



TORREYANA

THE DOCENT NEWSLETTER FOR
TORREY PINES
STATE NATURAL RESERVE

Issue 459

October 2023

Harmful Algal Blooms Surge Along California Coast

by Jeannie Smith and Joan R. Simon

Clarissa Anderson, a biological oceanographer with expertise in ecological forecasting and remote sensing, is a researcher at Scripps Institution of Oceanography. Because of technical difficulties, she had to speak at the September 9 docent meeting without slides or notes, but she was still able to share with us the disturbing story of recent harmful algal blooms along the California coast. For more than 20 years, she has been studying destructive algal blooms and their effects on marine mammals and the seafood economy. It is an incredibly complex subject with many more parameters than simply any one cause, such as the rise in water temperature.

The organism that is producing the harmful domoic acid is not the familiar “red tide” dinoflagellate, but rather one or more members of the diatom genus *Pseudo-nitzschia*. Despite extensive study, it is still unknown exactly what drives the plankton’s production of domoic acid, an amino acid that acts as a neurotoxin when it bioaccumulates in animals. It overexcites glutamate receptors in the brain, consequently producing seizures and other neurological effects in sea birds and marine mammals. For example, when sea lions experience neural damage, they have seizures that render them incapable of controlling their bodies. This can lead to inadvertent attacks when they are approached on beaches or collide with people swimming in surf zones.

Blooms of *Pseudo-nitzschia* are an almost annual occurrence in the California Current System, but the last two years have been worse than normal, especially this year. What has made 2023 stand out is the duration and geographic extent of the late spring—early summer bloom and the relative severity of marine mammal mortality. Last May a huge bloom began killing sea mammals in the Santa

Docent General Meeting

Date: Saturday, October 14, 9 am

Location: St. Peter’s Episcopal Church Rec Hall, Del Mar

Speaker: Dr. Kellie Uyeda, research scientist at the Tijuana River National Estuarine Research Reserve and lecturer at UC San Diego

Topic: Using Community-Based Science to Document San Diego Salt Marshes

The earliest written records detailing the ecology of San Diego salt marshes come from Dr. Edith Purer, a prolific botanist, teacher, and painter who was active from the 1920s to 1940s. The plant specimens she collected are still found in university and museum collections, serving as an important record of conditions prior to the extensive development of the past century. Today we can all continue in the tradition of Dr. Purer by recording biodiversity using community science platforms such as iNaturalist.

Kellie Uyeda has a Ph.D. in Geography from the joint doctoral program at San Diego State University and University of California, Santa Barbara. Her research interests include multidisciplinary approaches to ecosystems and their management, using methods ranging from analyses of satellite imagery to field studies.

Refreshments: Docents with last names beginning with **M, N, O** will be responsible for providing snacks for this meeting.

Barbara Channel. It quickly moved to San Luis Obispo, then south all the way to the San Diego coastal area. In all, there were more than a thousand sea lion strandings (with more than five thousand stranding reports) and more than one hundred dolphin deaths.
(Cont. on pg. 3.)

The Torrey Pines Docent Society publishes the *Torreyana* monthly, edited by Joan Simon and Dan Hammer on alternate months, and is formatted and produced by Roger Isaacson. Submissions are due on or about the 20th day of the preceding month and may be emailed to

Editors@torreypine.org.

Please send postal/
email address changes to:

Torrey Pines Docent Society
1155 Camino Del Mar #404
Del Mar, CA 92014

Attn: Membership or email to

Membership@torreypine.org

Web sites:

TP Docent Society: torreypine.org

TP Conservancy: torreypines.org

Visitor Center phone: **858.755.8219**

TPDS Executive Board Members:

President: Matt Xavier

Vice-president: Harry Proctor

Treasurer: Lynne Truong

Secretary: Rosemary Wareham

Directors-at-large:

Roger Isaacson

Lisa Kakone

Gary McCook

Evelyn Vance

Gabriele Wienhausen

TPSNR Staff:

Supervising Ranger: Dylan Hardenbrook

Rangers: Stephanie Adams, Kyle Knox,
Dave Richards, Jesus "Chuy" Salinas
Rodriguez

Interpreter 1: Louis Sands

Sr. Interpretive Park Aides: Vanessa
Brock, Laura Chaing, Lila Beth Scott, and
Zuzana Volny

© Torrey Pines Docent Society
Since 1975

All rights reserved

**FLASH - Don't forget to donate
your ZooNooz magazines to the
Museum Shop.**

President's Message

**Summertime -- come and gone,
my oh my**

ALoha, fellow docents. Although
summertime is nearing its end, there is
much to report about our Society.

We are looking for a few good docents to lead the Roving Interpreter Training program. **Cres Torres** has done a laudable job updating the program, and he has decided to pass it on to others. Please be sure to thank Cres for his innovative work on this program. If you have any questions about the program and/or are interested in this leadership position, please contact **Gabriele Wienhausen** or me.



Ingo Renner has graciously agreed to take over as leader of the Seabees volunteer group. He will coordinate with park staff on projects while scheduling volunteers and making sure that the necessary tools and materials are available for each project. His decades of experience with both construction techniques and navigating the processes of State Parks and the Docent Society will serve him well in completing projects to improve our Reserve. Watch for emails from Ingo with invitations to work parties. In order to report trail issues as well as other maintenance items, continue using the trailissues@torreypine.org address. Photos and pin locations from your favorite smartphone mapping map are very helpful.

The Lodge Hosting Luncheon Celebration has been rescheduled to **Saturday, October 21** at noon. This event is to honor ten docents over the past year who volunteered the most hours at the Lodge: **Gary McCook** (104 hours), **Ann Heinemann** (108), **Arlene Weinerman** (118), **Frane Fischman** (121), **Don McGuire** (142), **Steve Neal** (162), **Gabriele Wienhausen** (190), **Selma Torres** (195), **Thomas Holland** (198), and **Medi Denker** (255 hrs). Please congratulate these outstanding docents when you have a chance.

See you on the trails.

Matt Xavier, TPDS President

Inside

Harmful Algal Blooms Surge	1, 3-4
President's Message	2
Meeting Minutes	5
Museum Shop Spotlight	5
Docent of the Month	6
New Park Aide	6
Children's Program	6
Lodge History 10	7
September CEED Event	7
What's on the Beach: Pelicans!	8-9
Ode to Lynne Small	9
TP Book Club	10
Bird Survey	10

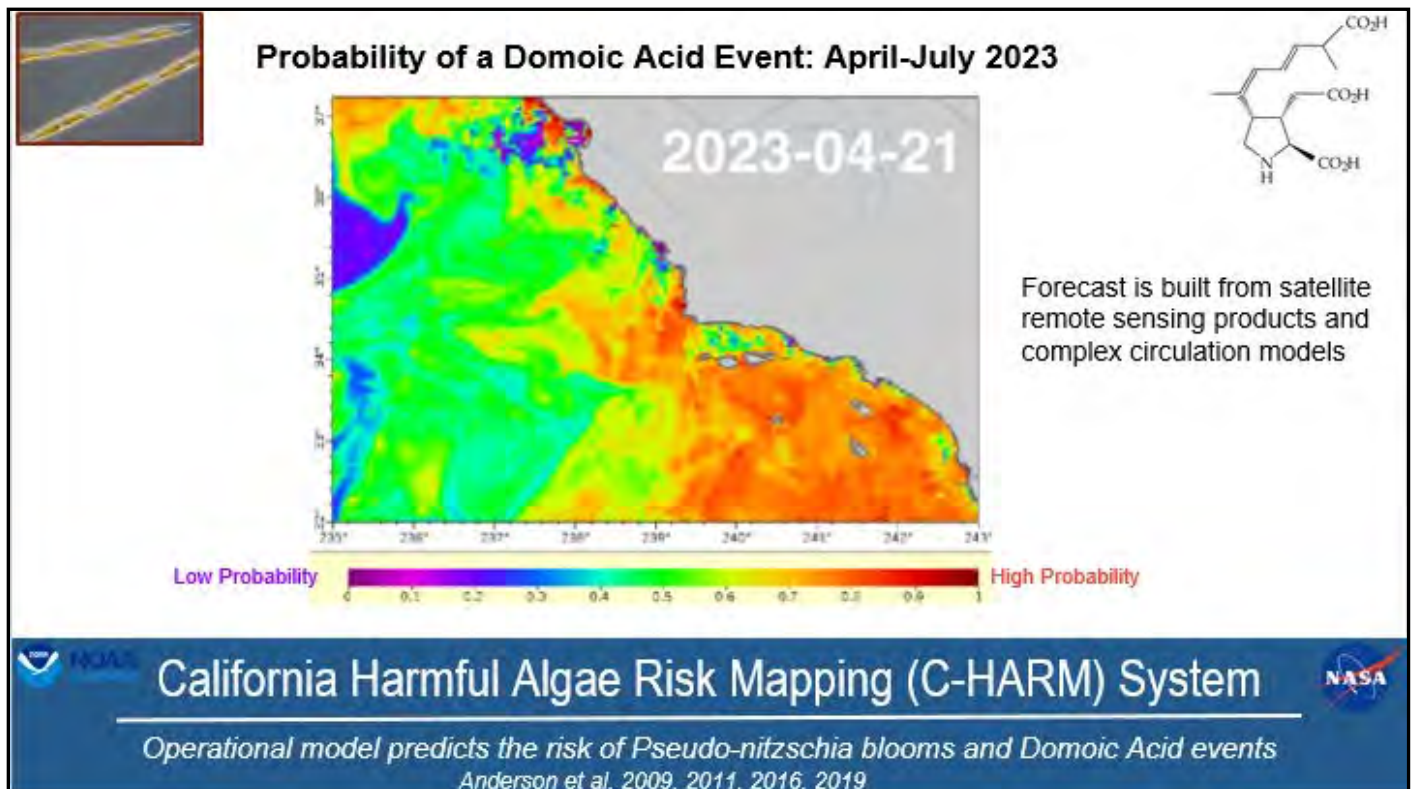
(Cont. from pg. 1.)

The Southern California Coastal Ocean Observing System, which Dr. Anderson leads, worked feverishly with partners and with the Marine Mammal Stranding Network to respond to this severe event.

In 2022 and 2023, the highest level of domoic acid ever measured in animal tissues was found in stranded California sea lions; the records were broken two years in a row, this year in dolphin tissue. Data indicate this may have been a strong offshore event, more than a nearshore event, where the evidence was patchy and inconsistent. Shellfish were contaminated in some places but not others, as shown in the map above.

Blooms in some previous years have shut down the Dungeness crab industry in the north for a season or produced mass killings of various marine life. In some years, only birds have been affected. The food web impact varies from year to year. Dr. Anderson explained that there

are many physical and chemical variables governing where, when, and how long such a bloom may occur. Her group has worked with NASA Applied Science support to create models that map many of these variables. In 2014/15, NASA developed forecasting models that look like “weather maps” showing the probability of encountering high levels of domoic acid (see below). The California Harmful Algae Risk Mapping (C-HARM) system predicted the devastating bloom of 2023 along our coast. Despite



significant success with predictions, these models have not always worked as expected.

Dr. Anderson believes the die-offs are caused not by a single factor, such as water temperature or the upwelling of deep water, two phenomena monitored and long suspected of causing blooms. Rather, she believes a key factor could be the ratio of silicates to nitrates in the ocean water. Those minerals are essential to diatoms. When that ratio is low, the diatoms seem to start producing domoic acid. Anchovies and other small organisms will concentrate (bioaccumulate) domoic acid by feeding on the diatoms. As this compound moves up the food chain, the concentrations start to cause neural damage in sea mammals and mass die-offs occur.

The Del Mar mooring, located three miles offshore (see map on right), is one of the measurement stations along the California coast that monitor these changes in toxicity, water temperature, and upwelling. It is one of nine stations outfitted with an Imaging Flow Cytobot (IFCB), a robotic microscope that captures high-frequency changes in the phytoplankton community with high-resolution images. Dr. Anderson's research team then monitors planktonic species present at a site using machine-learning to scan huge numbers of images. Unfortunately, many of these instruments were out of the water for repairs during the 2023 bloom. Moreover, the Del Mar IFCB never saw a high abundance of *Pseudo-nitzschia*, suggesting a more remote source of domoic acid for locally stranded animals.

In summary, Dr. Anderson pondered some of the reasons these toxins have increased in recent years. She noted that we had seven atmospheric rivers this past winter but theorized that it is highly unlikely to be the cause of this year's mega-bloom given how quickly runoff plumes dilute in ocean water and the mismatch in timing of precipitation and the bloom. She also mentioned that El Niño is coming this winter and the water temperatures at the equator have been changing, but she did not think it has been a determining factor.



Two questions from docents raised other issues. First, can this phenomenon possibly be linked to pollution? Dr. Anderson pointed out that before farming, rivers brought a lot of silica to the oceans from the terrestrial rocks being eroded. Today they carry large amounts of nitrogen in different forms from fertilizers, and this does alter the silicate/nitrate ratios in ways that stimulate nearshore blooms. In 2023, the bloom was widespread and offshore, and it did not seem to be connected to land-based pollution sources.

Another docent asked about eating seafood such as tuna, which is at the top of the food chain. Dr. Anderson said that we really don't know, because virtually no seafood except shellfish is monitored. She thought it would depend on where the fish were feeding, and on what. Tuna caught far out at sea are very unlikely to be affected, but fish caught nearer shore could be feeding on prey full of domoic acid during a bloom.

[Click here](#) for Power Point presentation.

General Meeting Minutes, September 9, 2023

The meeting was led by board vice president **Harry Proctor**. 50 docents were in attendance.

Speaker: Clarissa Anderson, Ph.D., Scripps Institution of Oceanography, on rapid response to a massive marine mammal mortality event. (See story on pg. 1.)

Docent of the Month: Marian Edelbrock.

Marian is in charge of the kitchen team for our general meetings; she also volunteers at the Lodge and leads Public Walks. (See pg. 6.)

Roving Interpreter Training

A new leader for Roving Interpreter Training is needed. Contact **Gabriele Wienhausen** or **Matt Xavier** for more information.

Children's Program

Interpreter 1 Louis Sands announced that the program kickoff meeting is Wednesday, September 13 at 10 am at the Pavilion. Anyone interested is welcome to attend. (See pg. 6.)

New Docent Training

Janet Ugalde announced docent training will begin on Saturday, September 16 at 8 am. The early start was chosen to minimize parking issues. 20 people out of 25 openings are filled, and registration is closed.

Holiday Mini-Baskets

Margaret Pluth will lead two workshops for making mini holiday baskets for sale at the Museum Shop. Training and basket-making sessions are October 2 and 23. (See notice on this page.)

Additional Announcements

The Torrey Pines Conservancy will continue renovating the Guy Fleming House.

Gabriele Wienhausen announced that we may soon get a watershed model to use at the BLIK and for the Children's Program and other activities. Efforts to fund the project are ongoing, and it looks like funds will be available.



July mini-basket workshop. L-R: Darlene Farnes, Nancy Walters, Joanne Miale, and Karen Woods

Mini-Basket Workshop

Learn how to make a basket using the coiling technique, as used by Native Americans across North America.

The baskets will be sold as tree ornaments in the Museum Shop during the holiday season.

When: Monday, October 2 and Monday, October 23 from 10 am to noon

Where: Visitor Center

Please email **Margaret Pluth** if you plan to attend.

Museum Shop Spotlight

by *Nancy Walters*

We are proud to introduce a new shop item: bookmarks painted by docent **Laura Chaing**! Those who know Laura are always impressed by her talent at drawing and painting the nature around us, and these bookmarks are a fine example of her abilities. There are four bookmarks to choose from, each one showcasing different flora or fauna found in our Reserve. Thank you, Laura, for these wonderful images that visitors can purchase to accompany their books! (For more on Laura Chaing, who starts work this month as a Senior Interpretive Park Aide, see article on pg. 6.)



Next Monthly Board Meeting

Date: Wednesday, October 11

Time: 1 – 3 pm

Place: Children's Pavilion (or docent library, depending on weather or number attending)

Everyone is welcome, but please let a board member know if you're coming.

See pg. 2 for list of board members.

Docent of the Month: Marian Edelbrock

Photo by Herb Knufken

Thank you so much for this honor! I am both surprised and flattered.

For those of you who don't know me other than as your coffee lady (LOL), let me introduce myself. I joined Torrey Pines in 2018 when I was fortunate to be surrounded by the best docent trainees, all of whom held a passion for our Reserve. I learned about Torrey Pines when living in Carmel Valley, where my love of the beach and nature led me to explore our gorgeous nature reserve. A casual meeting with a docent on a trail made me realize that docenting was an option, but my full-time career meant that some time passed before I explored this possibility and signed up. What a smart move! Our trainers were stellar and the setting unbeatable. I learned so much then and continue to do so, only fueling my passion for Torrey Pines.

To give context: I grew up in botanic gardens where my father, a taxonomic botanist, worked or was in charge, including the Arnold Arboretum in Boston and Kew Gardens in London (where we lived on the grounds!). He was a remarkable man who went on worldwide botanical expeditions, and his dedication and enthusiasm rubbed off. Thus it was a natural progression for me to pursue activities involving nature and parks. As a clinical psychologist, I believe in the practice of mindfulness, and I try to encourage others whose paths I cross to explore this as an amazing approach for managing stress and becoming centered in who we are as humans, living in a remarkable world full of such beauty - which we must at all costs preserve!



So, thank you all so much and remember: even a casual comment sharing our passion can result in lighting a fire in others. Docent on!!!!

Laura Chaing: Sr. Interpretive Park Aide

Photo by Joan R. Simon

Laura Chaing, a class of 2019 docent, is our newest Senior Interpretive Park Aide and will start work in October. Laura grew up mostly in San Diego and graduated from UCSD in 2018 with a degree in Ecology. She has done volunteer work for Project Wildlife at the San Diego Humane Society helping injured, orphaned, and sick wild animals.



She began hiking during and after college and enjoys being outdoors. As a park aide, she is passionate about having the opportunity to share her knowledge with Torrey Pines visitors and to gently encourage them to be more conservation-minded.

Laura is skilled at nature journaling and shared tips on journaling in last month's *Torreyana* [\[link\]](#). She is also a very talented artist, as demonstrated by the bookmarks she painted for sale at the Museum Shop (see article on pg. 5).

Laura is currently working at an animal rescue shelter, where she will continue part time. Her assigned days at Torrey Pines are Wednesday, Thursday, Friday, and Saturday.

Children's Program

by Janet Ugalde, Program Director

Here we go, team! Teachers' signups began August 15 for the 2023-24 school year. Most fall dates are already taken. Some docents have already signed up, but there are plenty of opportunities available.

Twenty awesome docents met on September 13 to kick off the Children's Program school year. We shared ideas about how to best serve our students while basking in each other's company.

THANKS, TEAM, for helping our Children's Program rock. This year is going to be big fun.

Where Do I Go to “Iron My Shoelaces”?

by Judy Schulman, TPDS Historian

This is the tenth in a series of articles by Judy Schulman about Torrey Pines Lodge, whose 100th anniversary we celebrated on April 8, 2023.

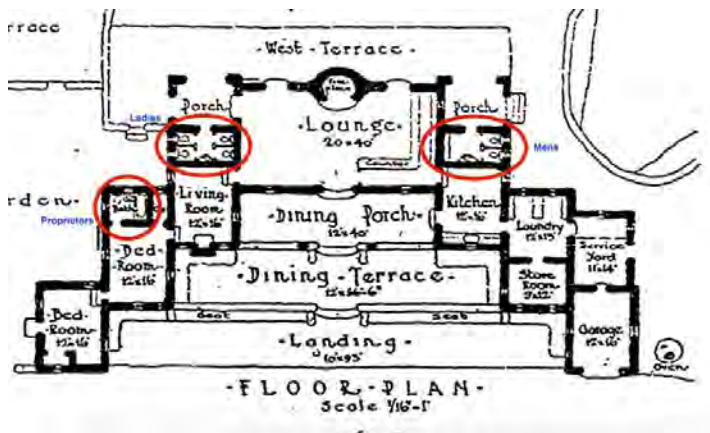
One of the most-asked questions in the Lodge is “Where are the bathrooms?” I am going to guess that was also a frequent question when the Lodge first opened. Keep in mind that many visitors probably had a long drive to the park (not many gas stations along the road back then), and there was a restaurant.

Unlike today, when there is a separate location for the public bathrooms, back then there were two public bathrooms just outside the Lodge: one for men and one for women. Do you know where they were? If you go out the back door with your back to the Lodge, there is one storage room to the right (formerly the men’s bathroom) and one to the left (formerly the women’s). Next time you have a chance to go there, see whether you can find where the fixture outlets were.

According to the Permit of Occupancy inventory list that was signed with the City of San Diego, Park Director and the tenants of the Lodge, the public bathrooms contained two low-tank toilets and a urinal for men and four low-tank toilets for women. Even then they knew the need for more women’s facilities than men’s.

There also was an interior bathroom just for the use of the proprietors and the waitresses who worked at the Lodge. I am sure we are all familiar with that one. It still has a bathtub. According to the inventory list, it was made of zinc.

So what does the title of this article have to do with its subject? It was the 1920s slang phrase for asking where the toilets were located. Sometimes you just need to iron those shoelaces!



CEED: Agua Hedionda Lagoon Discovery Center

by Mukesh Mehta

“Would you *all* like a cup of coffee or cappuccino?” is how Torrey Pines docents were greeted on September 8 by host Samantha Richter, Chief Operations Officer at the Agua Hedionda Lagoon Discovery Center in Carlsbad.

The Discovery Center overlooks Agua Hedionda Lagoon, a 400-acre shallow coastal estuary teeming with life and a thriving ecosystem. The lagoon has 70 species of fish, 20 species of amphibians and reptiles, 24 species of mammals, 192 species of birds, 175 species of invertebrates, and 100 species of plants. The estuary extends 1.7 miles inland and is up to half a mile wide. Three major transport corridors cross the lagoon: Pacific Coast Highway, the railroad, and Interstate 5.

Four rescued native raptors grace the entrance to the Discovery Center: a Peregrine Falcon, American Kestrel, Great Horned Owl, and Western Screech Owl. All are either blind or have injured wings. Other exhibits for children’s activities include a chicken coop with six chickens, a Tortoise Terrace with three tortoises, and an observation Bee-Aquarium built by a local Eagle Scout; we saw the inner workings of a beehive through the outdoor glass exhibit.

Samantha told us the success story of eradicating *Caulerpa taxifolia*, nicknamed “killer algae” because of its devastating effect on marine ecology. It was reported to have invaded all around the world in most Mediterranean climates, including the Agua Hedionda. It was eradicated locally between 2000 and 2002 with traps and chlorine.



What's on the Beach? Pelicans!

by Kathy Dickey; photos by Herb Knufken

In San Diego we have two species of pelicans. We will start with the **Brown Pelican** (*Pelecanus occidentalis*). Though you rarely see these pelicans sitting on our beaches, you may often see them resting on the lagoon's shores or sand islands. Another good place to see them sitting up close is the cliffs of La Jolla. The best time to view them is in January, when they are in breeding plumage. Most of the time, we see them beautifully gliding in small groups with the updraft from the waves or soaring high above the beach areas in a "V" formation. They also occasionally visit our inland lakes.



Brown Pelicans weigh about 8 pounds and measure a little over 4 feet in length, with a huge wingspan of more than 6.5 feet. Sexes look similar, although males are slightly larger. Webbing between the toes makes the pelican an awkward walker but a strong swimmer. In basic plumage, adults have a white neck and belly, a pale-yellow head, a brown body, brown eyes, a huge throat pouch attached to the lower jaw bone that is reddish orange, and a yellowish bill. As the breeding season approaches, the end of the bill turns reddish, and the end of the throat pouch brightens to a poppy-red. They can live up to 40 years!

It's spectacular to watch them plunge-diving for fish, from as high as 60 feet. They mainly hunt for anchovies, sardines and small mackerel. You might wonder how they don't get hurt in the process, as they take aim, bank left and dive down at up to 40 miles per hour. To protect themselves, the pelicans have air sacs in their neck, belly and bones, and they take a deep breath before they hit the water. A special covering helps to protect their eyes, and they pull their wings and legs back as they enter the water. The force of their entry can stun fish as deep as 6 feet below. The pelicans open their bills underwater so they can scoop and store fish in their large pouches, which can hold up to more than two gallons. Once on top of the water, they tip their head and bill forward, letting the water drain out but

keeping the fish. Then they toss their head back to swallow the fish head first. It is said that they can eat as much as four pounds of fish in one day!

The pelicans breed from the Channel Islands south to central Mexico, including the Coronado Islands off Tijuana. Their nonbreeding range extends north to British Columbia, Canada. They build their nests on the ground or on vegetation on cliffs and high bluffs, and normally lay three eggs, with both adults sharing the incubation and rearing duties.



The chicks are naked and helpless and are completely dependent on parental care and protection for the first three to four weeks after hatching. Both parents feed the young until they fledge at about 13 weeks of age. Abandonment of nests can occur in years of rapid reduction in food availability, such as in El Niño years.

In the 1960s and 1970s, the colonies of California Brown Pelicans faced extinction. DDT in the food chain caused their egg shells to become thin and break. In 1970, only one egg survived on Anacapa Island. The federal government listed the Brown Pelican as an endangered species in 1970, the State of California listed it as endangered in 1971, and DDT was eventually banned in 1972. The fight to save these birds led to a remarkable recovery. I remember once in the late 1970s when a group of us cheered to see a group of pelicans in their V formation returning to Ocean Beach. In 2009, the Brown Pelican was removed from the Federal List of Endangered and Threatened Wildlife due to recovery.

The other species of pelican that visits San Diego is the **American White Pelican** (*Pelecanus erythrorhynchos*). They winter on our coastal lagoons and many inland lakes, including the Santee Lakes and the Salton Sea. One winter day I saw a flock of them swirling around and around high over Batiquitos Lagoon before they came to rest on the water. It was magnificent, with all of them alternating their white top feathers and black lower wing feathers in unison.

The White Pelican's wingspan can be as much as 10 feet, the second-largest wingspan of any North American bird after the California Condor! It is a very large and plump bird, with its overall length being about 50–67 inches. Its huge beak measures 13–14 inches in males and 10–13 inches in females. Although typically these birds average between 11 and 20 pounds, their body weight can be as much as 30 pounds.



American White Pelicans don't dive for their fish, and seeing them is a less-common experience in most places along the coast. White Pelicans scoop fish up while paddling around on the surface. The birds will sometimes work together to herd fish into the center of the group for easier picking. Though fish are the main item on their diet, White Pelicans will also eat invertebrates and the occasional small amphibian or bird. Like their cousins, they can eat up to four pounds a day.

Their breeding season gatherings can be massive. On the small Anaho Island in Nevada's Pyramid Lake, as many as 21,500 birds have gathered to breed in summer. Gunnison Island in the Great Salt Lake is the site of an even larger gathering.

White Pelicans normally lay two eggs. Unlike most birds, which warm their eggs with the skin of their breasts, these pelicans incubate their eggs with their feet. They hold the eggs under the webs that stretch from the front toes to the hind toe, essentially standing on the eggs to warm them.

Each year in late winter, the breeding pelicans over three years of age grow an ornamental fibrous plate on the top of their beak, called a nuptial tubercle. After breeding season is completed, this knob will fall off.

American White Pelicans are built for swimming, using their webbed feet. They also get a little help staying afloat, via air pockets in the skeleton and beneath their wings. Their giant wings can take them far once they get their feet

off the ground. To become airborne, the pelicans must first run across the water, beat their wings, and pound the surface of the water with both feet in unison to get enough speed for takeoff.

References:

nps.gov/places/000/california-brown-pelican.htm

eastcountymagazine.org/bird-talk-american-white-pelican

Unitt, Phillip. *San Diego Bird Atlas*. Sunbelt Publications. 2004

*The Whacky Weeders are a large and intrepid group of docents and volunteers who remove invasive plants from the Reserve two mornings a week. During their annual luncheon in August, **Ann Herbert** celebrated their 12-year leader, **Lynne Small**, with this poem.*

Ode to Lynne Small...

In Torrey Pines Reserve, Lynne Small takes the lead,
With Whacky Weeder spirit, she's the one that we heed.
With laughter as her compass, she treads a bold way,
Nurturing nature's beauty every Monday and Thursday.

Through trails and tall pines, her spirit takes flight,
A touch of whimsy, a great deal of insight,
Her leadership's magic, like wildflowers untamed,
In the heart of the Reserve, her legacy's named.

With a Weeder's wild heart, she tends to the land,
Pulling ehrharta and thistle with a confident hand.
A steward of nature, her passion takes root,
Lynne's leadership style, a joy to salute.

Through challenges faced, her spirit stands strong,
Whacky Weeder's resilience, one weed at a time...
In Torrey Pines' embrace, Lynne's journey unfolds,
A Whacky Weeder's tale, as time onward rolls.

Torrey Pines Book Club

We will continue to meet via Zoom at our regularly scheduled time: the second Tuesday of each month at 1 pm. Please notify **Annette Ring** if you plan to participate or need any extra help getting connected.

When: Tuesday, October 10, 1:00 pm

What: *The Ministry for the Future* by Kim Stanley Robinson

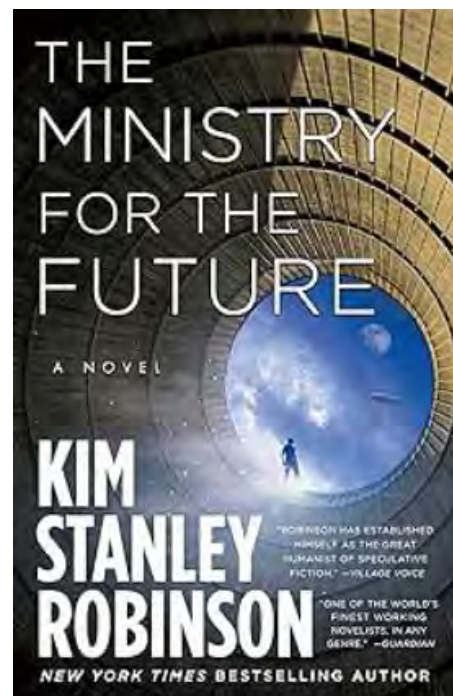
Amazon says:

The Ministry for the Future is a masterpiece of the imagination, using fictional eyewitness accounts to tell the story of how climate change will affect us all. Its setting is not a desolate, post-apocalyptic world, but a future that is almost upon us – and in which we might just overcome the extraordinary challenges we face.

It is a novel both immediate and impactful, desperate and hopeful in equal measure, and it is one of the most powerful and original books on climate change ever written.

All TPDS docents are welcome. Meetings usually last a couple of hours.

November 14: *An Immense World: How Animal Senses Reveal the Hidden Realms Around Us* by Ed Yong



Torrey Pines Docent Society Bird Survey: September 2023

Number of species: 58
(+4 other taxa)

Mallard 44
California Quail 1
Mourning Dove 49
White-throated Swift 3
Anna's Hummingbird 25
Allen's Hummingbird 10
hummingbird sp. 3
Whimbrel 14
Long-billed Curlew 2
Marbled Godwit 2
Heermann's Gull 11
Western Gull 15
gull sp. 3
Caspian Tern 8
Common Loon 2 (Birds scoped
in the ocean large and sharp
bills. A Common Loon had

been reported a few days earlier
at Scripps Pier.)
Brandt's Cormorant 5
Double-crested Cormorant 7
cormorant sp. 8
Brown Pelican 30
Great Blue Heron 4
Great Egret 6
Snowy Egret 9
Osprey 3
Cooper's Hawk 1
Red-shouldered Hawk 5
Red-tailed Hawk 1
Great Horned Owl 1
Belted Kingfisher 2
Nuttall's Woodpecker 8
American Kestrel 5
Peregrine Falcon 3
Black Phoebe 12
Say's Phoebe 1
Ash-throated Flycatcher 1
Cassin's Kingbird 3

Hutton's Vireo 2
California Scrub-Jay 14
American Crow 10
Common Raven 51
Bushtit 39
Wrentit 97 (The wrentits are
quite common throughout the
Chapparel habitat in the state
park. There are high counts at
times.)
Blue-gray Gnatcatcher 5
California Gnatcatcher 9
House Wren 12
Bewick's Wren 27
wren sp. 1
California Thrasher 15
Northern Mockingbird 7
American Robin 4
Scaly-breasted Munia 25
House Finch 103
Lesser Goldfinch 34
Dark-eyed Junco 2

Savannah Sparrow 12
Song Sparrow 53
California Towhee 82
Spotted Towhee 10
Yellow-breasted Chat 1
Red-winged Blackbird 2
Orange-crowned Warbler 18
Common Yellowthroat 6
Western Tanager 1

Observers: Andy
Rathbone, Donna
Mancuso, Marty Hales,
Gabrielle Ivany, Tsaiwei
Olee, Kathy Dickey, Kathy
Estey, Steve Neal, Robert
Turner, Karen Turner,
Manolo Turner, Gary
Grantham, David Walker

View this checklist online at ebird.org/checklist/S149901000

Herb Knufken's amazing photo gallery, including many birds, may be found here: pbase.com/herb1rm



Torrey Pines Docent Society
1155 Camino Del Mar #404
Del Mar, CA 92014
(858) 755-2063
torreypine.org