



TORREYANA

THE DOCENT NEWSLETTER FOR
TORREY PINES
STATE NATURAL RESERVE

Issue 491

July 2026

Where Have All the Juvenile Sharks Gone?

by Joan R. Simon

Jack Elstner and Zach Merson, graduate students at the Scripps Institution of Oceanography, gave a presentation about juvenile white sharks at the June 13 docent general meeting. Jack and Zach have been doing research on how these young animals choose the sites where they aggregate, their movement within the sites, what they eat, and why they leave.

Before the movie *Jaws* came out in 1975, not a whole lot was known about sharks. While the movie terrified the country, it also piqued interest in sharks and spawned a great deal of research. Scientists learned that the southern California coast is a major nursery area for juvenile white sharks (JWS), where loose aggregations of these animals gather mostly in the summer and fall months when the water is warmest. An aggregation is up to 40 individuals, densely packed along half-mile to five-mile stretches of beach. Between 2020 and 2023, Torrey Pines and adjacent coastal waters made up one of these nursery hotspots.

California White Sharks



Docent General Meeting

Date: Saturday, July 11, 9:00 am

Location: St. Peter's Episcopal Church Parish Hall, Del Mar

Speaker: Michael Scott, Ph.D.

Topic: *The Tuna-Dolphin Controversy*

Yellowfin tuna frequently swim with spotted and spinner dolphins in the eastern tropical Pacific Ocean. Since the late 1950s, tuna purse-seine fishermen have taken advantage of that association by using the more easily sighted dolphins to locate the tuna, and by encircling the dolphins with a purse-seine net to capture the tuna swimming below. The incidental mortalities to the dolphins were once very high. Dr. Scott will outline the history of the controversy, describe the fishing operations and how dolphin mortalities were reduced, and explain the biology behind the association between the dolphins and tuna.

Michael Scott was a senior scientist for the Inter-American Tropical Tuna Commission, principally conducting studies to determine why dolphins and tuna swim together. He is a co-founder of the Sarasota (Florida) Dolphin Research Project and teaches a course on marine mammals at the University of San Diego.

Refreshments: Docents with last names beginning with **A-D** will be responsible for providing snacks for this meeting.

What makes a good nursery site? Three things stand out: the waters are warm, which allows JWS to grow quickly; there is abundant prey; and there aren't many predators. Of these factors, the most important seems to be warm water temperatures, since juveniles cannot regulate their temperature the way adult white sharks can.

For the past five years, **Jack Elstner** has focused his research on the movement of juvenile white sharks off the coast of Torrey Pines to learn where, when, and why they move. The first step was implanting small acoustic tags into the musculature of the sharks. (Cont. on pg. 3.)

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

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President's Message:

Super El Niño Will Impact San Diego's Coastline

A Super El Niño occurs when unusually warm ocean waters develop across the equatorial Pacific Ocean, altering weather patterns around the world. For San Diego County's coastline, a Super El Niño can bring significant environmental changes and challenges.

One of the most noticeable impacts is increased storm activity. Stronger and more frequent winter storms can produce heavy rainfall, large ocean swells, and powerful wave action. Along the Torrey Pines coastline, these conditions accelerate erosion of the fragile coastal bluffs. Waves undercut the base of the cliffs while rainwater seeps into the sandstone above, increasing the risk of landslides and bluff collapses. Trails near cliff edges may have to be closed or rerouted to protect public safety.

Marine ecosystems are also affected. Warmer ocean temperatures can alter the distribution of fish, marine mammals, and seabirds. Some cold-water species may become less common, while species typically found farther south may appear more frequently. Changes in ocean conditions can influence the availability of food for marine wildlife and affect the timing of seasonal migrations.

On land, heavy rainfall can stimulate the growth of native plants, creating spectacular wildflower displays in the months following the storms. On the other hand, the same conditions may also encourage invasive plant species that compete with native vegetation.

For our docent community, a Super El Niño presents both challenges and opportunities. Docents may encounter trail closures, changing visitor patterns, and questions about storm impacts and coastal erosion. At the same time, these events provide valuable educational opportunities to help visitors understand climate variability, coastal processes, ecosystem resilience, and the dynamic nature of the Torrey Pines landscape.

By sharing our knowledge and observations, we will continue to play an important role in connecting visitors to the natural changes occurring along San Diego's remarkable coast.

Matt Xavier
TPDS President



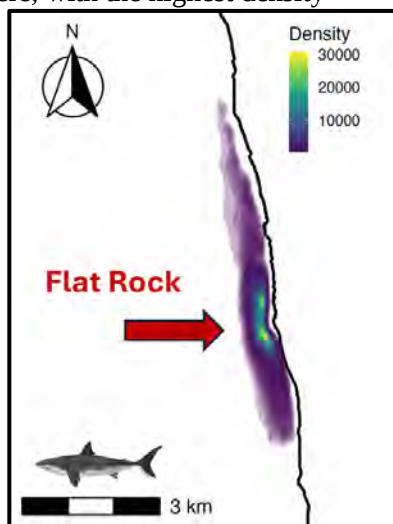
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(Cont. from pg. 1.)



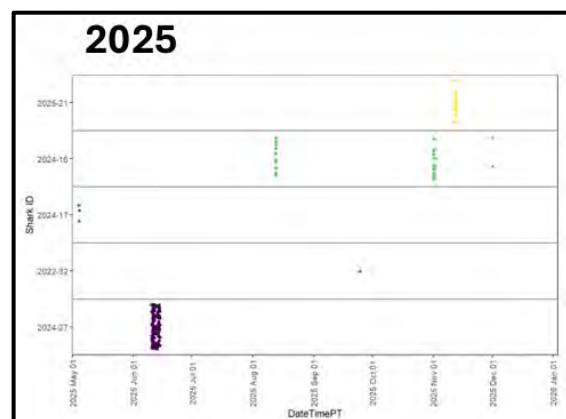
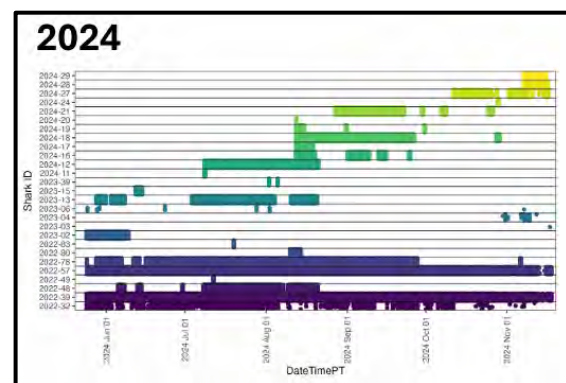
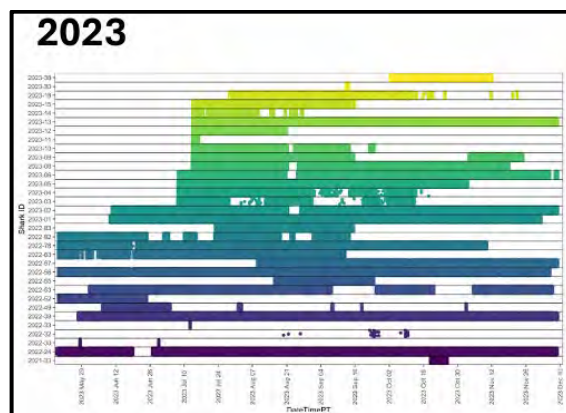
The “pings” they emit are detected by receivers at 43 listening stations installed up and down the coast from Black’s Beach to Solana Beach. A passing JWS will be tracked by three receivers at one time. Jack explained that maintaining this monitoring system has required hundreds of days on the ocean and thousands of dives. Since 2020 his group has tagged 88 unique sharks and made millions of JWS acoustic detections. Tagging has illuminated what the JWS were actually doing at this location. Young sharks were not just arriving and leaving – they were spending many months here, with the highest density around Flat Rock. Embedded pressure sensors were also used to determine where in the water column the JWS were spending their time. During the day, they were densely concentrated in the warm surface waters, sunning themselves “almost like cats.” This practice raises their internal body temperature, which is likely to improve their rates of digestion and growth. At night they were much more spread out, diving down close to the sea floor, probably foraging for food. This means that JWS have been close to shore and in high densities at the same time beachgoers are most numerous; in fact, there was a 97% overlap of people and sharks. Despite the increase in both sharks and people, there has been no increase in shark bites. “Juvenile white sharks are not going after people – they’re just doing their own thing.”



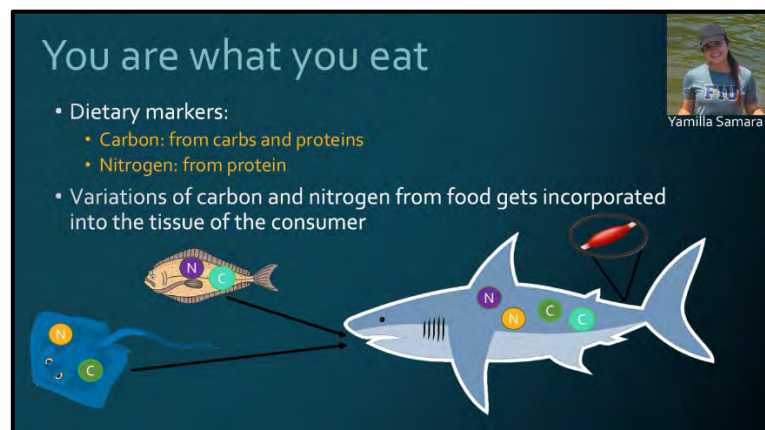
In August 2023, Tropical Storm Hilary brought destructive winds and historic rainfall to San Diego and caused abrupt changes to coastal habitats. It also gave scientists a unique opportunity to understand how JWS respond to environmental

disturbances. In addition to strong winds, there was a drop in water temperatures, barometric pressure, and salinity. Not surprisingly, nearly half the sharks left during this time – an exit rate that was 28 times higher than normal. Some did tuck into the La Jolla Cove to get out of the strong winds, and one was found in the La Jolla Canyon (and there could have been more since there were no sensors at that location). After the storm passed, all but one of the tagged sharks returned. The primary reason for their departure during the storm was determined to be the almost 6° C drop in the water temperature.

From 2020 to 2023 there were loads of JWS in the Torrey Pines coastal waters; 2024 saw a substantial decline; by 2025, there were none. **Zach Merson’s** research has been focused on why JWS pick specific localities – and why they leave those sites.



JWS grow roughly a foot a year, and they need to take in a lot of calories to fuel that growth. So what they eat is a key to knowing where they might choose to live. They range in size from 4' to 10' (3m), at which point they transition into adult great white sharks. Adults eat marine mammals and larger sharks and other pelagic fish. They range from the coast, where they dine on elephant seals, to 500 miles offshore, where they look for tuna and other large fish. In contrast, JWS stay inshore and have a generalist diet of rays, small fish, small sharks, and even invertebrates. Using the maxim “you are what you eat,” Zach’s group analyzed muscular biopsies from young sharks, identifying the carbon/nitrogen make-up and matching them to those of the rays and small fish they were eating. They found the shark diet to consist of stingrays and other rays; smaller sharks, surfperches, flat fish, croakers and other small fish; and 10% from invertebrates.



How much are diet and prey availability driving where the JWS groups are spending their time? The group sampled aggregation and non-aggregation sites from 2022-2023. Somewhat surprisingly, former aggregation sites, such as Long Beach and Seal Beach further up the coast, showed more benthic elasmobranchs (rays and sharks) than current aggregation sites. Researchers concluded that when JWS enter an area there is a “trickle-down” effect on the entire ecosystem where some fish leave and some, like stingrays, move closer to the shore away from the sharks. Despite the depletion of prey, the sharks still seem to stay. Zach concluded that there is probably a threshold where “there are too many sharks and not enough food” that signals when it’s time to move on.

The good news at JWS aggregation sites is that these animals are mostly foraging on the sea bottom and don’t interact with swimmers and surfers. “There is almost no chance they’ll mistake a swimmer/surfer for a stingray.” The bad news is that stingrays move closer to the shore to avoid JWS, and there are more stingray injuries to beachgoers.

To watch the full presentation on juvenile white sharks, click [here](#).

Summer Shark Events

Can One Ever Get Enough of Great White Sharks?

It’s official! NOAA has confirmed the onset of an El Niño event in the Pacific Ocean. As coastal waters warm up, we are in for an incredible influx of tropical marine species – and possibly some juvenile white sharks will be back. To dive headfirst into this fascinating phenomenon, TPDS has lined up two amazing shark events.

Event 1: "Why It's Going to be a Sharky Summer"

Date: Wednesday, July 15

Time: 6:00–6:30 pm (docents-only reception); 6:30–7:30 pm (main presentation)

Location: St. Peter's Episcopal Church, Del Mar

Speaker: Prof. Chris Lowe, Director of the Cal State Long Beach Shark Lab and THE shark expert of Southern California, will deliver a captivating presentation on why our waters are teeming with activity this season. This event is co-organized and co-sponsored by the Torrey Pines Conservancy.

Event 2: The Shark Shack Mobile Exhibit

Date: Saturday, August 15

Time: 10 am to 2 pm

Location: Torrey Pines North Beach (right next to the BLIK)

The ultimate hands-on shark experience is back! The CSULB Shark Lab is bringing its Shark Shack educational mobile exhibit right to the beach. Visitors can:

- Examine real preserved specimens, massive shark jaws, and stingray barbs.
- Learn essential water safety tips and how to significantly reduce the risk of stingray strikes.
- Discover the cutting-edge tracking technologies researchers used to monitor great white shark movements along our coast.

Come out, satisfy your curiosity, and discover the incredible ocean life right in our back yard!

General Meeting Minutes: June 13, 2026

Jack Elstner and Zach Merson from Scripps Institution of Oceanography gave a presentation on juvenile white sharks (see pg. 1). Approximately 100 people were in attendance.

Docent of the Month: Luz Chung, class of 2025, has been organizing nature journaling events for docents. She hosts at the Lodge and TIK, leads public walks, and participates in the monthly bird surveys.

The 15 members of the **2026 docent graduating class** were introduced and welcomed.

The TPDS grand prize and first place winners from the **2026 SD Science Fair** gave presentations of their projects (see June 2026 [Torreyana](#)).

Lisa Kakone introduced the Nominating Committee and their purpose and informed the audience they are now accepting nominations for open board positions. (For details, see pg. 6.)

President **Matt Xavier** led the business meeting.

Youth Program: Janet Ugalde will be stepping down after 12 years as coordinator of the Youth Program. The program hosted 41 schools and 2100 students from March through May 2026.

There will be a **CEED** visit to the Barona Cultural Center on June 18.

Water Station: The water fountain in front of the Lodge has been replaced with a water filling and drinking station.

Two Shark Events: Dr. Chris Lowe, head of the CSULB Shark Lab, will give a lecture on Wednesday evening, July 15, and the annual CSULB Shark Lab pop-up will be at the BLIK on Saturday, August 15. (For details, see pg. 4.)

No Learn at Lunch in July

Because of the July 4th holiday, we will not have a BLIK Learn at Lunch in July.

We hope you will join us on August 6 for our next presentation, given by fellow docent **Jane Barger**. Jane will talk about Mollusks. Details about her talk will be sent out in July.

Docent of the Month: Luz Chung

Photo by Herb Knufken

I was born and raised in Ecuador. Even though I grew up in Quito, a city nestled among magnificent Andean landscapes, I strongly preferred "city life" over spending time exploring nature. This preference shifted when I moved to California to attend college. San Diego became my new home, and Torrey Pines Beach became my favorite local beach. But it took me a very long time to realize that there were hiking trails connected to this beach. Once I visited its trails, I immediately fell in love with this space and became a frequent visitor. Each of the docents I encountered radiated joy and love for the park. These encounters led me to explore the possibility of becoming a docent one day.



Fast forward many decades, and now I have the privilege of being part of the Docent Society, an amazing group of people from diverse backgrounds and life experiences. Together with the incredible State Parks staff, they inspire me to continue to learn and to give back to this special place.

*As a teacher, I am appreciative of the opportunities we are afforded to be lifelong learners, and to reflect on how to provide not only welcoming but also meaningful and engaging experiences to all visitors. In particular, I would like to acknowledge **Pao Chau** for his mentorship; **Leslie Allem**, **Cami McCook**, and **Germán Cervantes** for being such a fun TIK team; **Robert James** for teaching us about the magical world of birds; **Mukesh Mehta** for making geology fun; **Dinah Carl** for sharing her vast plant knowledge; and **Beverly Toth** for sharing the power of connecting nature and mindfulness. In all, I thank the entire docent group and the State Parks staff for making this a welcoming and inclusive space, and for their dedication to serving the community.*

Applications for Board Membership Now Available

by the Nominating (Search) Committee: Roger Isaacson, Robert James, Lisa Kakone, Gary McCook, and Rosemary Wareham

TPDS board members are the elected leadership of our society. They oversee our activities, create and/or approve new activities, take care of our finances and reporting, communicate board decisions to TPDS members, and work with State Parks staff. Members of the board are expected to attend the majority of its 12 monthly board meetings and to actively participate in discussions and decision making. The executive board and five at-large members are each a liaison to several specific docent activity areas as assigned at the first board meeting of the year. The following positions will be up for election for terms beginning on January 1, 2027: President, Vice President, Treasurer, and at least one at-large member.

All Board members should meet the following qualifications:

1. **Commitment to the Mission:** A strong dedication to the organization's purpose, goals, and values. Engagement in TPDS activities and committees.
2. **Time Availability:** Willingness to commit time for board meetings (currently 1 p.m. on the Wednesday before the General Meetings), committee work, and organizational events.
3. **Teamwork & Collaboration:** Ability to work well with other board members, staff, and stakeholders.
4. **Integrity & Accountability:** High ethical standards and a commitment to transparency and responsible governance.

We invite any qualified and interested docent to apply. If you would like to contribute to our Docent Society by becoming a board member, please request an application by e-mailing search-com@torreypine.org. You are also welcome to contact any of the Committee members if you have questions.

What Is CEED?

by Rachel Scherba

The CEED Committee would like to invite all docents to participate regularly in CEED events. CEED stands for Continuing Education and Enhancement for Docents. These events are not only educational but also a great way to network, build community, get to know fellow docents outside of regular shifts and duties, and

have fun! You may claim one hour on Better Impact under Training, Continued Education (up to 12 hours per year). A few recent CEED trips were to the Natural History Museum, Living Coast Discovery Center, Tijuana Estuary, Kumeyaay-Ipai Interpretive Center, whale watching, Scripps Pier, Leo Carrillo Ranch, Gonzalez Canyon, Barona Cultural Center, and the Cabrillo Tidepools.

If you have an idea for a CEED trip, and a possible contact at the site, please contact anyone on the CEED committee: **Mukesh Mehta, Deborah Jones, or Rachel Scherba**. We'd love to hear your ideas!

Please note that we will continue to offer CEED events during the fall 2026 and winter 2027 closure of the Reserve.

CEED Trip to Barona Cultural Center

by Rachel Scherba

Ten Torrey Pines docents visited the Barona Cultural Center & Museum on June 18. Curator and historian Jennifer Stone gave the group an interesting and informative talk. She guided us through the museum and into their lovely native plant garden. We also saw a very well-produced film entitled *Our Way of Knowing*, which told the creation story, narrated by tribal elders.



Field Report: Tree Tobacco

by Trevor Tompkins, State Parks Forestry Aide

Tree tobacco (*Nicotiana glauca*) is a woody shrub pollinated by hummingbirds in its native habitats in South America. Unfortunately, it has spread worldwide in arid climates and is considered an invasive plant in California. It is often seen growing near roadsides, with bright yellow tubular flowers when in bloom.



The California Invasive Plant Council has assigned this species a Moderate rating because of its substantial ecological impacts on physical processes, plant and animal communities, and vegetation structure.

Each tree tobacco plant can produce 10,000-1,000,000 seeds per year, enabling moderate to high rates of dispersal. Its establishment is generally dependent upon ecological disturbance. Tree tobacco does not have natural predators in its introduced range, further assisting its ability to invade native habitat in California. Its leaves, flowers, and twigs contain toxic compounds that leach into the soil and may inhibit the growth of neighboring plants.

The San Diego Coast District Natural Resources Team has been working to remove tree tobacco in the Extension and near the golf course. Smaller individuals are hand pulled. Larger woody tree tobacco plants are cut and treated with a small amount of herbicide to prevent resprouting. If you see tree tobacco growing in your yard, you can take steps to protect native vegetation by removing it before seeds are produced.



Torrey Pines Reservoir

by Judy Schulman, TPDS Historian

In the news lately, we have heard about San Diego County having so much extra water that it plans to sell some to other areas. The reasons include excess water produced by the Carlsbad desalination plant, customers using less water, and many of our reservoirs being nearly full. Speaking of reservoirs, how many of you ever heard about the Torrey Pines Reservoir? This nearly 3,500,000-gallon concrete-lined facility was located on a 2.89-acre site on the east side of Torrey Pines Road, where the Sanford Education Center now stands on the north side of National University.

Construction of a pipeline from Lake Hodges was completed in September 1920. The reservoir stored water for La Jolla, Old Town, Ocean Beach, Mission Beach, Pacific Beach, and other contiguous areas. During WWII, it also provided water for the Army's Camp Callan. Located 422 feet above sea level, it was the highest point in the city's water system. For this reason, extra motors and pumps were eventually needed to bring the water up the hill.

With the reservoir located so near the road, a few sleepy or drunk drivers found themselves in the water. Someone reported that they lost their small red brindle bull in the reservoir area (it must have been very thirsty), and a child who lived in the reservoir area was reported missing (he was later found).

Over time several improvements were made. Debate about the potability of the water resulted in chlorine being added in 1921. By 1922, there was a cottage built for an operator and his family. To prevent contamination from road debris, a roof over the reservoir was built in 1925. Filter shells were added in 1926.

By the late 1970s, the reservoir was in disrepair. I couldn't find the actual date it was declared obsolete. The 1977 Thomas Brothers' map book shows the reservoir, but by the 1984-1985 edition it was gone. In 1981 there was a city resolution to sell the property. McKellar Development Properties bought it in 1985 and built the McKellar Research Center.

I am embarrassed to say that I don't remember ever being aware of the reservoir back then. While it was still there, I would have driven the road adjacent to it to get to the Reserve to do my shifts. The June 1977 issue of the *Torreyana* mentioned that land south of the reservoir had been sold and that it included a hill with a view of the lagoon's watershed area. If anyone has any memories or photographs of the reservoir, would you please share them with me?

Lodge Restoration Continues with Momentum

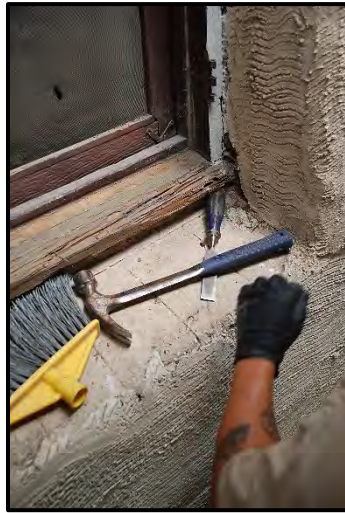
by Corbin Schuppert, CA State Parks Restoration Specialist

A series of technical hurdles that stalled work on the Lodge during the spring have been overcome with help from Torrey Pines and Old Town maintenance workers. The historic porch light electrical repairs have been finalized; new conduit has been installed and then plastered into the adobe walls. Restoration has been completed on the exterior woodwork of the windows in the media room and park aides' office. Detailed mortar-work is underway on six restored light recesses located in the adobe wall of the upper porch and entry stairs.

Plans are under design for custom replacement iron-work grills that once handsomely adorned the Lodge entrance. With completion of these finishing details, applying the second of three plaster coats will soon start. The final look of the Lodge entrance will begin to take shape as the many disparate repairs of this phase of work reach their conclusion. In the final stages of the project, the new plastering will happen rather quickly, compared to the slow, methodical site preparation that takes up much of the time in restoration work. We anticipate a fresh look to the face of the complex and beautiful Torrey Pines Lodge.



Torrey Pines maintenance aide Ryan Thiele shapes an angular mortared recess for restored porch lighting.



Tools of the trade for window restoration.



Old Town worker Wes Stoudor installs new electrical components within the adobe wall.



Testing the electricity: "We have light!"

Welcome to TP Ranger Kevin Escalante

by Joan R. Simon

Kevin Escalante started on June 1 as our newest ranger at Torrey Pines. He grew up in Oxnard and began his California State career as a seasonal lifeguard while attending UC Santa Barbara, where he majored in geography.

In 2010 Kevin became the only permanent lifeguard at Carpinteria State Beach and received some of his training from former Torrey Pines head lifeguard (and Guy Fleming House resident) Ed Vodrazka. After additional training as a ranger, he lived and worked in Gaviota State Park, which is situated along the Santa Barbara coast with three main campgrounds and inland trails. He transferred down to San Diego five and a half years ago and has been working at Old Town State Park.

Kevin said of coming to Torrey Pines, "It was time for me to get back to nature," and he especially looks forward to our combined coastal and chaparral communities. Kevin

lives in North Park with his husband, who is a paramedic in San Diego. He will be working at Torrey Pines every Sunday through Wednesday.



Fifteen Docent Trainees Graduate

by Joan R. Simon

At the June 13 general meeting, **Susan Elliott** introduced fifteen 2026 docents who started their training at the beginning of March: **Edie Berendsen, Denise Davis, Daniel Dornier, Jean-Pierre Duvinage, Torrie Forbess, Mimi Gill, Eileen Kelley, Igor Kidniz, Jayati Marshall, Julie Reynolds, Caroline Ruiz, Allen Ryan, Jay Shrake, Kelly Welch, and Yelena Zolotukhina.**

As always, this is a class with great diversity. They come from England, the Netherlands, Ukraine, Germany, and Brazil, and in addition to the languages of those countries, the group includes Russian, French, and Italian speakers. Their occupations include marine biology, teaching, engineering, dentistry, biotech, IT, and pharmacology. One learned to waterski on the Amazon River; one runs marathons and half marathons; another motorcycled across Canada and the US; and another jumped twice from an airplane. There are a horse wrangler, belly dancer, white

water rafter, wood carver, and master ikebana florist. Some enjoy painting, pickle ball, mountain climbing, and Italian art history. All are hikers who love the outdoors.

Susan thanked the docents who led specific programs for the trainees: **Barbara Wallach, Pao Chau, Judy Schulman, Ingo Renner, Bruce and Patty Montgomery, Mary Makowski, Mukesh Mehta, Robert James, Gabriele Wienhausen,** and Interpreter I Rowan Jackman and her team. Thanks also to the committee who oversaw the training: **Barbara Wallach, Pao Chau, Gabriele Wienhausen, Jeannie Smith, Ingo Renner, Sally Stoffel, and Susan Elliott.**

Susan thanked the trainees for their flexibility in dealing with last-minute changes to training locations and time. "Pretty much every time we met it was, 'We're here? What time? Oh, okay.'"

Cake was served, photos were taken, and congratulations were shared all around. We welcome and look forward to meeting all these talented new members of the Docent Society.



Back Row: Torrie Forbess, Daniel Dornier, John-Pierre Duvinage, Jay Shrake, Edi Berendsen, Eileen Kelley, Denise Davis, Igor Kidniz, Yelena Zolotukhina, Allen Ryan
Front row: Julie Reynolds, Jayati Marshall, Kelly Welch, Caroline Ruiz, Mimi Gill

Bird of the Month: Western Snowy Plover

by Robert James; photo by Heather Ridgeway

We have covered resident, wintering, and migrating birds at the Reserve. The Western Snowy Plover (*Anarhynchus nivosus nivosus*) is an interesting example of the last of these. It is also a federally threatened subspecies, and the last of the five state and/or federally listed birds at the Reserve to be featured as a Bird of the Month.

Plovers are small to medium-sized shorebirds that occur on nearly all continents. The most familiar example in our area is the widespread Killdeer

(*Charadrius vociferus*), a bird whose call is just like its name! The Western Snowy Plover is usually seen along beaches, beside estuaries, and amongst sand dunes. The partial dark neck stripe distinguishes it from our other plovers.



From observations of color-banded birds, they are known to be highly mobile, moving hundreds of miles north and south along the Pacific coast. As reported in eBird, iNaturalist.org, and our monthly bird counts, Western Snowy Plovers have been observed on the beach and near the lagoon mouth in nearly all months of the year, but the greatest numbers have been in late fall.

Unfortunately, most of our local beaches are too narrow and disturbed by human activities for nesting. However, recovery efforts by the federal and state wildlife agencies, along with the military, on behalf of the California Least Tern (*Sterna antillarum browni*) have benefited these co-nesting species where habitat remains. Predator management will be a perennial challenge with their small populations, unless these can be expanded in extent and number.

As a student, I participated in surveys for Western Snowy Plovers (and learned that these “upright” and assertive plovers can be distinguished from the actively wave-darting Sanderling, *Calidris alba*). I later helped lead nesting surveys at Camp Pendleton, where birds foraged and nested surprisingly close to training areas. Their simple scrape nests in the undisturbed sand can be challenging to see, and we used simple but effective wooden tongue depressors to mark these sites for protection and follow-up.

We can enhance the conservation and recovery of the Western Snowy Plover by supporting conservation activities, especially during these times when wildlife conservation and research are at a nadir. Reporting banded birds that you see – a longstanding community science

effort – is important as more can be learned about their movements. A bonus is that when you pass on information about banded birds, you can also learn where and when the bird was banded. Report observations to www.reportband.gov.

The Menu for Birds at Torrey Pines

by Donna Close; photo by Robert James

❖ **Quail:** Lupines, deerweed, grasses, and insects.

❖ **Hummingbirds:** Insects and nectar from fuchsia-flower gooseberry, manzanitas, penstemons, monkeyflower, chaparral bushmallow, bladderpod, and Mojave yucca.

❖ **Scrub Jays:** Acorns, fruits, insects, bird eggs. They are a major planter of oaks due to caching of acorns.

❖ **Northern Flickers:** Insects (ants), acorns, fruits, and seeds. They nest and forage in oak woodlands, chaparral, and riparian habitats.

❖ **Bushtits:** Insects, spiders, and especially mountain mahogany.

❖ **Wrentits:** Insects, beetles, larvae, spiders, ants, caterpillars, and the fruits and seeds of laurel sumac and elderberry.

❖ **Nuthatches:** They pick insects off bark and acorns and require large live and dead trees.

❖ **California Thrashers:** Insects, worms. They are a ground feeder and need thick brush.

❖ **Towhees:** Insects, fruits, and seeds. California Towhees prefer open areas; Spotted Towhees prefer shade. Both are ground feeders.

❖ **Sparrows:** Grasses, herbs, insects, and spiders. They are ground feeders, but will also eat the seeds of bladderpod, as do doves and finches.

❖ **Goldfinches:** Seeds, thistles, fern fiddle necks, and insects at certain times of the year.

❖ **Warblers:** Insects in warm weather, berries, grass seeds, and poison oak berries.

Donna Close is a 2013 docent who moved to Bend, OR in 2023.



Bee of the Month: Armored Resin Bee

Article and photo by Robert James

Although this bee visits many flower species for pollen, armored resin bees are an example of a bee rarely seen at the Reserve. They have a cigar-shaped appearance and are small (about one quarter to one half inch). Resin bees are solitary and mainly fly in early to mid-summer in our area. A reason they may not be seen often is that instead of nesting in the open ground like most of our native bees, they use holes in woody vegetation made by other insects. They have also been reported to use pine cones.

Resin bees use resin instead of leaf tissue to make their nests. They occur throughout most of the world, and there are three species known in San Diego County. Their genus name, *Heriades*, is a tip of the hat to the wool-like appearance on the abdomen of some species. As the photo shows, another feature of this genus is the defined texture on their bodies, known as “punctuation.” The armored resin bee is similar to the closely related leaf-cutter bee (*Ashmeadiella*). The WannaBees frequently see the latter in cactus (*Opuntia*) flowers, and it was [Bee of the Month](#) in June 2024.

My first exposure to the armored resin bee was in 2022 as a new WannaBee. On a warm July day, I photographed an insect that was not a fly and did not appear to be a wasp. As we do in these cases, I posted it to iNaturalist as simply a bee. It was very heartening to get an identification from Professor James Hung along with a message that it was a great find and not very common in Southern California.

To see these interesting bees at the Reserve, stand still and carefully look for small, black insects on California buckwheat (*Eriogonum fasciculatum*) or laurel sumac (*Malosma laurina*) flowers in July and August. About three quarters of [Reserve observations](#) posted to iNaturalist.org have been made on these plants. Minimizing habitat disturbance, leaving behind dead suitable plant material, and providing bee houses with the needed habitat features will benefit conservation for these overlooked pollinators.



Junior Rangers: Family Nature Journaling

by Luz Chung

On Friday, June 12, Interpreter I Rowan Jackman and senior park aide Lila Beth Scott coordinated a Junior Rangers family nature journaling event to celebrate California State Parks Week. The event was supported by docents **Beverly Toth**, **Caroline Ruiz**, and me.

Nature journaling is an engaging activity that fosters a sense of wonder by encouraging participants to “slow down, pay attention, notice more, and get curious about the wonder and beauty around [us]” ([Wild Wonder Foundation](#)). Rowan and Lila Beth introduced and modeled the structure of nature journaling, then led all participants on an exploration of parts of the Discovery Trail and the “sunken garden” behind the Lodge. The focal pieces observed were the sprawling California buckwheat plants near the East Rim Overlook, the hybrid cacti near the Lodge, and the Torrey pines in the sunken garden.



Nature journaling encourages curiosity and presence by asking us to take pause in order to notice, wonder, and make connections to our prior knowledge and personal experiences. This was a great opportunity for all participants to document their observations with words and images while also gaining and sharing knowledge about the flora, fauna, and ecosystems around the focal plants. From looking at mathematical patterns in plants to reveling in the beauty of the California buckwheat flowers, the diversity in observations (and methods of observation) showcased the significance of nature journaling in sustaining our understanding of the world around us.

A second Junior Rangers family nature journaling event is already scheduled for August 8. Meanwhile, all are invited to docent-led nature journaling get-togethers on the second Wednesday of each month (please contact me if you have any questions).

What's On the Beach?: Shells

by Kathy Dickey

I LOVE shells! Every room of my house has shells that I have collected for decades from all over the world. I even have three large glass lamps filled with shells of all types. It amazes me the diversity of colors and shapes we see of mollusks today. But with global warming, carbon emissions, and the acidification of our oceans, will the same be true for our grandchildren and great-grandchildren?



Mollusks grow their shells starting early as larvae, from the inside out using a thin layer called the *mantle*. First, the mantle excretes proteins and chitin to form a scaffold. Next, the organisms extract calcium and carbonate ions from the sea water and from their blood; the ions crystallize on the protein scaffolds into hard calcium carbonate, called *aragonite*. As the mollusks grow, the mantle adds new layers, creating visible growth lines that can be used to determine their age. The growth patterns vary by species, using their DNA and RNA, resulting in diverse forms such as coiled snail shells or hinged scallop shells. The hard shells protect the fragile animal inside from predators or harsh environmental conditions. The size, colors, patterns, and ornamentation on mollusks depend on what they eat and where they live. When the

water is warm and food is abundant, mollusks grow rapidly. During the winter or times of stress, the mollusks deposit denser, darker material.

Ocean acidity has increased by approximately 30% since the start of the Industrial Revolution. The carbonate ions that mollusks need to build their shells are being reduced because of the rising carbon dioxide in the atmosphere and the increased acidity of the oceans. More acid reacts with the sea water to form carbonic acid, which eventually creates bicarbonate. More bicarbonate locks up the carbonate that mollusks use to form calcium carbonate for their shell production.

If pH levels continue to drop to projected levels of 7.7 or 7.8, the water could become corrosive enough to dissolve existing shells faster than the animals can build them. Already the Arctic Ocean is acidifying three to four times faster than lower latitudes. Melting freshwater glaciers and other cold-water factors contribute to the chemical shifts, resulting in life-threatening impacts on arctic mollusks. Pteropods, also known as sea butterflies, are already struggling. These gastropods support the food web by feeding tiny krill, young fish, and even baleen whales.

Can we reduce future ocean acidification? Reducing global carbon emissions is job number one. Protecting coastal ecosystems such as seagrass meadows, kelp forests, and mangrove areas can help. What else are scientists doing to stop this disheartening, threatening development? One initiative, called Ocean Alkalinity Enhancement, involves adding alkaline minerals to seawater. NOAA, the EPA and others are testing crushed alkaline rocks such as limestone and olivine. They are even adding magnesium hydroxide into the ocean. Early trials have increased pH levels with minimal environmental impact. Wastewater from treatment plants is even under consideration.

New promising industrial methods are being developed to use electricity to split seawater into acidic and basic components. The Ebb Carbon Company removes the acid electrically for industrial use or storage and returns the de-acidified water to the ocean.

All these studies are largely in the pilot and experimental testing phases, with researchers closely monitoring any environmental impacts before scaling them up. But they look promising for the future, and for future generations to enjoy beautiful shells as we do.

References available on request.

Torrey Pines Book Club

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

When: Tuesday, July 14, 1:00 pm

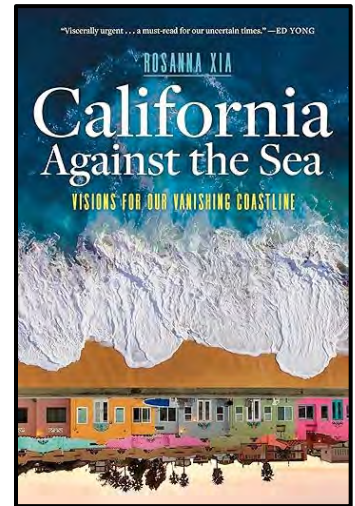
What: *California Against the Sea: Visions for Our Vanishing Coastline* by Rosanna Xia

Amazon says:

Along California's 1,200-mile coastline, the overheated Pacific Ocean is rising and pressing in, imperiling both wildlife and the maritime towns and cities that 27 million people call home. In *California Against the Sea*, *Los Angeles Times* coastal reporter Rosanna Xia investigates the impacts of engineered landscapes, the market pressures of development, and the ecological activism and political scimmages that have carved our contemporary coastline – and foretell even greater changes to our shores. From the beaches of the Mexican border up to the sheer-cliffed North Coast, the voices of Indigenous leaders, community activists, small-town mayors, urban engineers, and tenacious environmental scientists commingle. Together, they chronicle the challenges and urgency of forging a climate-wise future.

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

August 11: *The Invention of Nature: Alexander von Humboldt's New World* by Andrea Wulf



Torrey Pines Docent Society Bird Survey: June 2026

Number of species: 78
(+5 other taxa)

Gadwall 2
Mallard 4
California Quail 2
Eurasian Collared-Dove 1
Mourning Dove 50
White-throated Swift 34
Anna's Hummingbird 14
Allen's Hummingbird 14
hummingbird sp. 7
Virginia Rail 1
Long-billed Curlew 4
Greater Yellowlegs 1
alcid sp. 1
Heermann's Gull 30
Ring-billed Gull 2
Western Gull 33
California Gull 1
gull sp. 1
Royal Tern 7
Elegant/Royal Tern 1
Pied-billed Grebe 3
Western Grebe 3

Brandt's Cormorant 80
Pelagic Cormorant 1
Double-crested Cormorant 5
Black-crowned Night
Heron 2
Snowy Egret 7
Great Egret 4
Great Blue Heron 2
Brown Pelican 46
Turkey Vulture 1
Osprey 2
White-tailed Kite 1
Cooper's Hawk 3
Northern Harrier 1
Red-shouldered Hawk 2
Red-tailed Hawk 5
Downy Woodpecker 1
Nuttall's Woodpecker 10
American Kestrel 1
Peregrine Falcon 4
Western Wood-Pewee 1
Western Flycatcher 4
Black Phoebe 15
Ash-throated Flycatcher 7
Cassin's Kingbird 4

Hutton's Vireo 2
California Scrub-Jay 27
American Crow 14
Common Raven 38
Tree Swallow 2
Northern Rough-winged
Swallow 15
Barn Swallow 3
Cliff Swallow 6
swallow sp. 5
Bushtit 48
Wrentit 85
Blue-gray Gnatcatcher 3
California Gnatcatcher 2
Northern House Wren 9
Bewick's Wren 18
California Thrasher 10
Northern Mockingbird 7
Western Bluebird 4
Phainopepla 3
Scaly-breasted Munia 42
House Sparrow 1
House Finch 119
Lesser Goldfinch 61
Dark-eyed Junco 5

Savannah Sparrow 4
Song Sparrow 15
California Towhee 70
Rufous-crowned
Sparrow 3
Spotted Towhee 45
Yellow-breasted Chat 13
Hooded Oriole 4
Red-winged Blackbird 1
Orange-crowned Warbler 12
Common Yellowthroat 6
Northern Yellow Warbler 1
Black-headed Grosbeak 10
Blue Grosbeak 1

Participants: Donna Mancuso, Nancy Richardson, Dinah Carl, Luz Chung, Gail Darling, Robert Turner, Karen Messer, Marty Hales, Pam Burdt, Steve Neal, Tsaiwei Olee, Alberto Truillo, Susan S., Robert James, David Walker

Herb Knufken's photo gallery includes many birds: pbase.com/herb1rm



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