

# 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  
D e c e m b e r   2 0 2 1

**Available on the FFMR Website Now!!!**

## **The Terrestrial Vegetation of Fitzgerald Marine Reserve**

*by Karen Kalumuck*

In the late spring and early summer, at the reserve and in our neighborhoods, a feisty little weed sends leaves through the cracks in the pavement. We drive our cars over it, step on it, abuse it, and yet it persists. It flowers, sets seed, and then dies off. It only grows in harsh conditions, usually in extremely poor, compacted soil. It adorns the cracks in the asphalt of my driveway.

Until recently, I had no idea that this scrappy survivor is a plant that is native in this area. It is *Matricaria discoidea*, also known as pineapple weed, wild chamomile, and disc chamomile, among other names. Native Americans used this plant to treat gastrointestinal upsets and fevers. The fragrant flower heads were used as a source of both insecticides and perfume, and its compact robustness made it attractive to use as jewelry and as other decorations.

The story of the modest pineapple weed is just one of the many fascinating tidbits I learned while conducting research for the guide, *The Terrestrial Vegetation of Fitzgerald Marine Reserve*. Two years ago, when I embarked on the project to earn my California Naturalist Certification, I had utterly NO idea about the diversity of plants and other vegetation above the tides, on the 35 acres of land that are part of FMR. I speculated,

oh, maybe about 30 or 40 different species, at maximum. I was in for a surprise.

The more you look the more you see! After two years of observation and photography, I have catalogued over 120 different species of vegetation. About half are species that are native to the area. Many of the non-native species were imported as ornamental plants by former owners of the FMR property. Most of the non-native species originated in areas of the world with climates similar to this area—the Mediterranean

region, and South Africa. Hence, they thrived, and in many cases overgrew the native plants. Each year San Mateo County Parks Department staff and volunteers remove select non-native plants, and re-introduce natives.

The ramp area (the north entrance to the tidepools) now consists almost entirely of native species. The coastal scrub and perennial plants along the ramp illustrate a sharp contrast with the vegetation that grows under the beloved, but non-native, cypress trees that cover much of the land.

*continued on page 3*



*Pineapple weed, Matricaria discoidea, aka wild chamomile and disc chamomile*

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## Friends of Fitzgerald Marine Reserve

P.O. Box 669  
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[www.fitzgeraldreserve.org](http://www.fitzgeraldreserve.org)

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## Message from President Ron Olson



As this year winds to a close, my favorite time to visit Fitzgerald Marine Reserve approaches. I am one of those people who prefer the cool late fall/early winter times to explore tidepools, instead of those warm summer months. Don't misunderstand me; I do enjoy the warm, sunny beaches. With most kids out of school, it is a great time for families to come and share experiences. But the winter has so much more to offer. Less daylight means less algae on the rocks. Many of the marine animals, like sea stars, crabs and mollusks, are more difficult to find when covered under layers of algae. Winter months present the best times to run across sponges and cup corals. From several years of experience, I can tell you that there is much better foot traction on bare rock in comparison to layers of slippery iridescent algae. Rains and rough seas can be more of a problem in winter. Storm surge can negate the benefit of a low tide when tidepooling. However, these storms do have some good points. Many creatures such as gumboot chitons, sea cucumbers and tunicates are frequently pushed into channels and onto our beaches from their homes in deeper waters. I do have a word of advice for those who would like to visit in the winter. Protect yourself from sleeper waves by never turning your back to the ocean and dress appropriately when it's cold and windy.

There is every indication that 2022 will be a great year. We are already putting the finishing touches on our naturalist training class. Not only does this class provide a solid knowledge of our rocky shore, it also encourages each new naturalist to explore and share their own particular interests. Earlier this year, one naturalist researched and compiled a list of native plants that can be found in the park. Many of these plants had medicinal and practical uses for the Native Americans who lived on our bluffs for hundreds of years. There are plans to conduct tours about plant life as well as on the history of the area.

We are excited about the return of school tours at FMR. We will be following guidelines that the county or school district requires to ensure safety. FFMR has also been working with other agencies to help provide assistance to Title 1 schools

in our underserved areas. In the past, FFMR has recognized the need for better access to all. There are many people living in San Mateo County who have never been to the ocean, let alone experience the abundance of marine life in our tidepools. Educating people about our beaches and rocky shores will go a long way in protecting our delicate environment.

I would like to thank the rangers who work hard to make our beach experiences positive ones. I would also like to thank the neighbors and visitors for their interest and support in keeping their park as the jewel that it is today. I'm looking forward to seeing you all soon. ♦

*Winter has much to offer. Less daylight means less algae on the rocks. Many of the marine animals, like sea stars, crabs and mollusks, are more difficult to find when covered under summer's layers of algae. Winter months present the best times to run across sponges and cup corals.*

The graph displayed across the page bottoms shows tides for 12/12/21 to 4/30/22 at Princeton Harbor. Where the date appears is midnight. The reefs are accessible for exploring during low tides—at least +1 or below. This area is shaded light blue. See: [fitzgeraldreserve.org/lowtides/](http://fitzgeraldreserve.org/lowtides/)

*There are two days of King Tides in this date range.* Note that these same days also have very low tides. For more information and a list of events and talks in the Bay Area, and to see photos of recent King Tides, visit <https://www.coastal.ca.gov/kingtides/>

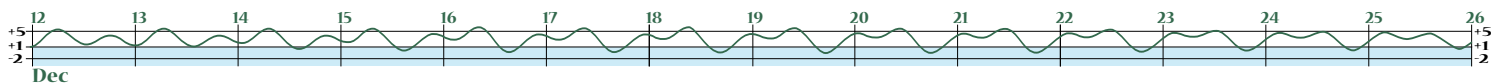
*The winter afternoon low tides change to morning low tides in March. There are almost equally low tides several days before and several days after the noted low tide dates.*

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

-1.24	12/31	2:51pm	-0.41	2/15	4:14pm
<i>8th lowest tide of 2021</i>			-0.97	2/28	3:10pm
-1.86	1/2	4:25pm	-0.49	3/27	2:09pm
<i>2nd lowest tide of 2022</i>			-1.13	4/20	8:13am
-1.48	1/31	4:13pm			

### King (very high) Tides this period at Princeton Harbor:

+6.92	1/2	9:11am	+6.85	1/3	10:01am
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## Terrestrial Vegetation

*continued from page 1*

The guide is now available as “FMR Plant Guide” on the FFMR website: <http://fitzgeraldreserve.org/>. You can find it under the “For Educators” tab, as well as under “Maps and Guides.” It is also currently scrolling along with other images in the carousel on the home page. You can click to view it, and you also may download it as a pdf. It is 85 pages long, so you may want to be sure that you have plenty of colored ink for your printer if you choose to print it.

My hope is that the guide will help to stimulate interest in the “above the tides” part of the reserve, as well as inspire folks to return periodically to see what’s blooming, consider what the area may have looked like before the arrival of Europeans, and how the Native Americans respectfully and sustainably used the resources of their land that is now Fitzgerald Marine Reserve. The guide will never be “finished” as there will always be something I missed, a correction or addition to make, and I plan to update the guide periodically.

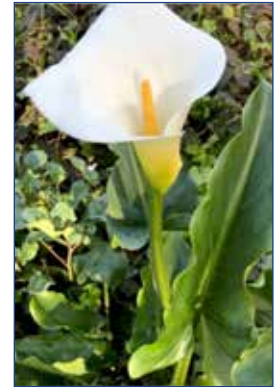
In the meantime, enjoy a hike topside, and don’t forget that a weed is just a flower out of its place! ♦



*Australian Tea Tree:*  
Native to Australia,  
*Leptospermum*  
*laevigatum* is invasive,  
and was planted as an  
ornamental shrub.



*Red Flowering Currant:*  
*Ribes sanguineum* berries  
were a food source for  
Native Americans.



*Calla Lily:*  
*Zantedeschia aethiopica*  
Non-native;  
Invasive; Native to  
Southern Africa

## Pirates of the Seas and Skies

The author’s name of this interesting and entertaining article was unintentionally left out in our September issue.

It was written by: Mary Jane Schramm, Marine Life Naturalist. Our sincere apologies to Mary Jane who has generously written articles for past BTTs. ♦

### Call for Articles and Photos

If you have an area of interest or have read an interesting book and would like to write about it we would love to hear from you. Perhaps you have taken photos that you would like to see in print. The editors are here to help if you would like their assistance. Articles and photos can be sent to [jpelinka2@yahoo.com](mailto:jpelinka2@yahoo.com). ♦



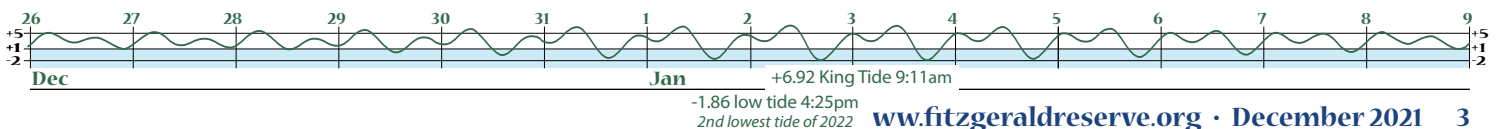
*Common Yarrow:*  
*Achillea millefolium;*  
perennial herb. Yarrow tea  
was used by Native Americans  
to treat stomach aches,  
and leaves were applied to  
treat wounds. Yarrow has  
anti-inflammatory and  
hemostatic (blood clotting)  
properties.



*California Poppy:*  
*Eschscholzia californica*  
Native Americans used the  
California poppy as food  
and used the boiled flowers  
to treat head lice.



*Soaproot:* *Chlorogalum*  
*pomeridianum* variety  
*divaricatum;* This versatile  
plant was used by  
Native Americans for  
food, soap, shampoo,  
glue, medicines, fibers,  
and more.



# A Digestif after a Gourmet Vegetarian Feast

by Tom Ciotti ~ photos by Karen Kalumuck

You can't read this article until you have first read Dr. Karen Kalumuck's article in this edition of *Between the Tides* about her plant guide titled *The Terrestrial Vegetation of Fitzgerald Marine Reserve*. Her guide is the gourmet vegetarian feast. The compendium titled, *Compendium of the Etymologies of the Common Names of the Terrestrial Vegetation of Fitzgerald Marine Reserve*, that is the subject of this article is but a digestif following her guide. (The complete plant guide and compendium can be found on our website, <http://fitzgeraldreserve.org/>, under the headings Visit, Maps and Guides.)

Like most FMR visitors I was so captivated by the tidepools that I didn't give much thought or have much interest in the terrestrial vegetation of FMR. But that changed when I, like everyone else, was denied access to the tidepools because of the pandemic, and Karen sent me an early draft of her guide. I read and re-read her guide several times. Her photos of the vegetation are beautiful, whether the vegetation is native or non-native is historically informative, and how the native peoples used the vegetation is fascinating. But I found some of the common names of the vegetation especially intriguing and downright weird: BRISTLY OXTONGUE? BIRD'S-FOOT TREFOIL?? GIANT VIPERS BUGLOSS??? How did these plants get these strange names? I decided to find out by researching their etymologies.

Not only did I find the secrets behind these names, but I was also discovering fun facts about many of the plants. I decided to do all of the plants listed in Karen's guide. The research was challenging at times, but it was an enjoyable way to while away the hours of pandemic isolation. After finishing about a dozen names I decided to write a companion document to Karen's guide, primarily for the use and enjoyment of the FMR Volunteer Naturalists.

Many of the common names concern how a human sense organ perceives the plants. In other words what do the plants look like, smell like, taste like, or feel like. In the look-like category the word "dandelion" in the plant name Common Dandelion derives from the Greek name for the plant's genus, which means lion's teeth in

reference to the jagged edges of the plant's leaves. The corresponding French name is dent-de-lion whose English translation is tooth of the lion. The word dandelion is a deviant pronunciation of that French name. In the smell-like category the derivation of the plant name Nasturtium is quite interesting. The name derives from the Latin word "nasitortium" meaning nose twist. At least to some people the odor of the plant's flower is unpleasant, causing them to twist their nose!

Some names relate to how humans used the plants. One such name is Red Berried Elder. My original thought was that the word "elder" had something to do with age. That, of course, was wrong. The word actually derives from the Anglo-Saxon word "aeld" meaning fire. In the past, twigs of this plant were used in various ways to start fires.

Other names refer to a defining characteristic or behavior of the plant. Most of us are familiar with daisies. But do you know where they got their name? It derives from an Old English word for its flower which meant "day's eye" because the flower opens at daybreak and closes at sunset. Greater Periwinkle is another example of a name in this category. The word "periwinkle" derives from the Latin name for the plant "pervinca" which in turn derives from the verb "pervincire" meaning to bind or entwine. The plant indeed binds and entwines. In case you are interested the compendium also provides the etymology of the mollusk name "periwinkle snail" which is found in the FMR tidepools.

Some of the plant names honor people. If you want to know who the Douglas Iris, the Hooker's Evening Primrose, or the Henderson's Angelica is named after, the compendium will tell you. A few of the plant names refer to mythological beings. One such name is the Pacific Aster. The word "aster" refers to the star shape of the flower and is associated with the Greek goddess of falling stars, Asteria. According to legend Asteria became so sad when she failed to see a falling star that she wept and where her tears fell to earth these flowers grew.

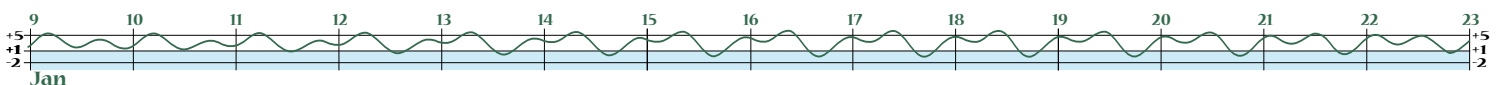
The compendium includes fun facts about some of the plants. In researching the name



*Does the smell of a Nasturtium make your nose twist?*



*Pacific Aster refers to the star shape of the flower and the Greek goddess of falling stars, Asteria.*





Arroyo Willow, I learned that many ancient people associated willow trees with warding off evil spirits or bad luck. The Celts of Ireland believed that if you knocked on the trunk of a willow tree it would ward off bad luck. That belief formed the basis for the phrase “knock on wood,” uttered in the hope that good luck would continue. The basis for the plant name California Bee Plant was pretty self evident—the plant attracts bees. I naively thought the flower’s red color was involved in this. Well, it turns out bees can’t see red. What actually attracts bees to the plant is—you guessed it—discussed in the compendium.

When I got to researching the etymologies of the trees listed in Karen’s guide I took the opportunity to sidetrack into the history of the large sweet chestnut tree that sits just east of the Smith/Doelger homesite. I had looked previously at who might have planted the Monterey Cypress trees and the three Canary Palm trees at FMR and wrote about that in my March 2020 *Between the Tides* article about the history of Seal Cove. But I had skipped over the chestnut tree. While I



*Sweet chestnut near the Smith/Doelger homesite at the reserve.*

had been told by several people that the tree was a horse chestnut, Karen correctly identified it in her guide as a sweet chestnut. Since there were no trees at FMR when the native people lived there, the tree must have been planted by the Spanish/Mexicans who took the land from the native peoples, the Smith family who purchased the land in the mid-1880s, or Henry Doelger who purchased the land in 1947 from the Smiths. A UC Davis treatise reported that the sweet chestnut tree was first introduced into California during the Gold Rush. The Spanish/Mexicans were thus eliminated. If only there was a way to estimate the tree’s age. I didn’t think I could convince the

county to cut it down so I could count its rings. Fortunately I ran across a British article indicating one can estimate the age of a sweet chestnut tree by measuring its girth and dividing the girth by an average annual growth factor for sweet chestnut trees. I have yet to do that measurement and calculation but my bet is that it will indicate it was likely planted by the Smiths.

As I was nearing the end of completing the etymologies I realized that all of the names were, of course, of European/English origin. I wondered what the indigenous people of FMR had called these plants. That wonder led me to researching the language of those people. The results of that research may someday be the subject of another article for this newsletter. In sum, we don’t know what these plants were called by those people because their language was not written and was, for the most part, lost in their demise at the hands of the Spanish, Mexicans, and Americans. Related Costanoan languages fared better, particularly the Mutsun Ohlone language and a Mutsun-English dictionary exists online. Where available, I have included the Mutsun Ohlone names for the plants in the compendium.



*Coastal Tarweed—This plant grows near the sea coast. The word “tarweed” derives from the fragrant black oil that exudes from the plant’s leaves. The Mutsun Ohlone word for tarweed is yarkas. Its seeds were a major source of food for Native Americans.*

I hope this article has kindled your interest in exploring and learning more about the terrestrial wonder of FMR and that you will find Karen’s guide informative and inspiring and my compendium entertaining if not informative. ♦

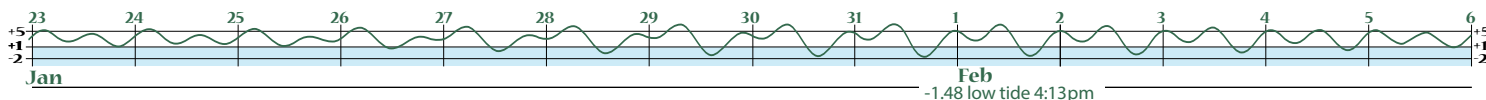


*Arroyo Willow—The term “knock on wood” is believed to originate with the Celtic belief that knocking on the trunk of a willow tree would ward off bad luck.*

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# Boots on the Reef

by Julie Walters

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*Let's face it, tidepooling can be dangerous. Even the best of us with good balance have fallen on slippery algae or lost our footing on uneven rocks.*

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*Waders:  
No more water going down your boots!*

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Part of getting the most of your time tidepooling is being able to enjoy your exploration of the reef without falling, becoming cold or getting wet. It all comes down to your fashion choices, and while this article is not about looks, it is all about safety and comfort. Let's face it, tidepooling can be dangerous. Even the best of us with good balance have fallen on slippery algae or lost our footing on uneven rocks. Planning ahead so you can enjoy your visit will transform your tidepooling experience. Here are some lessons I've learned, along with suggestions from some of our volunteer naturalists that will enhance your tidepool experience.

Let's start with "What not to wear":

Flip flops, any shoe with flat soles, or footwear that cannot survive salt water or algae stains.

## Experienced tidepoolers suggest the following:

### Ron Olson

Ron's go-to attire for tidepooling consists of tall boots and knee pads, which come in handy for protecting your knees while kneeling on rocks and algae. Hassett Ace Hardware in Half Moon Bay has an excellent selection of rubber boots in a variety of prices ranging from \$24 to \$180. Knee pads are available from any home improvement store and start at around \$35.



### Julie Walters

Waders: The ultimate choice for the serious tidepooler



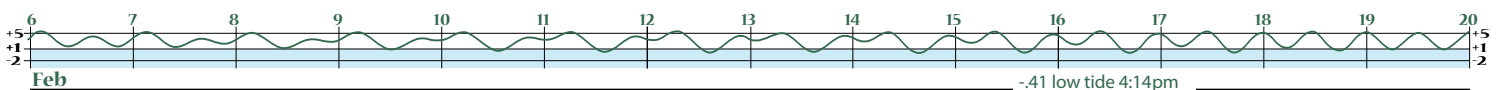
Left: Neoprene waders with lug soles \$139

Right: Canvas waders with lug soles \$99

Pros: No more water going down your boots! In addition to providing warmth, I can sit down on a rock or kneel on algae without getting wet. They have a front pocket that's handy for your phone or camera. Be sure to get the ones with lug soles, not felt soles, for better traction on slippery algae. They offer women's sizes. Great for exploring deeper water.

Cons: "I have gone through at least four pairs in the last 12 years. The reason I have had four pairs is that over time the seam between the rubber boot tends to separate from the canvas or neoprene portion allowing water to get inside. The neoprene also tends to rip if you sit or crawl over sharp rocks. The neoprene ones are bulky and will make you less mobile if you have to climb over rocks."

Available online from [Cabelas.com](http://Cabelas.com)



## Robin Agarwal

“My tidepool attire is aimed at not getting into the water (boots), and avoiding sharp stuff (gloves/kneepads for avoiding cuts from mussels and barnacles)

Pro fashion secrets, top to bottom:

– SPF 50 sun hat for daylight hours, oh-so-stylish chinstrap essential for wind and odd head angles—REI I think, it's really old (bird poop list is at five species, thank goodness it's washable!)

– Headlamp for looking under ledges (and non-daylight hours)—Amazon

– Prescription progressive lens glasses with the lower/middle area enlarged to see the small stuff better—Lens Crafters

– Backup flashlight on lanyard—Orchard Supply Hardware

– SPF 35 sun shirt and fleece vest—Columbia (note wet sleeves, but these shirts dry quicker than other types)



## Not Pictured

– On colder days, add a WATERPROOF hooded windbreaker or you'll die

– Trusty durable underwater camera with GPS—LUMIX DMC-TS6 or similar, GPS needed for iNaturalist.org—eBay, Craigslist, Adorama, B&H Camera

– Double straps on the camera from my kids' gaming system on the camera—Amazon—an octopus once stole my camera by snapping the single strap: <https://www.inaturalist.org/observations/2567188>

– Biking gloves or lightweight gloves with rubberized palms—Amazon, Costco—reduces cuts from leaning on barnacles and mussels

– Rubber pants with built-in boots—Amazon—sooooo ugly but hey, at this point...

– Kneepads with no cloth parts—reduces cuts from leaning on barnacles and mussels (gift from husband, don't know where he got them).”

## Anne-Ly Crump-Garay

“I had to get these boots because the octopus is my 'spirit animal'!

Bought them in Juneau Alaska, for about \$100, they will last my lifetime, very rugged and comfortable. What I like best is that each time I put them on I smile.

This picture was taken ...at the north end of Linda Mar Beach.”



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*Pro fashion secrets...*

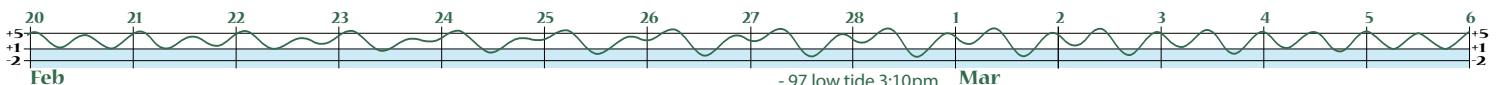
*– SPF 50 sun hat for daylight hours, oh-so-stylish chinstrap essential for wind and odd head angles*

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*Rubber pants with built-in boots—Amazon—sooooo ugly but hey, at this point...*

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# Nudibranchs and Their Eggs

## Amazing Beauty in the Microcosmos

Nudibranchs typically deposit their eggs within a gelatinous spiral, which is often described as looking like a ribbon. The number of eggs varies; it can be as few as just 1 or 2 eggs (*Vayssierea felis*) or as many as an estimated 25 million (*Aplysia fasciata*).



*OKENIA ANGELENSIS*



*ANTEAOLIDIELIA CHROMOSOMA*



*HERMISENDA OPALENCENS*



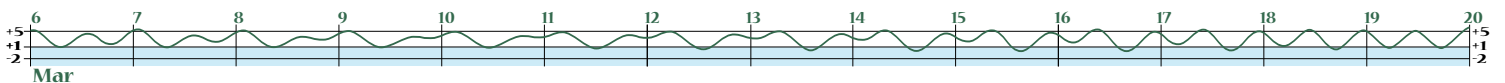
*ROSTANTA PULCHRA* WITH EGG SPIRAL FEEDING ON RED SPONGE PREY



*ORIENTHELLA TRILINEATA*



*AEOLIDIA LOUI*







*DIRONA PICTA*



*DENDRONOTUS VENUSTUS*  
MATING AND LAYING EGGS



*TRIOPHA MACULATA*

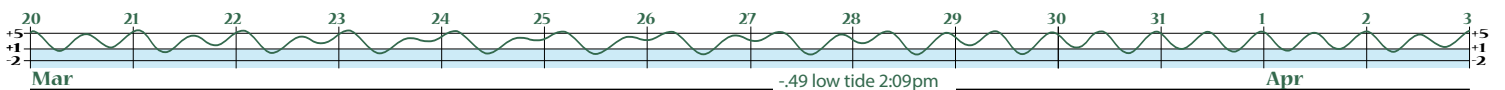


*CUTHONA COLUMBIANA*



NUDIBRANCH EGGS (MAGNIFIED)

Robin Agarwal has graciously allowed us to display her photos on our BTT photo page. Robin is an avid photographer and nudibranch expert.  
(Images may be subject to copyright)



# Volunteer Spotlight: Meet Gemma Rice

Interviewed by Roger Hoppes and Linda Ciotti



Gemma Rice signed up for FFMR's 2019 Volunteer Naturalist Training Class while she was a junior at Burlingame High School. She became aware of Fitzgerald Marine Reserve while doing research for her Girl Scout Gold Award project which she had decided would be focused on protecting marine animals. She reached out to San Mateo County Parks Department who put her in touch with Ranger Rob Cala. She met with Rob who introduced her to one of FFMR's volunteer naturalists, Juliette Applewhite.

and learned more about the docent training with Friends of Fitzgerald Marine Reserve. I loved that FMR offered a place where I would learn more about my local oceans. I was beyond satisfied with my experience because the people and docents teaching the class were so knowledgeable and made it a fun experience.

**Q:** Thinking back to your younger years growing up, what is your recollection of your "earliest positive experience" with an animal?

**A:** Looking back, my earliest positive experience with an animal was at summer camps such as San Francisco Zoo Camp and Curiosity. Both provided great hands-on experience with animals and helped spark an interest in not only the animals but wanting to protect them too.

**Q:** How would you summarize working with other students at your high school in the Ocean Conservation Club? Do you feel encouraged by the engagement of your peers in environmental issues?

**A:** Working with other students at that Ocean Conservation Club I founded was a great feeling as I made a community of friends who had the same values as I. I felt encouraged by the students and even staff engagement on ideas about what we could do. It made me feel hopeful for the future since we were all passionate about protecting the environment and had great conversations about how we could do our part.

**Q:** You volunteered for the Sea Turtle Rescue program in Costa Rica. How did this experience help your personal awareness of the value of "hands-on" conservation action?

**A:** Volunteering in Costa Rica to help sea turtles was an amazing experience where I got to learn about the environmental issues with other girls from the United States. It was an eye opening experience as I got to learn about their sea turtle population and the problems with human interactions. I was able to witness hundreds of sea turtles laying eggs at once and was trained to make sure they were all protected and safe. This hands-on experience allowed me to use preformative actions to help a cause I am passionate about.

During the summer of 2019 Gemma also participated as a Junior Counselor at the FFMR Junior Naturalist Summer Camp. Gemma conducted an educational segment on sustainability about protecting the ocean. She created a poster that is displayed in the main kiosk at FMR on how to do just that. She also had the campers make their own sandwich bags that they could use for bringing their lunches to school. Gemma's participation at the Junior Naturalist Camp helped her to continue her work toward her Girl Scout Gold Award which she earned in 2020. Her final project was to create a merit badge program for four levels of Girl Scouts which is available for troop leaders on FFMR's website.

Gemma graduated from Burlingame High School this past May and will be heading to Chico State to pursue her degree in nursing. FFMR is hoping Gemma will continue her activities in protecting the environment as she completes her college education and moves into her chosen career.

Below is a Q&A with Gemma.

**Q:** Why did you decide as a high school student to engage with Fitzgerald Marine Reserve through the naturalist training class? Did the experience satisfy your expectations?

**A:** I decided to work with Fitzgerald Marine Reserve (FMR) and the training class because I was passionate about protecting the environment and had a specific interest in marine life. I had visited the park as a kid and was searching online

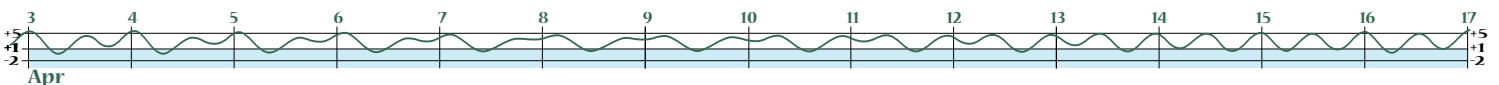
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*I was beyond satisfied with my experience because the people and docents teaching the {naturalist} class were so knowledgeable and made it a fun experience.*

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*In Costas Rica... I was able to witness hundreds of sea turtles laying eggs...and was trained to make sure they were all protected and safe.*

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**Q:** How do you imagine carrying on with your advocacy for the natural environment in the years to come? Can you give one or two examples of possible programs or activities you have on your list to consider for the future?

**A:** I plan on continuing to advocate for protecting the environment through my actions by participating in ocean cleanups or other events and encouraging and spreading information about ways to take care of the environment. I also will continue educating myself and taking classes about new and current information about our world. While in college, I hope to continue volunteering for organizations like FFMR and Girl Scouts. ♦



*Gemma's poster for her Girl Scouts of Northern California Gold Award Project.*

## Registration for 2022 FFMR Volunteer Naturalist Training Class

The 2022 FFMR Volunteer Naturalist Training Class will consist of nine Saturday classes, plus six additional hours spent at the reserve with a mentor. The classes will be held on the Coastside and at the reserve. The proposed schedule for 2022 is: Jan. 29, February 5, 12, 19, 26; March 5, 12, 19, 26. The times of the classes have yet to be determined. Volunteer naturalists must be physically capable of navigating rocks and the reef and must be 17 years of age.

Classes will cover the four major invertebrate phyla plus Marine Mammals, Geology, Birds, Worms, Bryozoan, Tidepool Ecology, Algae and more. Six hours of mentoring with a naturalist will be required along with lab work and class instruction directly on the reef.

Please send this Registration Form with check to Susan Evans to ensure your participation.

Space is limited. Your Registration Form and Fee must be received prior to the deadline to hold a space. Registration deadline is Jan. 24, 2022. No refunds available after Jan. 24.

Mail the completed Registration Form with a \$80 check made payable to FFMR to:

Susan Evans  
 FFMR Training Class  
 P.O. Box 3482  
 Half Moon Bay, CA. 94019

For more information please e-mail Susan Evans at [susanmtnvw@aol.com](mailto:susanmtnvw@aol.com) or visit our web site: [www.fitzgeraldreserve.org](http://www.fitzgeraldreserve.org).

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone (cell and/or landline): \_\_\_\_\_ Email: \_\_\_\_\_

How did you hear about the training class?

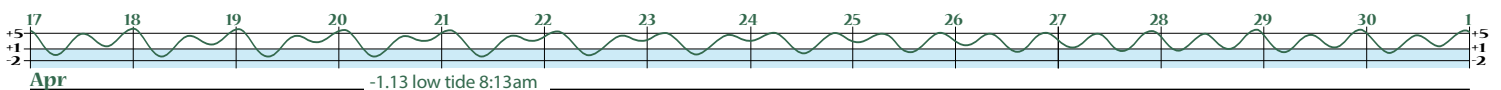
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Tell us a little about yourself (any prior volunteer experience; any education, travel, or experiences relating to marine science).

\_\_\_\_\_

\_\_\_\_\_

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## A Special Dual Offering

Story on page 1

Story on page 4

### The Terrestrial Vegetation of Fitzgerald Marine Reserve



A partial compendium of the herbaceous plants, trees, shrubs, ferns, horsetails, mosses, lichens, and algae that can be found on the 35 acres of Fitzgerald Marine Reserve land.

By Karen E. Kalumuck, Ph.D.

### Compendium of the Etymologies of the Common Names of the Terrestrial Vegetation of Fitzgerald Marine Reserve

Karen's guide (left) is the gourmet vegetarian feast.  
This article by Tom Ciotti is the digestif.

*"I found some of the common names of the  
vegetation especially intriguing and downright  
weird: BRISTLY OXTONGUE?*

*BIRD'S-FOOT TREFOIL??*

*GIANT VIPERS BUGLOSS??? How did  
these plants get these strange names? I decided  
to find out by researching their etymologies."*

— Tom Ciotti



*California Bee Plant, aka  
California Figwort  
Scrophularia californica  
Native Americans used it as  
a poultice or wash for  
infections and boils.*

*"My hope is that the guide will  
help to stimulate interest in the  
"above the tides" part of the  
reserve..."*

—Karen Kalumuck



*Pacific Aster refers to the star  
shape of the flower and the  
Greek goddess of falling stars,  
Asteria.*

Both guides are now available on the FFMR website:

<http://fitzgeraldreserve.org/>.

You can find them under "Visit: Maps and Guides."

## Friends of Fitzgerald Marine Reserve

Donation Chair, P.O. Box 669, Moss Beach, CA 94038, or through our website: [www.fitzgeraldreserve.org](http://www.fitzgeraldreserve.org)

### Contribution Levels:

- \$25     \$100     \$1000  
 \$50     \$500     Other \_\_\_\_\_

- I want to double the value of my gift through  
my employer's matching gift program (please  
enclose the matching gift forms).

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Email \_\_\_\_\_