Marty Bressler’s September 1999 *Torreyana* article “Our Road-A Brief History: Summarized from a Report by Historian Alexander D. Bevil.”

For photos of U.S. Highway 101 as it ran through and near our park, please refer to the following websites.


www.101cafe.net □

For all you gardeners who are interested in planting natives at home, Joan Adamo has compiled a list of natives found in the TP Extension that stay green. It was added as page 9 of the online version of this newsletter.
The Bird that Nobody Knows
by Kathy Estey

A bird we very seldom see at Torrey Pines is actually there all the time. It’s the Rufous-crowned Sparrow.

The Rufous-crowned Sparrow was first counted by the Torrey Pines Bird Crew in November, 1997, and has been seen—with some effort and concentration—regularly since then. It’s a plain bird, with a gray face and body and its only most obvious field mark of a reddish cap. It is about the same size as the Song Sparrow (about six inches from tip of bill to end of tail), or a little smaller than the White-crowned Sparrow, which is just a winter visitor to Torrey Pines. Though it is often overlooked, it is one of the characteristic birds of the coastal sage scrub.

With its sage scrub habitat in decline, its population may be declining, but it can regularly be seen on the Guy Fleming Trail, south of the northern overlook. During one visit I made in spring, it appeared to have a nest in a small bush, on the ocean side of the trail. At least it was seen entering the little bush with a beak full of bugs. Out of the breeding season, when it is seen, it is usually sitting on a small bush in the area of the northern overlook.

So, next time you are walking the Guy Fleming Trail, instead of watching the Peregrine Falcons chase every bird out of their territory, or watching the Common Ravens do their loop-de-loop in the sky, look down and see if you may see The Bird that Nobody Knows.

Photo © Herb Knufken
Herb’s amazing photo site is www.pbase.com/herb1rm

Torrey Pines Docent Society Bird Survey: November 6, 2010
Total of 81 species (Unusual species bold-italics)

Gadwall 8
American Wigeon 48
Mallard 10
Surf Scoter 13
Bufflehead 4
California Quail 5
Pacific Loon 1
Common Loon 5
Pied-billed Grebe 8
Eared Grebe 3
Western Grebe 321
Clark’s Grebe 12
Black-vented Shearwater 1000
Brown Pelican 39
Brandt’s Cormorant 8
Double-crested Cormorant 1000
Great Blue Heron 4
Gadwall 8
American Wigeon 48
Mallard 10
Surf Scoter 13
Bufflehead 4
California Quail 5
Pacific Loon 1
Common Loon 5
Pied-billed Grebe 8
Eared Grebe 3
Western Grebe 321
Clark’s Grebe 12
Black-vented Shearwater 1000
Brown Pelican 39
Brandt’s Cormorant 8
Double-crested Cormorant 1000
Great Blue Heron 4

Great Egret 9
Snowy Egret 4
Little Blue Heron 1
White-faced Ibis 7
Osprey 2
Northern Harrier 1
Sharp-shinned Hawk 1
Cooper’s Hawk 1
Red-tailed Hawk 1
American Kestrel 6
Merlin 1
Clapper Rail 3
Sora 1
American Coot 14
Black-bellied Plover 5
Snowy Plover 40
Semipalmated Plover 3
Willet 1
Whimbrel 1

Long-billed Curlew 9
Marbled Godwit 2
Sanderling 15
Least Sandpiper 6
Dunlin 2
Bonaparte’s Gull 1
Franklin’s Gull 1
Heermann’s Gull 40
Ring-billed Gull 4
Western Gull 52
California Gull 10
Royal Tern 20
Parasitic Jaeger 3
Mourning Dove 13
Anna’s Hummingbird 28
Ruby-crowned Kinglet 8
Hermit Thrush 3
Wrentit 26
Northern Mockingbird 2

Nuttall’s Woodpecker 2
Downy Woodpecker 2
Northern Flicker 1
Black Phoebe 9
Say’s Phoebe 6
Cassin’s Kingbird 6
Western Scrub-Jay 5
American Crow 14
Common Raven 19
Bushtit 81
Bewick’s Wren 4
House Wren 4
Marsh Wren 4
Ruby-crowned Kinglet 8

California Thrasher 3
European Starling 2
Orange-crowned Warbler 9
Yellow-rumped Warbler 28
Common Yellowthroat 2
Spotted Towhee 6
California Towhee 30
Sage Sparrow (Bell’s) 3

Savannah Sparrow (Belding’s) 8
Brewer’s Blackbird 20
House Finch 68
Lesser Goldfinch 10

Observers: Jack Friery, Herb Knufken, Will Cox, Frank Wong, Blair Francis, and Anonymous

(Previous Bird Surveys may be found at torreypine.org/activities/bird-sightings.html)
The Torrey Pinecone, a calendar of events, notes from business meetings, and other items of specific interest to the docent membership, is published bi-monthly (even months). For odd months we publish the Torreyana. Please submit items by the 20th of the month to the Editor Editors@torreypine.org This newsletter is edited by Docent Lillian Lachicotte. Items for publication may also be left in the Torreyana mailbox in the docent library.

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<td>L-M Lewis</td>
<td>L-Blantz</td>
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<td>L-S&amp;S Rose</td>
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<td>L-Humphreys</td>
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<td>26</td>
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<td>L-Tarkington</td>
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<td>L-M Lewis</td>
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<td>W-Vogel</td>
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</table>

To sign up for an opening, call the hosting docent (858-755-8219) to confirm the time and write your name in the Logbook. If you cannot do your session, please try to find your own substitute by switching with another docent or using the short-notice list. Then call the hosting docent to make the change in the Logbook. Coordinators: Irene Larrimore & Barbara McCardle
**Addenda to the Torrey Pines Docent Society December 2010 Torrey Pinecone (online version)**

**A Planning Guide for the Home Gardener**

NATIVES in the Torrey Pines Extension that STAY GREEN!
(These plants were all green Oct. 8-10, 2010.)

**PLANT** | **BOTANICAL NAME** | **FLOWERING** | **MAX HT**
--- | --- | --- | ---
TALL (7’->) |  |  |  |
- Toyon | Heteromeles arbutifolia | Jun-Jul | 30’ (usually lower)
- CA Sumac | Malosma laurina | Jun-Aug | 15’
- Lemonadeberry | Rhus integrifolia | Feb-May | 10’
- Wartystem Ceanothus | Ceanothus verrucosus | Jan-Apr | 10’
- Mission Manzanita | Xylococcus bicolor | Dec-Mar | 10’
- Coyote Brush | Baccharis pilularis (dioecious) | Aug-Dec | 7’
- White-flowered Currant | Ribes indecorum | Nov-Mar | 8’ (has few leaves in Oct but blooms early; interesting shape)

MEDIUM (4’-6’)

- Del Mar Manzanita | Arctostaphylos glandulosa ssp. crassifolia | Jan-May | 6’
- White Sage | Salvia apiana | Apr-Jul | 6’
- Yerba Santa | Eriodictyon crassifolium | Apr-Jun | keep lower than 6’
- Coast Prickly Pear | Opuntia littoralis | May-Jun | 4’
- CA Buckwheat | Eriogonum fasciculatum | Aug-Nov | 4’
- Bushrue, Spice Bush | Cneoridium dumosum | Nov-Mar | 4’
- Yucca, Mohave | Yucca schidigera | Apr-May | bloom to 7’
- Our Lord’s Candle | Hesperoyucca whipplei | Apr-May | bloom to 10’
- Southern Honeysuckle | Lonicera subspicata var. denudata | Apr-Jun | climbing to 8’

SMALLER & LOW-GROUND COVER (under 4’)

- Jimson Weed | Datura wrightii | Apr-Oct | 3’
- Locoweed | Astragalus trichopodus var. lonchus | Feb-Jun | 2’
- Coast Barrel Cactus | Ferocactus viridescens | May-Jun | 15”
- Lady Fingers | Dudleya edulis | May-Jun | 12” (bloom ht.)
- Lanceleaf Dudleya | Dudleya lanceolata | Apr-Jul | 8-24” (bloom ht.)
- Chalk Dudleya | Dudleya pulverulenta | May-Jul | 20” diam
- CA Croton | Croton californicus | Mar-Oct | ground; 3’ branch (dioecious)