

# BETWEEN the TIDES

F r i e n d s   o f   F i t z g e r a l d   M a r i n e   R e s e r v e

S e p t e m b e r 2 0 2 2

## The White Rainbow

story and photos by Rob Cala, FMR Ranger

One early morning several years ago on the bluffs overlooking Fitzgerald Marine Reserve, I witnessed a rare and unique sight. As blue sky vied for attention with the low-hanging Northern California fog, I noticed a shape appearing in the mist. It was a classic moment of “what am I looking at?!” The image evolved into a clear and defined...white rainbow! It was a rare and beautiful apparition I knew little about. There are so many incredible sights to see on our coastline and I have been fortunate to witness many—often with my camera as proof of these fish tales! And when this shroud of phenomenon appeared, I was riveted with the form of the gentle bow. It seemed playful and understated yet bold and willing. Free of color, it took on a character different than a traditional rainbow. The bow seemed to reveal a mystery, a truth I hadn't considered. Rainbows are colorful phenomena that invoke dreams of pots of gold and flying unicorns. The beauty of the seven colors of a rainbow touches our imaginations. Yet now, something new and special was in view—a blank canvas ready to be embraced.

When I realized I was observing a monotoned elixir of water drops no bigger than 0.1mm, I knew I was seeing a rare instance of beauty that vibrated with discovery. Have you ever



seen a fogbow?! Who knew they even existed? The conditions must be perfect. Luckily, we have those ingredients here on the coast. In contrast to rainbows, which have much larger drops to reflect sunlight and color, fogbows reflect little to no color because of the extremely small droplets inside the fog.

Over the past few years I have seen sev-

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*an arch of heaven  
oh ghostly bow of white mist  
a mystery seen  
—a haiku by Rob Cala*

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eral fogbows from form to finish, in various places from Bean Hollow to Moss Beach. The first presented itself over the main ramp at FMR, on a day with an ephemeral mix of weather and spirit. I pointed out the subtle appearance of the fogbow before it took full shape to a few visitors and colleagues. We were mesmerized as it became fully realized.

It felt like a joyous symbol of possibility.

My next experience with a fogbow occurred at Pillar Point bluff, on a day heavy with humidity. A beautiful

*continued on page 3*

## Friends of Fitzgerald Marine Reserve

P.O. Box 669  
Moss Beach, CA 94038  
[www.fitzgeraldreserve.org](http://www.fitzgeraldreserve.org)

### Board of Directors:

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### Our Mission:

To inspire the preservation of our unique intertidal environment through education and the support of research.

### Between the Tides

#### Editorial Board:

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## Creature Feature: *Berthella californica*

story and photo by Dr. Tom Niesen

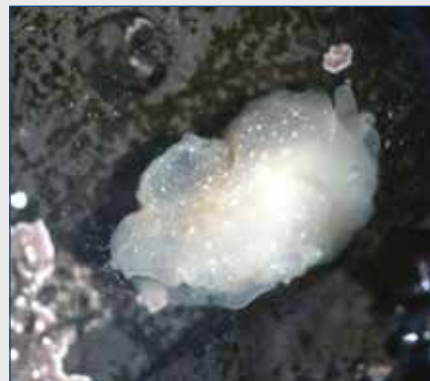
The creature currently featured on our website is *Berthella californica*, the California *Berthella* or the California Side-gilled sea slug.

A specimen was recently observed at FMR in a midtidal tide pool by Tom Ciotti, Board member of The Friends of Fitzgerald Marine Reserve. *Berthella* spp. are easily mistaken for nudibranchs, but are classified as pleurobranchs or side-gilled opisthobranchs, because they have their large gill positioned along the right side of the foot under the overhanging mantle. As can be seen in the photo, their rhinophores are rolled and there is a thin white line along the edge of the dorsal mantle, which can vary from translucent white to brown and have scattered white dots.

*Berthella californica* can be up to two inches long and ranges from Alaska to Baja

California. It feeds on various invertebrates such as sea squirts and also on fish.

*Berthella*, like all opisthobranch gastropods, is a hermaphrodite. This sea slug lays its fertilized eggs in an egg ribbon where they develop into larvae and, after several weeks, are released into the water to complete their development and settle onto the bottom. ♦



*Hermisenda crassicornis*  
*Opalescent Nudibranch*  
2" Gastropod sea slug  
Mollusc species  
Facelinidea Family  
Feeds on hydroids, anemones,  
ascidians

7/26/2022 I saw 5 or 6 of  
these at low tide -1.2  
Fitzgerald Surfgrass in 2016

See [Nature Journaling in San Mateo County Parks](#)  
page 4

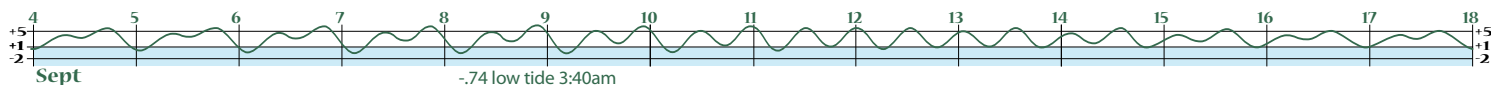
Art: Linda Theroff

The graph displayed across the page bottoms shows tides for 9/4/22 to 1/22/23 at Princeton Harbor. Where the date appears is midnight. Reefs are accessible for exploring at low tides during hours when FMR is posted as "Open." Low tides at least +1 or below are best for tidepooling. See: [fitzgeraldreserve.org/lowtides/](http://fitzgeraldreserve.org/lowtides/)

*The winter afternoon low tides change to morning low tides in March. There are almost equally low tides several days before and several days after the noted low tide dates.*

#### The lowest tides this period at Princeton Harbor:

-0.74	9/08	3:40am	-1.81	12/23	4:39pm
-0.25	10/5	1:33am	<i>5th lowest of 2022</i>		
-0.08	10/12	7:13pm	<b>2023</b>		
-0.92	10/28	7:43pm	-0.68	1/05	4:19pm
-0.63	11/09	5:10pm	-1.70	1/21	4:42pm
-1.59	11/25	5:39pm	<i>2nd lowest of 2023</i>		
-0.8	12/8	4:53pm			





## Between the Tides gets a New Editorial Board

This edition of the Friends of Fitzgerald Marine Reserve newsletter is the first to be produced by our new *Between the Tides* Editorial Board.

The Editorial Board combines long-standing and relatively new volunteers. Some of us have experience in publishing, editing or writing. Some of us have none. We all have a great commitment to the Reserve and a desire to share our enthusiasm through articles in *Between the Tides*. We are: Kathy Barton, Tom Ciotti, Paul Gater, Miranda Holeton, Tom Niesen, Jody Stewart and Martie Sautter, our designer from Sautter

Graphics. You will learn a little more about each of us in future editions.

We plan to continue the quarterly schedule for *Between the Tides* and want to hear from you. What do you like about the newsletter? What would you change? What type of articles would you like to see in *Between the Tides*? Who do you recommend as authors? What article could you write for us? Please contact the Editorial Board at [betweentheides.editorialboard@gmail.com](mailto:betweentheides.editorialboard@gmail.com) and we will be in touch.

See you out on the reef! ♦

*We want  
to  
hear from you.*

## Thank You Jan and Sasha

The new Editorial Board—and all of us who care about the Reserve—would like to extend our deepest gratitude to outgoing editors Jan Pelinka and Sasha Greenwald. *Between the Tides* wouldn't be what it is today without you both. We thank you for your tireless dedica-

tion and all the love you poured into each issue for so many years. It's a testament to the amount of work you did that the FFMR Board of Directors has decided to replace you with an Editorial Board of seven volunteers! We wish you well in your next adventures. ♦

*We bid a fond farewell to Jan and Sasha. We're sure they will find lots of adventures to replace the many, many hours they dedicated to the newsletter!*



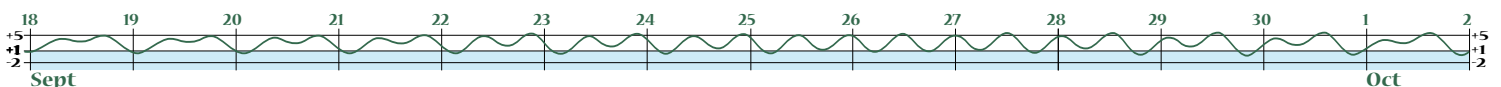
## White Rainbow *continued from page 1*

blanket of white adorned the sea and reef below me. The arc revealed itself to me in real time, clearer and crisper than the last, showing off its mystical character! I wondered who else was witnessing it from another vantage point. I was alone except for a coyote, sitting in the midst of the arch, unconcerned with my human appreciation of aesthetics. I pondered the contrast of wild upon wild and the mythical energy of this rare white rainbow.

A year later, by Mirada bluff, a fogbow formed as I walked along the coastal trail. I was once again entranced, but this time I captured a video. It was stunning. Those are moments for sharing. To my surprise, a couple wandered by nonplussed or not noticing, even with my camera aimed at the sea like a protruding third eye. To be able to witness the tantalizing vision of this weather phenomenon is a gift we all possess. And in those moments, we are rewarded with awe and understanding. Science embraces beauty and art to form the fogbow, and it inspires something deeper: we may feel at once temporary, fulfilled and zen by simply appreciating the view.

When the fog is low and sky above blue, in the early morning or late afternoon, keep your eyes wide open for the fogbow hue!

ENJOY! ~ Rob Cala



# Nature Journaling in San Mateo County Parks!

by Sharron L Walker

Since July 2021 the San Pedro Valley Nature Journalers have met monthly in SPV Park. Each meeting has a journaling prompt that stimulates our curiosity about nature. In the bi-monthly Friends of San Pedro Valley Park Newsletter we have included a column on Nature Journaling along with photos of journal pages. So what is Nature Journaling?

Nature Journaling includes being in nature, observing, drawing (without judgement) recording one's thoughts and feelings in written prose or poetry, making lists of what is seen – or a compilation of all! There are no rules nor is it about fine art. It is a path of exploration and sharing that path is a goal of the SPVP Nature Journalers. Many journalers remark that in the process of drawing something from nature they have learned to really examine their subject close up and notice details that might otherwise have escaped them. It's a great way to learn!

A recent theme, as suggested by Martie Sautter, a member of the *Between the Tides* Editorial Board and one of our Nature Journalers, was Fitzgerald Marine Reserve & Tide-pool Life. Thus this article to share some of our pages.

We invite you to visit us and check us out. If interested you can contact me at: [SharronLee@aol.com](mailto:SharronLee@aol.com) ♦

"The key to developing a closer connection with nature is deliberately enhancing your powers of observation and wonder. ...A nature journal is a lens that focuses our attention and crystallizes our observations, thoughts, and experiences."  
—John Muir Laws,  
naturalist, educator, artist and author  
Many excellent drawing and journaling tutorials can be found at:  
<https://johnmuirlaws.com>

Sharron Walker's childhood growing up in Northern California camping, fishing, and exploring beaches and forests ignited her passion for nature. A love for travel took her into the airline industry, and later a job managing an adventure travel company.

A major career change into teaching 2nd through 5th graders in Pacifica, led to her students' participation in numerous environmental programs.

A 7-year volunteer "stint" hosting a show on Pacific Coast TV, coupled with her life-long photography work landed her a summer job from 1999 to 2003 in the Galapagos Islands and Alaska's Inside Passage as an environmental educator.

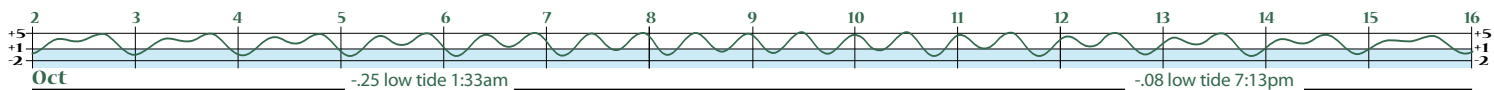
After retirement from teaching, Sharron expanded her involvement with San Pedro Valley Park. With the support of the Sanchez Art Center she began conducting Nature Journaling workshops resulting in the San Pedro Valley Park Nature Journalers who meet monthly at San Pedro Valley Park.

Sharron says currently, "Travel continues to be a passion, with COVID challenges, most of my travel along with my partner, Bevan Jones, is in our camper van. These days I am accompanied not only by my camera but my nature journal !!"

You can learn more about Sharron at: [www.imagesbysharron.com/aboutme.html](http://www.imagesbysharron.com/aboutme.html)



Art: Kathy Kellerman

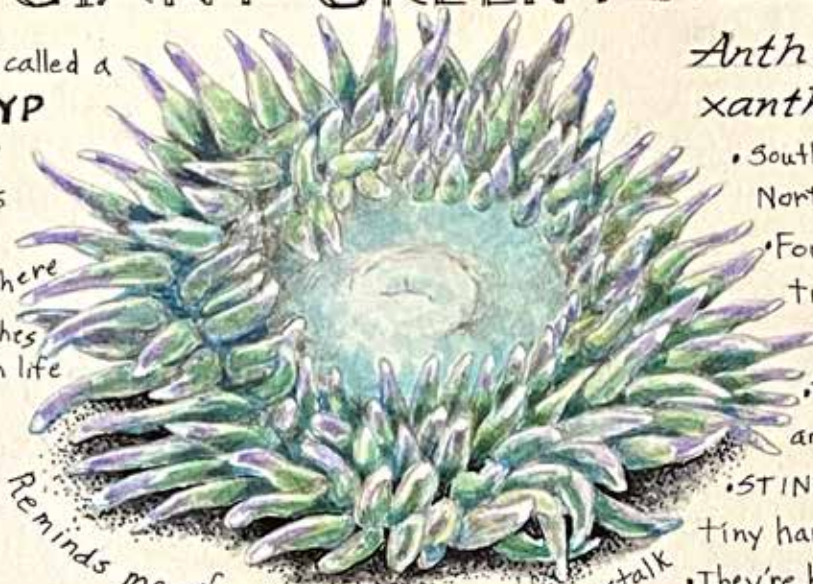




# GIANT GREEN ANEMONE

Body is called a **POLYP**

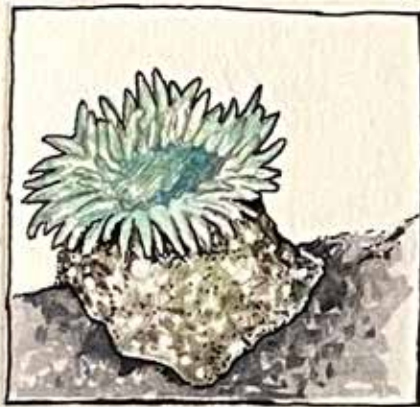
Rarely moves from spot where it attaches early in life



Reminds me of a flower on a thick bumpy stalk

*Anthopleura xanthogrammica*

- Southern Alaska to Northern Mexico
- Found in mid to low tide zones and surge channels
- TENTACLES sting and paralyze prey
- STINGING CELLS are like tiny harpoons
- They're harmless to humans



COLUMN is olive green to brown. TUBERCLES are sticky. Rocks, shells and sand stick to help anemone from drying out during low tide.

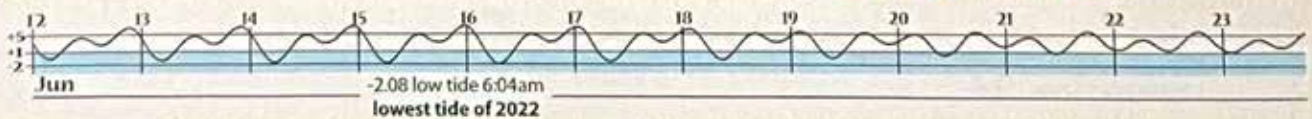
The Giant Green has a symbiotic relationship with photosynthetic microalgae

ANTERIOR ORAL DISC diameter up to 8"  
 COLUMNAR CENTRAL BODY diameter up to 4"  
 POSTERIOR or PEDAL DISC used for attachment

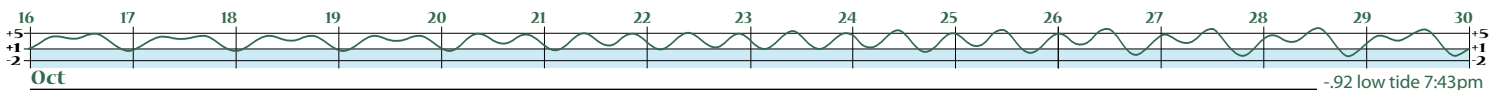


What do they eat?

- FISH
- SHRIMP
- ISOPODS
- AMPHIPODS
- CRABS



Art: Anne Blair





**Fitzgerald Marine Reserve**  
 clear skies, slight breeze - 60°+

5/3/22  
 11-12 pm

Western Gulls




Tidepools

rocky, sandy  
 larger  
 rocks



Kelp-Sanddried

California Mussel



gumboot chiton

geometric  
 patterns in rock  
 wet or dry



holds on tightly to  
 reef rocks with  
 byssal hairs



Nature journaling  
 the Tidepools

Hermit  
 crabs  
 frequently  
 seek in  
 empty snail  
 shells.



Mossy chiton 2-3"  
 on  
 rock



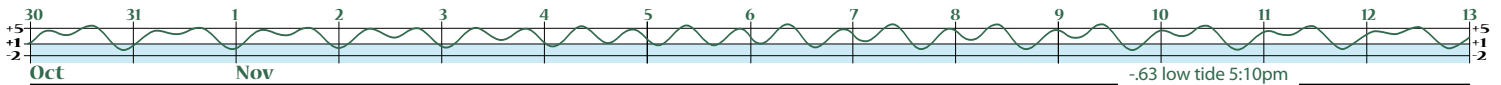
Giant Pacific Chiton  
 gumboot chiton

on  
 rocks  
 5-13"

"Meatloaf  
 Chiton"



Art: Sharron Walker



# Rodents Beware! There's a New Predator in Town

by Karen Kalumuck

While traversing the bluffs of Fitzgerald Marine Reserve, my boisterous group of third graders and I were suddenly, and vehemently, “shusshhhed” by the tour group ahead of us. We neared the Canary Island palm trees and the group’s pointed fingers guided our gazes to the underside of the palm trees’ crowns. Tilting our heads back we saw the dry brown underside of the palm fronds—certainly not a sight deserving of a shushing! Were we being pranked? However, after focusing more intensely on the spot, our jaws dropped. Tucked among the bronze and buff leaves, perfectly camouflaged, sat a sleeping barn owl!

The barn owl, *Tyto alba*, is the most widely distributed species of owl in the world. Their heart-shaped faces are lightly colored, with pale feathers on their bellies, and darker ones on their backs, typically shades of tan and brown. They range from about 13 to 15 inches long, with a wingspan of 31 to 37 inches. The darkish head and numerous spots on its chest indicate that this FMR owl was female. About 90 percent of a barn owl’s diet consists of moles, voles, mice, pocket gophers, and other rodents.

Owls can’t chew their food, and generally consume their prey either whole or torn into large chunks. The prey travels down the esophagus to the first part of the stomach, the proventriculus, which produces acids and enzymes that begin to digest the food. The partially digested food then enters the gizzard, or ventriculus, which sends the digestible food into the intestinal tract for final digestion and nutrient extraction. Indigestible parts of the prey—fur, bones, teeth, feathers—remain in the gizzard for several hours where muscular contractions compress these parts into a pellet. The pellet then moves back into the proventriculus, where it can remain for up to ten hours. While the pellet sits in the proventriculus, more prey can’t be consumed since the “stomach” is full. Eventually, the owl regurgitates the pellet, which lands on the ground underneath its roost (search “owl regurgitation” online for some videos of regurgitating owls caught in the act). With its stomach empty, the owl can begin the hunt anew.

What did our FMR owl have for dinner? Curiosity drove me to collect a few pellets from under the palms, and examine them at home.\* With gloved hands and a mask, I broke open the pellet (Figure 1, pellet on the right) and was greeted by a pair of curved, sharp incisors. Using fine-tipped forceps, I slowly and carefully pulled away the tightly compressed fur to reveal the skull that was attached to those incisors.

After about an hour of digging and picking, I had freed most of the “larger” bones from the pellet. Figure 2 shows two rodent skulls, hip and leg bones, as well as teeth and vertebrae. If one could collect all the bones in a pellet, one could likely reconstruct the skeleton of each of the owl’s entrées. Our “girl” eats well!

Barn owls are exquisitely adapted to be nocturnal hunters, relying primarily on stealth and acute hearing. Serrations and fringe along their flight feathers disrupt air turbulence, allowing them to fly silently. Their disc-shaped faces focus sound waves toward the ears. The left ear of the barn owl is situated higher on the head than the right ear. This asymmetry allows the owl to triangulate the position of the sound to pinpoint its prey; its brain seamlessly integrates the time that the sounds reach each ear, both left and right, and up and down. When all sounds arrive at both ears simultaneously, the owl is facing its prey directly. The mouse or vole has no chance against the owl’s fast and super sharp talons!

The prowess of barn owls in controlling rodent populations has made them an important part of natural rodent control. For decades, vineyards in California have installed structures to attract and shelter barn owls, who in turn keep the rodent population in check and prevent them from damaging grape vines.

Will our guest become a permanent resident of FMR? Only she knows for sure! Keep an eye peeled for her—and her after-dinner gifts of the finest rodent remains that FMR has to offer!

\*Caution: anyone handling fresh owl pellets should wear gloves and a mask. Sterilized owl pellets can be purchased from biological supply companies. ♦



Barn owl at FMR, photo: Rob Cala

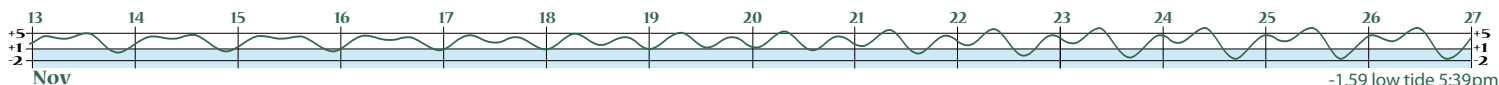


Fig. 1: Owl pellets collected at FMR, photo: Karen Kalumuck



Fig. 2: Rodent bones dissected from owl pellet, photo: Karen Kalumuck

The left ear of the barn owl is situated higher on the head than the right ear. This asymmetry allows the owl to triangulate the position of the sound to pinpoint its prey





## Message from President Ron Olson



This year marks fifty years of naturalist training at Fitzgerald Marine Reserve when the need for naturalists was recognized by

park Ranger Bob Breen. The problem at the time was that FMR was being loved to death. Massive numbers of visitors came by car, on foot and by bus to experience what our rocky shores had to offer. Much of the environment was damaged by collecting or mishandling of objects found in and around our tidepools. Under Bob's leadership, naturalists were trained to educate the public of the importance of the Reserve. Teaching visitors about tidepool etiquette as well as the unique qualities of each species has gone a long way in ensuring the public's desire to preserve and protect this area for generations to come.

Our California coastline has experienced additional noticeable changes over the past few decades. Some are caused by nature and some are caused by human activity. It became apparent to Bob that in order to keep FMR as the gem that it is, he would have to look at tougher solutions to the problem. In order to extend his reach in educating the public, Bob promoted marine biology and ecology programs in local schools. He was also instrumental in establishing Marine Protected Areas (MPAs) along our California coast. Now that FMR is part of an MPA, collecting of marine animals is no longer allowed and we have a "no touch" policy to help maintain the health of the reef.

Since our last issue of *Between the Tides*, I have observed some of the usual as well as some unusual changes at FMR. Our ramp access to the beach is once again open. This access is an important asset to the park. It is located near the parking lot, picnic area, visitor center and restroom, which makes this area very convenient to new visitors and families. The ramp access was initially closed due to storm damage and remained closed due to a slightly prolonged harbor seal pupping season. With a few late pups being born, it was important to allow for the month-long weaning period. Interrupting the weaning period can result in abandonment by the mother. Abandonment, as well as disease and encounters

with predators, accounts for about one third of all harbor seals dying within their first year of life.

In addition, the ramp access suffered significant damage from winter storms. Much of the rock and concrete has shifted with some materials strewn up and down the beach. Access to the small, secluded beach to the north of the ramp is less accessible this year due to erosion and slippage of rock protecting the cliffs. At the base of the ramp is a flattened area that contains clam fossils that are over three million years old. Many of the fossils that I found last year have eroded away. This erosion has uncovered new fossils. Erosion has long existed at FMR—in fact, our cliffs erode at an average rate of eighteen inches per year. After observing the amount of weathering that the ramp has received this year, it appears that part of the ramp access may disappear in the not too distant future.

Another observation that I noticed when the ramp was closed was the large clusters of birds on our rocky shores. It seemed like certain species of birds would congregate in one area, with another species congregating right next to them. The differences in plumage made for striking contrasts along the shore. As the ramp access opened, the birds reluctantly began sharing space with humans before giving up and looking for a more secluded spot to rest. It's hard to say what impact the gathering of birds had upon the local crabs and snails that hide out in the tidepools, trying to avoid being an easy meal.

Some people are surprised to find all of the algae that washes up on our beaches. It is a perfectly normal phenomenon for this time of year. With long sunny days, algae works overtime to produce structures that aid in photosynthesis. Some algae, such as giant kelp, can grow several feet in a day. Any kind of significant wave action will result in the young, delicate structures being damaged. Herbivores on the beach relish in the easy meals, as do their predators.

As the days begin to shorten, we will begin to see many subtle changes at the Reserve. I encourage visitors to experience the park as a way to recharge their bodies. Whether it's tidepooling, hiking the bluffs and cypress grove, picnicking or watching the ocean, it's a great way to experience nature. ♦

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*The problem at the time was that FMR was being loved to death.*

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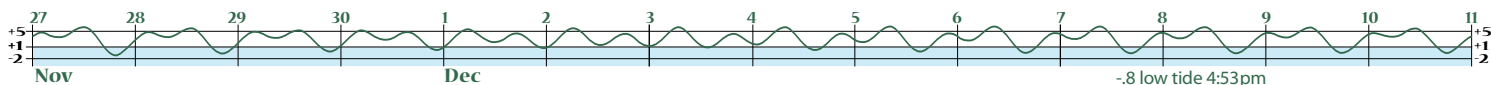
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*Our ramp access to the beach is once again open. It was initially closed due to storm damage and remained closed due to a slightly prolonged harbor seal pupping season.*

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*Rock and clam fossils (not from the Reserve), photo: Martie Bateson Sautter*





## Spotlight on 2022 Scholarship Recipients

The Friends of Fitzgerald Marine Reserve continues Bob Breen's vision by reaching out beyond our park's boarder to promote the idea of preserving the environment for the future. We offer yearly scholarships to Half Moon Bay High School students who are looking to further their education in marine biology or ecology. This "investment" in the future continues to pay great dividends. Some recipients have pursued careers locally while others have made impacts in Europe and the Middle East.

The recipients this year are Philip McVey, Eric Dubois and Armand Tomasella:

**Philip:** I lived in Half Moon Bay for the first few years of my life, but then moved to Tahoe for a year and then down to Capitola, Santa Cruz for kindergarten. Santa Cruz is what initially attracted me to the ocean environment as the marine life in the Monterey Bay is highly diverse. Half Moon Bay is a key reason why I'm so interested in the ocean because of how much time I've spent in and around it. I've seen how terribly people treat the ocean and how they don't see the impacts of their actions. I've been through the junior lifeguard program on the coast, and I love to surf, boogie board and skimboard. The ocean is the place I want to be for the rest of my life and I hope I can make a difference in protecting it. My first step in this dream was to take the Marine Ecology course at Half Moon Bay High School, which I loved. I've now decided to pursue this dream at UC Davis, studying marine and coastal science.

**Eric:** I will be attending UC Davis in the fall and I am going to be studying Environmental Engineering. After college, I would like to work

in the sustainable/green energy field. I am interested in saving the marine environment and the environment in general because I have seen first-hand the damage that humans have caused on every habitat on the coastside. I want to do what I can to restore the environment to the best of my abilities. Outside of school, I like to go to the beach and play soccer with my friends.

**Armand:** Having finished high school, I wonder what the next few years will look like. Although unclear, I know what I am passionate about. This has, and likely always will be, the ocean and the organisms that call it their home. Since I moved onto our single masted sailboat in 2016 in the Half Moon Bay harbor, I have been as close as you could ever be to the Pacific. I express my interests in the ocean by surfing, scuba diving, sailing, and volunteering with Sea Huggers. I plan to travel to France to pursue a degree in marine biology. I would like to use a degree like this to produce research on marine animals, the ecology of the ocean, working off a boat, or station in the Pacific, and work with organizations like NOAA.

Good luck to you all. We are counting on you to make a difference! ♦



*Philip McVey, Eric Dubois and Armand Tomasella*

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*Some recipients (of FFMR scholarships) have pursued careers locally while others have made impacts in Europe and the Middle East.*

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## Educational Resources on FFMR Website

*by Roger Hoppes*

Over several years FFMR has developed a page of suggested learning resources on the marine environment. First and foremost, the format is designed to assist teachers before or after a tour at the Marine Reserve to produce related curriculum. The expansive list of reading and videos is also directed at educators both near and far to help excite their students about the wonders of the oceans. This is central to FFMR's goal of con-

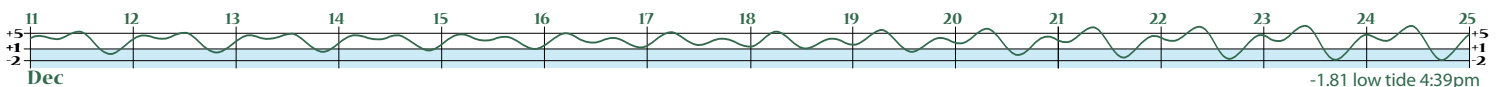
necting kids to nature. Access to the resource page is easy. From the Friends of Fitzgerald Marine Reserve webpage (<http://fitzgeraldreserve.org/>) go to the drop down menu marked "For Educators." There you will find the link to Educational Resources.

See page 12 for a list of some of the many topics covered in our resource section. ♦

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*First and foremost, the format is designed to assist teachers before or after a tour at the Marine Reserve*

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# Seal Cove History Afterthoughts

by Tom Ciotti, FFMR Volunteer Naturalist

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*The Spanish missionaries introduced the trees into California and planted them at most, if not all, of their California missions because of the trees' biblical association.*

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*Canary Island Palms  
Phoenix canariensis  
Non-native  
Native to the Canary Islands  
photo: Martie Bateson Sautter*

In my March 2020 *Between The Tides* article about Seal Cove history I said that the origin of the Canary Island palm trees near the site of the Smith/Doelger homesites was uncertain. And in my December 2021 *Between The Tides* article about the common names of the Reserve's terrestrial vegetation I said that the origin of the sweet chestnut tree that sits just to the east of those homesites was also uncertain.

“Like a dog with a bone” I had to try to resolve those uncertainties. While I didn't find conclusive evidence of who actually planted those non-native trees, I did uncover additional clues about who likely planted them. The lines of inquiries I pursued to reach my conclusions are described below. I leave it to readers of this article to judge their merit.

## The Palm Trees

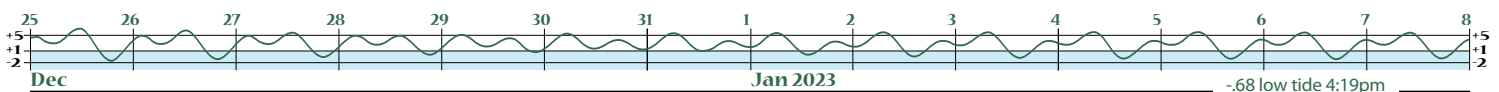
My prior article about Seal Cove History concluded that while none of the Smith era photographs of the homesite showed the palm trees, former Ranger Bob Breen believed (probably based on Bob's recollection of talking with George Sidney Smith's grand nephew, Arthur) that a relative—a mariner brother, as both I and my wife recall—of George had gifted the trees to the Smiths. So my first inquiry was to try to find out if George actually had a mariner brother. George had brothers and I located their obituaries. There was no indication that any of them were seafarers. That inquiry, while not conclusive, cast further doubt that the trees had been planted by the Smiths. So I turned to the trees themselves. When were Canary Island palm trees introduced into California? Was there any way to estimate the age of the trees? What is the average life expectancy of a Canary Island palm tree?

According to literature, the Spanish missionaries introduced the trees into California and planted them at most, if not all, of their California missions because of the trees' biblical association. And, they were a popular planting during the Victorian era. Unlike hardwood trees, there is no reliable way to estimate the age of Canary Island palms. Finally, the literature indicated a broad life expectancy range for the trees, with a maximum of hundreds of years. Based on these results, the trees could have been planted by the

Spanish, Mexicans, Smiths or Doelgers. While I doubted the trees had been planted by the Spanish or the subsequent Mexican land grantees because the land had been used by them as pastureland and there were no known homesites in the immediate vicinity, I nonetheless located an 1866 U.S. Coast Survey Map of the area (available online) that marked Seal Cove as “grain fields” and indicated the nearest (and only) homesite in the vicinity was the Denniston Ranch about a mile to the southeast along Denniston Creek. That solidified my doubt that the Spanish/Mexicans had planted the trees. So having looked as thoroughly as I could at the possibility the Smiths had planted them, I next researched whether there was any connection between the Doelgers and palm trees.

Henry Doelger was born in San Francisco and lived much of his life in the Bay Area. Palm trees are widespread in the Bay Area so Henry was undoubtedly familiar with them. Henry's wife (and business partner), Thelma, grew up in the Philippines, where there are many palm trees. Thelma, then 18, moved from the Philippines to Santa Rosa in 1916. As a young woman Thelma worked for Luther Burbank and became friends with the Burbank family. The Burbank home in Santa Rosa, now a historic site, had two palm trees in its front yard. Also, Santa Rosa had experienced “palm tree fever” in the early 20th Century and had lined many city streets with palm trees. So Thelma, too, was quite familiar with palm trees.

My research uncovered a 2002 SFGate article about litigation between residents of the Westlake subdivision of Daly City and their homeowners association, the Westlake Homeowners Improvement Association (WSIA). Henry Doelger created WSIA in the late 1940s when he began developing and selling homes in Westlake. The litigation records reported the WSIA's bylaws dictated “aesthetic standards” for landscaping and offered residents “a residential tree-maintenance program that cared for the palm trees Doelger planted on each lot.” That was an aha moment! Subsequent research revealed that Doelger was an ardent afficionado of mid-century modern design which feature palm trees as a hallmark. Indeed, many mature Canary Island palm trees may be seen at Westlake Shopping Center





which Doelger was building at about the same time he was building his Seal Cove home!

So, based on the Spanish/Mexican use of the land as pasture rather than a homesite, the Smith era photos showing no palm trees, my inability to find a seafaring Smith brother, and the Doelgers' connection to palm trees, I believe it is likely the Doelgers planted the three Canary Island palm trees.

### The Sweet Chestnut Tree

My prior article about the common names of the Reserve's terrestrial vegetation reported that a U.C. Davis paper said that sweet chestnut trees were introduced into California in the middle of the 19th century and I had located a Sussex Wildlife Trust paper describing a non-invasive method to estimate a sweet chestnut tree's age involving measuring the tree trunk's girth. The U.C. Davis article narrowed the likely planter of the chestnut tree to either the Smiths or Doelgers and I hoped to determine which via the Sussex Wildlife Trust method.

The Sussex Wildlife Trust is a large, well known British non-profit that provides environmental education activities in southeast England. So while I believed the age estimate method described in their paper was likely "legitimate," I had doubts that it could be applied successfully to the FMR chestnut tree because of the particular anatomy of that tree's trunk (its low branching might result in an excessively large trunk girth measurement). Nonetheless we gave it a try during a May 2022 FMR Naturalist Continuing Education event at the Reserve. It estimated the tree was well over 200 years old—definitely not likely given the U.C. Davis article!

After that failure, Karen Kalumuck, FFMR's terrestrial vegetation guru, and I traded some emails in which she mentioned there were many species of sweet chestnut trees. That mention led me to another line of inquiry. The FMR chestnut tree is a European sweet chestnut, *Castanea sativa*. Between the Smiths and the Doelgers, which likely had the most familiarity with European chestnut trees and thus been likely to plant one?

Neither Henry's nor Thelma's backgrounds indicate they would have

been familiar with European chestnut trees. They are not common in the Philippines and there are only scattered plantings of any species of sweet chestnut trees (mostly hybrids between the European and Chinese species) in California. They are not commonly planted in the Bay Area, including the San Mateo Coast. So it is unlikely the Doelgers were familiar with or had an affinity for European sweet chestnut trees.

On the other hand, George Sidney Smith was born, grew up, and attended college in Ireland. European chestnut trees are ubiquitous throughout the British Isles and chestnuts have long been a part of Irish and British cuisine and holiday culture. So he was undoubtedly familiar with chestnut trees and much more likely than the Doelgers to have an affinity for them and their nuts. The location of the tree, a good distance from the homesite, makes it likely it was planted for its nuts rather than for shade.

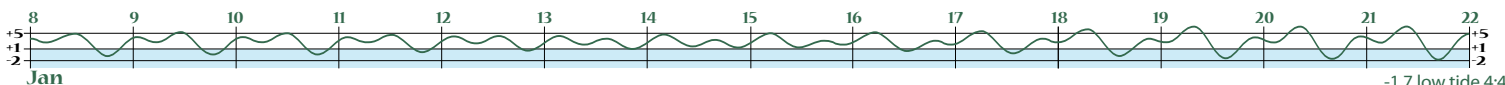
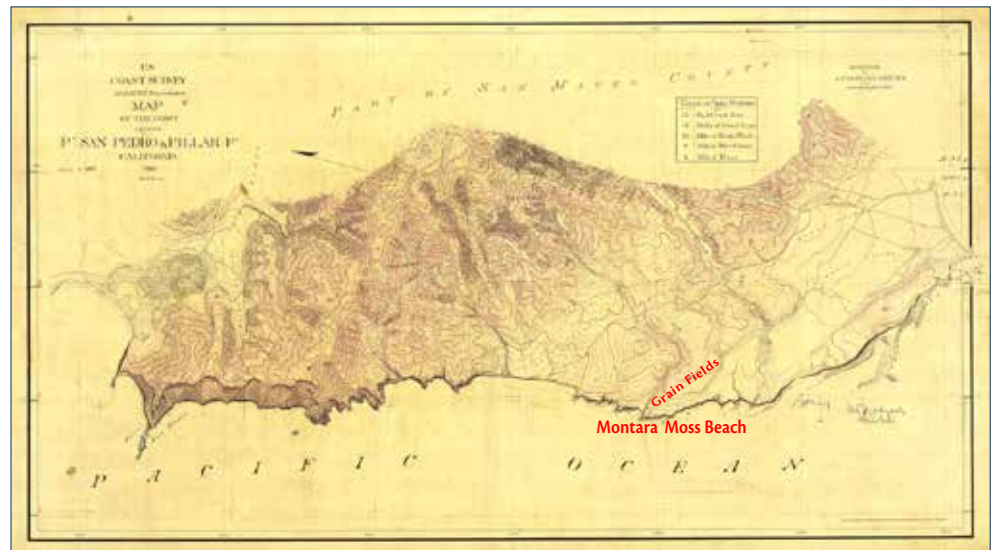
So, based on the U.C. Davis paper, the scarcity of European chestnut trees in California, that the Doelgers' backgrounds were likely to make these trees unfamiliar to them, and that George Sidney Smith's background would likely have given him a familiarity with and affinity for these trees and their nuts, I believe it is likely the Smiths planted the chestnut tree.

In closing, this dog has definitely tired of chewing this bone and I hopefully leave it for readers of this article to gnaw on. I would be happy to be proved wrong about the origins of the trees. ♦



European Sweet Chestnut Tree  
*Castanea sativa*  
Non-native  
Native to Southern Europe and Asia Minor  
photo: Tom Ciotti

1866 U.S. Coast Survey Map





Do you know what this mystical creature is? Find out in the next issue of *Between the Tides*, coming December 2022!



Close-up of clam fossil.



Could be a double fogbow?

## Educational Resources

*continued from page 9*

The extensive range of topics covered within our Educational Resources section can be seen with a glance at the list at right. You'll find many links to further information under each of these headers.

From the Friends of Fitzgerald Marine Reserve webpage (<http://fitzgeraldreserve.org/>) go to the drop down menu marked "For Educators." There you will find the link to Educational Resources.

**Orientation to Fitzgerald Marine Reserve**

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**Environmental Lesson Plans for Teachers Based on Science Standards**

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**Field Guides for Home and Onsite Discovery**

**Passing the Torch: Connecting Children to Nature**

## Friends of Fitzgerald Marine Reserve Volunteer Naturalists

FFMR has approximately 40 volunteers who conduct tours for students and other groups of 15 or more each year. Many other volunteers are also active Seal Sitters protecting the resident harbor seal population who call FMR home.

Each year, FFMR provides educational tours to approximately 2,000 students. If you are interested in becoming a part of our dedicated group of volunteers, please contact [volunteer@fitzgeraldreserve.org](mailto:volunteer@fitzgeraldreserve.org).

### Friends of Fitzgerald Marine Reserve

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