

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

March 2023

San Mateo County Parks Interpretive Strategic Plan

by Katherine Wright, Park Ranger III: Interpretive Division

On Tuesday, November 15th the San Mateo County Board of Supervisors adopted the 2022 San Mateo County Parks Interpretive Strategic Plan. Throughout the history of the San Mateo County Parks Department, interpretation has played an important role in bringing people outdoors and educating them about the natural world. Interpretation is defined as “a purposeful approach to communication that facilitates meaningful, relevant, and inclusive experiences that deepen understanding, broaden perspectives, and inspire engagement with the world around us” (National Association for Interpretation). Over the almost 100 years of the parks department, the type and availability of programming has ebbed and flowed. For several decades, the parks department has relied heavily on the support of partner groups, such as the Friends of Fitzgerald Marine Reserve (FFMR), to provide interpretive opportunities, whether a guided hike, a staffed visitor center, or even a quarterly newsletter!

After years of interpretive efforts at individual park sites led by dedicated staff members, in 2014 the parks department established its first department-wide Interpretive Division with a focus on environmental education and community engagement. I have been fortunate enough to be a part of building this division from the beginning and managing it as it has grown steadily since its inception. In 2022, the division hosted 187 programs and events with over 6,000 attendees as we worked with many community partners.

With this exciting growth and continued outreach potential, the parks department collaborated with 29 partner groups (including the FFMR), community-based organizations, and stakeholders to develop an Interpretive Strategic Plan to guide interpretation efforts over the next

5 to 10 years. You might be asking: what is an Interpretive Strategic Plan? This plan helps the parks department establish a direction and vision for interpretation within the parks while better strengthening department messaging and maximizing the visitor experience. The plan also has a large focus on providing equitable access to parks and programs, diversifying park visitation, and establishing new partnerships with community-based organizations. Below are excerpts from the plan regarding goals, theme structure, and recommendations for interpretive efforts in San Mateo County Parks. To read through the entire document, you can scan the QR code in this article.



Goals for Interpretation

Goals provide guidelines for developing interpretive products and services and also provide metrics to help evaluate the effectiveness of our work. The goals also helped inform the development of the recommendations listed later in the document.

- Interpretive Goal 1: Increase public knowledge and appreciation of the natural, cultural and recreational resources of the San Mateo County Parks system.
- Interpretive Goal 2: Increase understanding of the dynamic relationship between humans and the environment, and the impacts of human activity, including climate change, on the highly sensitive natural and cultural resources of the San Mateo County Parks system.

continued on page 3



QR code for San Mateo County Parks Interpretive Strategic Plan website

...in 2022, the County Interpretive Division hosted 187 programs and events with over 6,000 attendees as we worked with many community partners.

Friends of Fitzgerald Marine Reserve

P.O. Box 669
Moss Beach, CA 94038
www.fitzgeraldreserve.org

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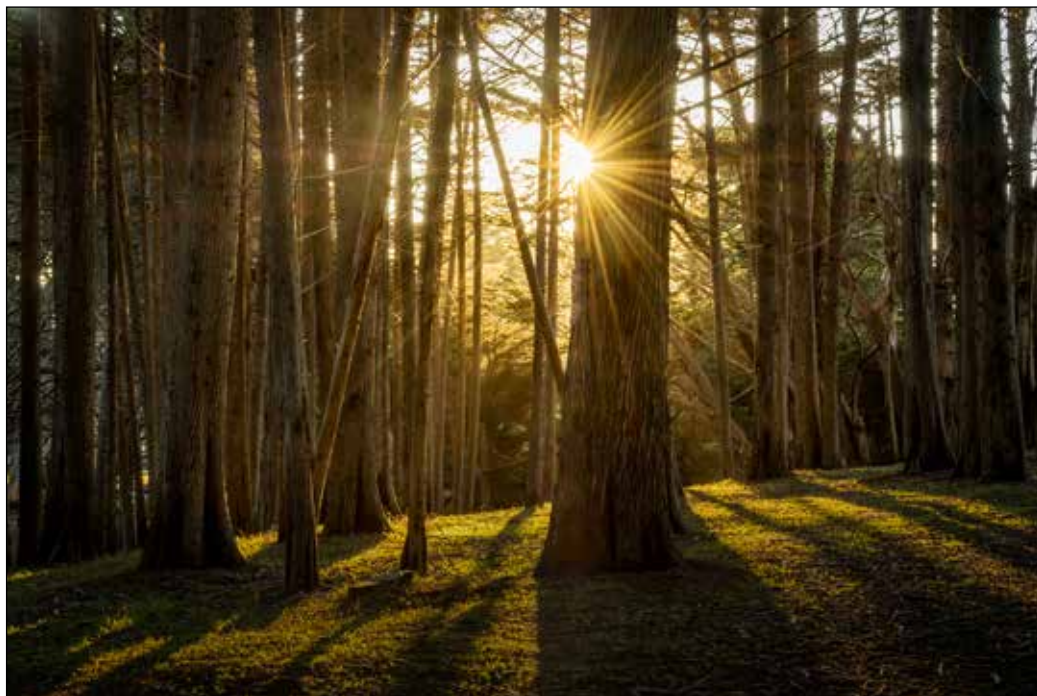
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Our Mission:

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

Editor's Note: We are thrilled that Brody Scotland has agreed to let us publish some of her photos in our newsletter. Brody was a San Mateo County Parks Foundation photo contest winner in 2022.

Our thanks to Brody for sharing her photos with us. You can check out more of her outstanding photography at <https://www.brodyq.com/index/all>



Winter Sun (at Fitzgerald Marine Reserve)

About Brody Scotland: I'm an artist and photographer living in San Leandro, California. Photography is my lifelong passion but not my day job (I work for an arts nonprofit). I am often out before sunrise, photographing on a backroad somewhere close to home before starting my workday. I visited the Fitzgerald Marine Reserve for the first time during the beginning of the pandemic, and am inspired to return and photograph it regularly. I'm about 9 months into a year-long personal photographic project documenting the Reserve, and I'm creating a robust body of work showing off the beauty of the park during every season. My eventual goal is a photo exhibition! ♦

Between the Tides

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We want to hear from you. What do you like about the newsletter? What type of articles would you like to see in *Between the Tides*? What article could you write for us? Please contact the Editorial Board at: betweenthetimes.editorialboard@gmail.com and we will be in touch.

See you out on the reef! ♦

Editor's Note: Our sincere apologies to Linda Theroff whose beautiful nature journaling art we credited incorrectly in the December issue.



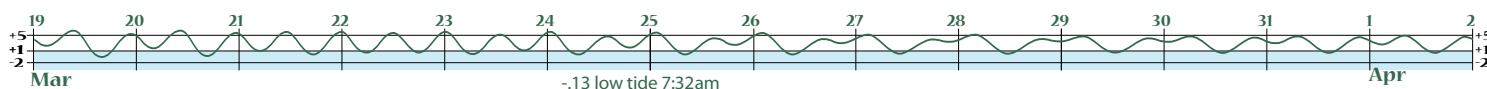
Art: Linda Theroff

The graph displayed across the page bottoms shows tides for 3/19/23 to 8/5/23 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: <https://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:

-0.13	3/24	7:32am	-1.17	6/17	5:18am
-0.38	4/14	1:06pm	-1.78	7/4	6:22am
-0.88	4/21	6:28am	<i>lowest of 2023</i>		
-1.21	5/8	7:34am	-0.82	7/16	5:04am
-1.70	6/5	6:36am	-1.49	8/1	5:17am
<i>3rd lowest of 2023</i>					



Strategic Plan *continued from page 1*

- Interpretive Goal 3: Develop and strengthen support for the conservation, management, restoration, and stewardship of San Mateo County Parks, including the protection and restoration of biodiversity, native habitats, wildlife corridors, watersheds, and cultural resources.
- Interpretive Goal 4: Increase public awareness of and appreciation for the significance of the San Francisco Peninsula to Native American cultures over time.
- Interpretive Goal 5: Promote community equity by uplifting the voices, perspectives, and stories of underrepresented populations told at County Parks and implement strategies that will increase the diversity of park visitors and ensure San Mateo County Parks are welcoming to all people.
- Interpretive Goal 6: Provide an improved visitor experience by strengthening the bonds between San Mateo County residents and visitors and the natural and cultural resources that surround them.
- Interpretive Goal 7: Promote respect by strengthening stewardship values and increasing compliance with etiquette guidelines and regulations.

Recommendations for Interpretive Efforts

The recommendations outlined in the plan are organized into the following categories. They were developed through an iterative process based on input from stakeholders, the parks department staff, and the consulting team to improve the visitor experience at San Mateo County Parks.

1. Equitable Access, Expanded Uses, and Public Outreach
2. Partnerships
3. Interpretive Media
4. Organizational Capacity
5. Professional Standards & Training
6. Education

Interpretive Theme Structure

The following theme and sub-themes apply to all the county park properties and will assist our team in providing content oriented to the above goals.

Central Theme

San Mateo County Parks are inclusive places where all people are welcomed to connect

with each other and the history of this region, engage with the natural world around them, and find inspiration for the legacy they will leave for the future.

Sub-Themes

1. The San Francisco Peninsula is a confluence of cultures through time.
2. The varied topography and resulting microclimates of the San Francisco Peninsula support diverse biological communities that are increasingly threatened by the impacts of climate change.
3. People and nature have impacts on, and are supported by, each other.
4. San Mateo County Parks are places for exploration, conservation, and learning opportunities for all people.

And we're not done yet! Some of our first tasks associated with implementing this plan involve creating Parks Specific Interpretive Frameworks to help us establish specific messaging, themes, and goals for each individual park in our system based on the system-wide framework listed above. We will be focusing first on Memorial Park and Fitzgerald Marine Reserve. With this effort we will once again work with Conservation By Design, specialists in interpretive planning and exhibit design, to help us take all the amazing wonders of each park and boil them down to their essential elements so that we can better understand how best to communicate to visitors through our interpretive programming and content.

Our consultant has completed a site visit at Fitzgerald Marine Reserve and communicated with several members of the FFMR and District Staff to learn more about site history, structure, and constraints and any goals and upcoming projects aimed for the site. We are excited to continue working with the FFMR as partners to provide the best experience for visitors while also educating them about the sensitive resources present at this amazing site. We also want to thank all of those associated with FMR and FFMR for your dedication and efforts over the years to help visitors learn about and connect to this unique section of the California coast! ♦

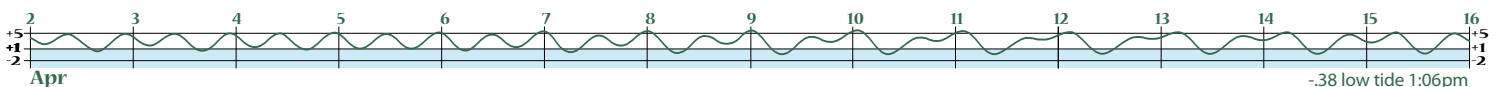


Memorial County Park was dedicated as the first County Park in 1924 and since then the County Parks have grown to steward over 16,000 acres in 24 County Parks, historic sites and reserves with 190 miles of trails.



Ranger Katherine Wright leading a bio-blitz.

About the author:
"I grew up in San Mateo and my parents and I camped at Memorial Park every summer! I went to UC Davis and studied Wildlife, Fish, and Conservation Biology in which I learned even more about the natural world and the amazing science behind the beauty."



World Travelers: Our Coastal Strawberries

by Kathy Barton, Ph.D.



Coastal Wild Strawberries
photo: Martie Bateson Sautter

As you climb the path from the FMR parking lot up toward the seal lookout on the way to the tidepool steps, you will see a patch of low growing plants with white flowers. These are our native coastal strawberries. They stabilize and anchor the soil and they provide food for local animals and pollinators. They are also known as beach strawberries, sand strawberries or by their latin name, *Fragaria chiloensis*. They are versatile growers and can propagate asexually by putting out runners or sexually by making flowers and seeds.

Fragaria chiloensis are found along the west coast of North America from Alaska to California and along the coast of Chile. Birds are thought to have brought the coastal strawberry from east Asia, the birthplace of the genus *Fragaria*, to North America (Map 1) and from there to South America around 100,000 years ago (Map 2).¹



Drawing of *Fragaria Chiliensis*
by Amédée Francois Frézier, 1712

Its humble, homespun appearance belies the coastal strawberry's more recent cosmopolitan history of international romance and commerce. The story begins 1,000 years ago along the coast of Chile when indigenous Picunche and Mapuche peoples grew the coastal strawberry in their gardens. By the time the Europeans arrived in Latin America, the native peoples had developed large, almost white-fruited varieties that they sold in the markets (Map 3). The Spanish transported the coastal strawberries north to settlements in Ecuador and Peru (Map 4) but it wasn't until the French king sent a spy to South America that the coastal strawberries from the Americas were brought to Europe.

That spy was Amédée Francois Frézier, a military engineer and cartographer. Posing as a merchant, he was sent to gather information that might be of use to the French who were worried they were being shut out of South America.

Around this time, two types of strawberries were cultivated in Europe. These were the

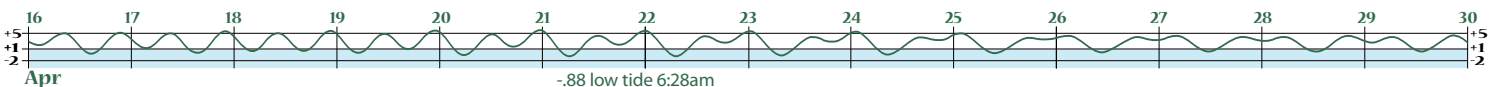
woodland strawberry, *Fragaria vesca*, and the musk strawberry, *Fragaria moschata*. Fruits of these were small and the plants were not especially hardy or productive.

Frézier was impressed with the large size and flavor of the white-berried strawberry plants he encountered in Chile. In addition to gathering information of potential military significance, Frézier gathered strawberry plants. He chose five large specimens and packed them for the 6-month-long trip home, managing to keep them alive for the entire journey. Once home in 1714, he gave two plants to the ship's cargo superintendent, gave one to his boss, kept one and gave one plant to the head of the royal gardens in Paris who propagated the plants asexually and distributed them to gardens in Europe (Map 5).

Frézier's coastal strawberries were initially a profound disappointment. Although they could reproduce new plants vigorously through runners, they didn't produce any fruit. This is because Frézier had unwittingly brought home only female plants. Without a male plant to pollinate them, they were sterile (see sidebar).

In the meantime another American strawberry, this one from the east coast of North America, had been brought to Europe (Map 6). This strawberry, called the meadow strawberry, had been given the Latin name *Fragaria virginiana*. It grew passably in Europe but was not a stellar producer.

In the decades following Frézier's introduction of the coastal strawberry to Europe, some growers had taken to growing the coastal strawberry from Chile and the meadow strawberry from Virginia in proximity to one another. While it is not clear when and in exactly which garden(s) the romantic tryst(s) occurred, pollen from *Fragaria virginiana* made its way, by wind and/or insect to the *Fragaria chiloensis* flowers, fertilizing the eggs and producing beautiful, large and flavorful fruits. For the sake of botanical correctness, it should be mentioned here that what we call the strawberry "fruit" is actually a delicious, fleshy receptacle in which the actual fruits, the tiny strawberry achenes (what we usually call the seeds) are embedded. In turn, each achene contains one seed. The plant uses these fleshy



receptacles to lure birds and other animals into eating, and later dispersing, the seeds.

Gardeners in France and in England continued to breed these strawberries, crossing the hybrids to one another as well as crossing the hybrids back to one or the other parent stock and selecting for preferred traits such as size, color, flavor, flowering time, temperature hardiness and pest resistance. The resulting hybrid progeny were dubbed *Fragaria x ananassa* as they were thought to have a pineapple like aroma. (Pineapple in French is ananas.) Over time they were shipped back to North America and today these *Fragaria x ananassa* lines are the basis for the billion dollar commercial strawberry industry (Map 7).

We know now that these two strawberries—the coastal strawberry and the meadow strawberry, are closely related and this allows them to be cross-fertile. This also explains why coastal strawberries made fruits in gardens with meadow strawberries but not in gardens with the more distantly related woodland or musk strawberries. In contrast to the woodland and musk strawberries which are diploid (bearing two complete sets of chromosomes), both the coastal and the meadow strawberries are octaploid (bearing eight complete sets of chromosomes). Having more chromosomes causes a general increase in size and vigor, while also providing spare, dispensable copies of genes for evolution to experiment with and for the plant breeder to use as a source of genetic diversity.

Based on DNA sequencing, it is believed that four diploid strawberries came together to make the octaploid ancestor of the coastal and meadow strawberries. One of these diploids was a woodland strawberry, the other three were from the diploid *Fragaria iinumae*, a strawberry species found in current day Japan. It is estimated that this happened about a million years ago in East Asia, which is thought to be the cradle of strawberry evolution.

Our coastal strawberry is threatened by introduced plants that have a similar niche—ice

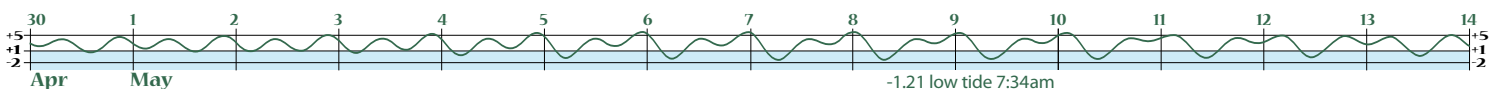
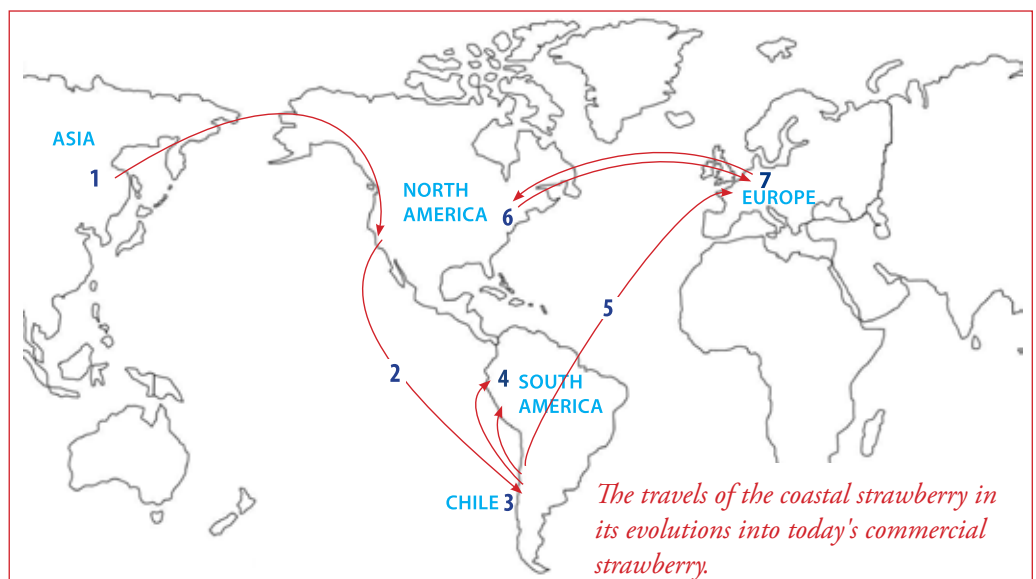
plant for example. Here in California where large numbers of strawberries are grown commercially, the wild strawberry is also threatened through crossing by nearby cultivated plants. ♦

1 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7789105/>

Strawberries: Male, Female and Hermaphroditic

Yes—some plants come in male and female types, just like humans, and just like humans strawberries can have sex chromosomes. In female plants, the stamen primordia abort early, leaving only the pistils in the flowers. In male plants the pistil primordia abort leaving only the stamens. Instead of the female having two identical sex chromosomes as in humans (XX), it is the males that have two identical chromosomes (called WW) and the females have two different sex chromosomes (ZW). To complicate things further, some coastal strawberries are hermaphroditic, that means individual plants make flowers with both stamens and pistils. Once the park reopens, I am looking forward to wandering the reserve to find out what kind of mix of male, female and hermaphroditic plants we have growing.

*While it is not clear when and in exactly which garden(s) the romantic tryst(s) occurred, pollen from *Fragaria virginiana* made its way, by wind and/or insect to the *Fragaria chiloensis* flowers, fertilizing the eggs and producing beautiful, large and flavorful fruits.*



FFMR Drafts a Land Acknowledgment Statement

by Miranda Holeton

Land Acknowledgment Statement

The Friends of Fitzgerald Marine Reserve acknowledges that the Reserve is located on the unceded ancestral homeland of the Ramaytush Ohlone Peoples. As guests, we recognize that we benefit from the beauty and diversity of this land and seashore. We wish to pay our respects by acknowledging the ancestors and relatives of the Ramaytush community and by affirming their sovereign rights as First Peoples to govern their communities and preserve their cultures. Finally, we seek to honor the Ramaytush community's sacred relationship with ocean and marine ecosystems by educating the Reserve's visitors and protecting the Reserve for future generations.

There is something new in *Between the Tides* this month: the addition of a “land acknowledgement statement” (or “LAS” for short). We hope this article provides more information about our statement, and we encourage our readers to reach out with any questions.

In the 1820s and 30s, the United States Supreme Court invoked a legal principle known as the “Doctrine of Discovery” to justify the seizure of land and extinguishment of Indigenous sovereignty (read: control over land). Settlers who “discovered” land and “conquered” its Indigenous inhabitants gained exclusive title to the land under the Doctrine of Discovery. Chief Justice John Marshall was disparagingly clear: “the tribes of Indians inhabiting this country were fierce savages, whose occupation was war, and whose subsistence was drawn chiefly from the forest. To leave them in possession of their country, was to leave the country a wilderness; to govern them as a distinct people, was impossible.” *Johnson v. M'Intosh*, 21 U.S. 543 (1823). Unabashed dispossession, displacement, and genocide continued, emboldened by Marshall's Supreme Court.

This forms the basis for why land acknowledgement statements are necessary today.

It should first be noted that the practice of land acknowledgement was not invented by colonial nation-states like the United States. Land acknowledgement dates back centuries in many Indigenous communities. But today, land acknowledgement statements are also utilized by non-Indigenous communities and organizations like FFMR to root our work in the history and legacy of colonialism. A LAS acknowledges both the atrocities committed against Indigenous peoples and their cultures and lands—and the way those atrocities persist, namely through continued dispossession, displacement, and erasure—as well as the beauty, value, and perseverance of Indigenous communities. In this way, to “acknowledge” the land is to pay respect to its past, present, and future.

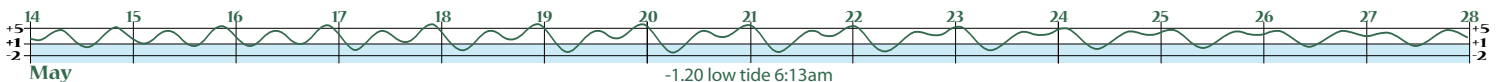
It is also important to consider the limitations of a LAS. These statements, though well-intentioned, can lead to further erasure of Indigenous peoples if not crafted thoughtfully. Poorly drafted statements may, for example, unwittingly relegate Indigenous peoples to a “mythic past” or impliedly suggest, in a manner all-too-similar to the Doctrine of Discovery, “what was once yours is now ours.”¹

Similarly, land acknowledgement statements may risk complacency. For that reason, the Association of Ramaytush Ohlone encourages organizations to “activate the ideas and commitments behind the Land Acknowledgement statement”² to “make it more than just a symbolic statement.” Ideally, a LAS should be a first step, not an end goal.

With those goals and cautionaries in mind, we set out to draft our own LAS to weave together both thoughtful acknowledgement and concrete commitment. The process took about six months: First, we researched other Bay Area organizations' statements. We then gathered to discuss major themes and ideas to include in our statement, and drafted and revised the statement several times. Notably, we added specific references to the “seashore” and “ocean and marine ecosystems” in order to connect FFMR's mission and values with the First Peoples of the coastside.

Additionally, we leaned heavily on the Association of Ramaytush Ohlone's website throughout this process, which not only contains invaluable advice and helpful resources but also includes an offer to review organizations' land acknowledgement statements before they are finalized. We eagerly took them up on the offer. And to our great delight, Jonathan Cordero, Metush (Chair) of the Ramaytush Ohlone peoples and Executive Director of the Association of Ramaytush Ohlone, graciously reviewed our LAS, offered several helpful revisions which we promptly implemented, and approved the statement.

With that, we were off to the FFMR Board of Directors for final approval. The LAS sparked a lively and engaged discussion at our February board meeting. Specifically, we discussed the use of the term “sovereign rights” in our LAS. The Indigenous Environmental Network describes Indigenous sovereignty as a “term of art” that “arises from Indigenous Traditional Knowledge, belonging to each Indigenous nation, tribe, first nation, community, etc. It consists of spiritual ways, culture, language, social and legal systems, political structures, and inherent relationships with lands, waters and all upon them. Indigenous sovereignty exists regardless of what the nation-state does or does not do. It continues as long as the People that are a part of it continue.” Accordingly, we decided to add the explanatory phrase “sovereign rights as First Peoples to govern their communities and preserve their cultures.” ➡





Message from President Ron Olson

For over fifty years, volunteer naturalists have observed changes at Fitzgerald Marine Reserve brought about by Mother Nature. Some of the observations are quite beautiful. We have seen thousands of bright blue *Verella verella* (by-the-wind-sailor) land on our shores. We have seen hundreds of Hopkin's Rose nudibranchs feasting in our tidepools. We have witnessed the birth of harbor seal pups in our haul out areas. These are all wonderful things to behold.

Other consequences brought on by Mother Nature are things that we wish we had not seen. We have observed the die off of several types of sea stars due to a wasting disease. We have seen a change in the types of marine life observed due to changes in water temperature and sea level rise.

The cruelist ramification that we have witnessed was the destruction that occurred during our last winter storms. Repeated winter storms coincided with King tides, resulting in significant coastal dam-

age. The stairway that leads to Seal Cove was severely damaged by massive waves. The closest beach access from the FMR parking lot became inaccessible when the ramp and stairway to the beach were torn apart. Our aging cypress trees were no match for the howling winds, and several trees were toppled along our bluff and in our picnic area. The worst damage was to the bridge that crosses San Vicente Creek which was smashed by massive tree branches. Replacement of the bridge will not happen for quite some time.

It is easy to feel saddened or depressed about all of the destruction that occurred at our beautiful park, but we need to remember the beauty of our entire state was formed by disasters that occurred in the distant past. If it wasn't for massive earthquakes, we wouldn't have our tidepools and bluffs, or our mountains and valleys that encircle the San Francisco Bay Area. Our cliffs that overlook the ocean regularly erode on the average of eighteen inches per year. Although we would like to have things stay the same, we have long accepted some changes.

For now, we can celebrate that spring and summer flowers will return. Pupping season will still occur. Warm sunsets will still be enjoyed from the bluffs. When beach access is made safe, we will continue to explore the wonderful abundance of life in our tidepools. ♦



Hopkins Rose
photo: Donna Pomeroy



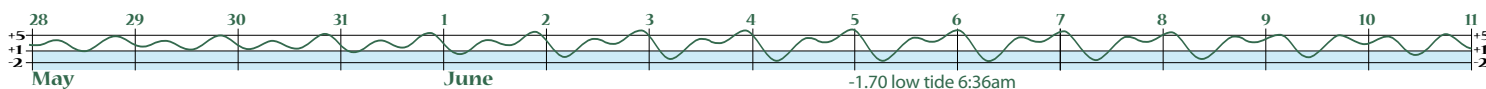
Land Acknowledgment *continued from page 6*

As an organization, we are also working to “activate the ideas and commitments” behind our LAS. We put our mission to educate the Reserve’s visitors and to steward the land for future generations into practice every day. For example: our volunteers lead an average of 2,300 students on educational tours of the Reserve each academic year; we have specially-trained volunteers who watch over the Reserve’s sensitive population of harbor seals; we provide bus scholarships to low-income schools to reduce barriers to access; and we offer scholarships to local high school students entering the field of marine science. All told, our volunteers commit an average of 4,000 hours to education and stewardship of the Reserve each year. Additionally, we have begun to implement local Indigenous history into some of our docent-led tours, and we continue to create space

at our Board meetings to discuss ideas for collaboration with local Indigenous communities. The LAS, we hope, is just the first step. ♦

¹ Valerie Lambert of the Choctaw Nation and president of the Association of Indigenous Anthropologists; Michael Lambert of the Eastern Band of Cherokee Indians and member of the Association of Indigenous Anthropologists; and EJ Sobo, an American Anthropological Association board member charged with representing interests such as those of the Association of Indigenous Anthropologists, “Land acknowledgments meant to honor Indigenous people too often do the opposite—erasing American Indians and sanitizing history instead.” <https://theconversation.com/land-acknowledgments-meant-to-honor-indigenous-people-too-often-do-the-opposite-erasing-american-indians-and-sanitizing-history-instead-163787>

² Association of Ramaytush Ohlone, Land Acknowledgement Statements: Things to Consider, <https://www.ramaytush.org/land-acknowledgement.html>



La Ballena Gris — The Gray Whale of Seal Cove

by Rob Cala, FMR Ranger

*A haiku:
Migrating gray whales
Alaska to Mexico
Spy hop with their
calves*

WHALE! That shout from the bluff captures the imagination of everybody who visits the reserve. We are often asked if any of these massive marine mammals have been seen on a particular day and sometimes, to the visitors delight, we can answer “thar she blows”!

The simple sight of a whale’s spout excites the senses with wonder—a timeless display of life and mystery just beneath the surface; how big is this behemoth, what kind of whale is it (the heart shaped misty blow of a gray whale is one way to tell), will it breach and grace the sky with its gargantuan size.

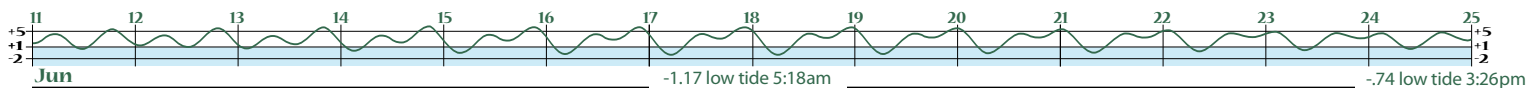
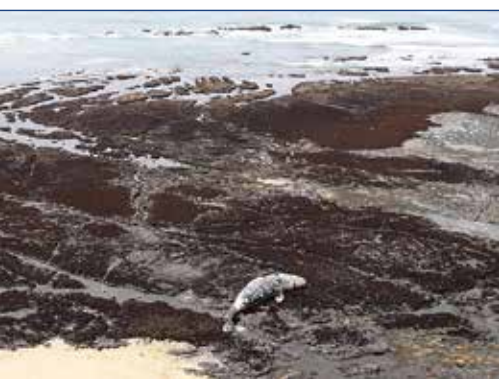
It has always fascinated me to consider the blue whale, the largest animal to ever live, is still thriving in our ocean. Whales appear in the pages of novels, mariners tales, oral tradition and even the Bible. We are in a sense experiencing the author of nature’s ability to inspire our imagination with a grand animal that once walked on earth. Yes indeed. Whales were once land mammals and found their way into the sea. They possess vestigial (no longer functioning) hip bone structures that are evolutionary leftovers from the land lubber days.

Here off our coast we have blue whales, humpbacks and one of our favorites, the gray whale. This extreme migrator feeds in the waters of Alaska and gives birth to calves in the lagoons of Baja California. Their journey can take months and cover over 10,000 miles. These friendly leviathans live 50-60 years and were once in danger of extinction before protections were put in place. They are bottom feeders ingesting and filtering large amounts of invertebrates through their baleen. They sometimes feed in the near shore waters off Montara beach. And they grow big—up to 50' feet long and weighing over 90,000 pounds!

A hundred years ago gray whales were hunted mercilessly up and down the coast. This posed a serious threat to their survival. During this period they were harpooned and would sometimes fight back trying to sink the whaling vessel. The whalers would refer to them as devil fish due to this behavior, literally fighting for their lives. After laws were put in place in 1970s prohibiting whaling and a few short generations since they were being hunted, a remarkable animal behavior developed: these magnificent animals still swim and give birth in the lagoons of Baja yet instead of reading humans as a threat...they proudly present their calves to us, nudging them close to the tourist filled boats. Imagine that! The capability for forgiveness is an obvious sign of intelligence and even emotion. They recognize we are no longer trying to harm them and in return give us up-close and personal views of their lives. We can learn a lot about ourselves from these gentle beasts.

Once protections were initiated the populations rebounded but not without future threats. From 2016 to 2020 a quarter of the eastern Pacific gray whale population declined. There were many reports of whales grounding in the Bay Area. In April 2021 a stunning sight appeared on the reef at Seal Cove. A deceased gray whale had washed ashore covered with their normal passenger barnacles, lice and post-mortem shark bites. It was a solemn sight but also an opportunity to work with The Marine Mammal Center and California Academy of Sciences researchers to collect data and learn what may have caused its demise.

I have experienced the necropsies of a humpback, a gray and a blue whale in the past but never something quite as intimate as right here in the place that I know, work and love. The scientists arrived and set upon the task. Tools, tape measures, cameras, knives and hooks were unsheathed. The whale was in okay condition considering it had been washed through the reef. The baleen was fully intact and it was interesting to study its function as a filtering apparatus. Many large postmortem shark bites were visible around the mouth area.



Organs were scrutinized, contents of the stomach and intestines observed while bones and muscle were studied for bruising or breaks. The findings were inconclusive as to what caused the premature death but the whale was determined to be female, 40' in length and approximately 4-5 years old.

During the course of the necropsy it occurred to me this would be an opportunity to try and collect the bones and build a display. Due to the nature of the marine reserve and the fact we were still closed due to Covid, we allowed the whale to decompose naturally. Following the necropsy we continued to observe decomposition of the whale's soft tissue in the Seal Cove intertidal ecosystem. As time passed and bones were revealed we searched for the components of its skeletal framework. After several weeks, we found a rib, then a vertebrae, a scapula, another rib and this recovery task continued. And remarkably, even though the whale moved with the tides and swell, it remained in the general vicinity, dispensing its artful anatomy. One of the most exciting finds was the skull and mandibles which I found half buried in sand. We dug them out and hiked the very heavy lower jaw up the stairs. It was fascinating that sometimes the vertebrae would appear totally clean, as though prepared for display. Although vertebrae would often be dispensed covered in sinew and detritus. We found chevrons which are part of the muscle assembly on the rear of the whale and after several more weeks we found the bones from a pectoral fin! It looks very much like the human hand. The process of collecting lasted several weeks during which time we tried to maintain a watchful eye so the bones were not poached by souvenir collectors.

Once we retrieved what we could, the bones were allowed to dry for almost a year. The oils and organic matter needed to be removed. After close to a year the remaining cartilage on many of the vertebrae had to be scraped clean. This was a tough job because it dries into a very durable and hard pitch. During this time I consulted with an experienced "bone man" from Alaska and he suggested we paint it with an exterior latex. I found a color called whalebone, which gives the bones a bleached in the desert sun appearance. When we found the time we continued to work scrap-

ing the cartilage and began applying the paint. Meanwhile, we used a Tele-loader, essentially a powerful forklift, to move the picnic tables and logs to consolidate the area.

And then the real fun! Putting the puzzle pieces together. It was exciting to watch the skeleton take form and know we were honoring this creature by exhibiting its framework. The display has already provoked many conversations on stewardship, threats to whales including ship strikes and errant nets, while inspiring awareness of the largest mammals in the ocean.

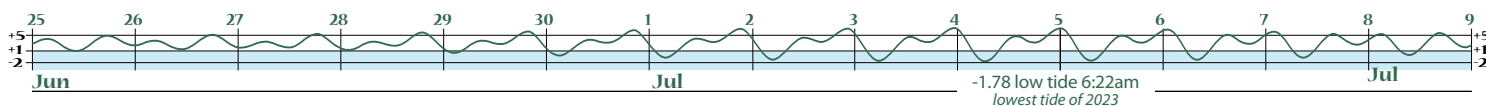
I hope you enjoy our latest educational exhibit at Fitzgerald Marine Reserve! ♦

Rob Cala

<https://www.robcalamedia.com/>

<http://vimeo.com/75919760>

The display has already provoked many conversations on stewardship, threats to whales including ship strikes and errant nets, while inspiring awareness of the largest mammals in the ocean.



The Advent of FMR Plant/History Tours for Seniors

by Deborah Pierce

“The combined presentation of the two docents—their varied interests, stories, and experiences—will receive an A+ from me. I would recommend this tour to friends.”

The SRC Wellness Director ...explained that outdoor field trips commonly met seniors’ physical needs, but also meeting their intellectual needs with a field trip was a challenge. She recognized and shared that our tour actually met both their physical and intellectual needs.

While the terrestrial plants and history of the Fitzgerald Marine Reserve (FMR) have always been of interest to the Friends of Fitzgerald Marine Reserve (FFMR), tours at FMR traditionally focused on the life in its tidepools. Terrestrial plants and history were sometimes mentioned casually in the walks to and from the Visitor Center and the Seal Cove access to the tidepools. Two events triggered a change in the level of interest in these subjects.

The first was the celebration of FMR’s 50th Anniversary which involved preparing presentations about the indigenous peoples and EuroAmerican histories at FMR. Articles about those histories authored by FFMR Volunteer Naturalist Tom Ciotti appeared in previous issues of this newsletter. Increased interest in FMR’s plant life came about when FFMR Volunteer Karen Kalumuck researched and published her guide “The Terrestrial Vegetation of Fitzgerald Marine Reserve (available at fitzgeraldreserve.org). These events and interest led to Karen and Tom doing a plant/history presentation to FFMR’s 2022 Volunteer Naturalist Training Class (of which I was a member) and a plant/history tour of FFMR for the FFMR Volunteer Naturalists in May 2022. Following that presentation and tour several FFMR Volunteers mused about the possibility of offering plant/history tours to the general public. However, that wasn’t pursued because of perceived lack of public interest in these subjects and difficulties in scheduling such tours. And then something fortuitous happened.

Knowing that I had just become an FFMR Volunteer Naturalist, a good friend and hiking buddy of mine who is a professional exercise therapist asked me if I would lead a tour of FMR for a group of ten seniors as a 90th birthday celebration for another good friend of hers. Armed with my photographs and notes from my FFMR training, I met the group in July 2022 at FMR and took them on a tour of FMR that included information about its plants and history. While we did make our way to the beach, none of the seniors wanted to risk venturing out on the reef. At that point I thought the tour was a bust. But their feedback told me otherwise. They enjoyed the “walk and talk” about the plants and history. My good friend got the same feedback and she asked if FFMR would consider doing a similar land-only tour for the Saratoga Retirement Community (SRC) where she

provides exercise classes. I shared this inquiry with Tom and Karen and they agreed this would be a good opportunity for FFMR and the SRC seniors.

In early October 2022 Tom and I met twenty SRC seniors and their Wellness Director at FMR. We started the tour with a Welcome, a reminder of the others who had lived at FMR before, and honored the indigenous Chiguan people by reading FFMR’s Land Acknowledgment Statement. We wanted to make the seniors aware of the rich history of FMR and the connections its prior inhabitants had with the plants, the land and the ocean. We did a loop from the San Vicente Creek Bridge and back on the Bluff and Dardenelle Trails with Tom providing history facts and anecdotes and me giving information about indigenous use of the plants, geology, seals and providing anecdotes from my notes that Tom didn’t cover.

The seniors were amazed that it had taken the native people 1 to 2 years to make a fishing net from Douglas Iris leaves—but the net would have lasted over 100 years.

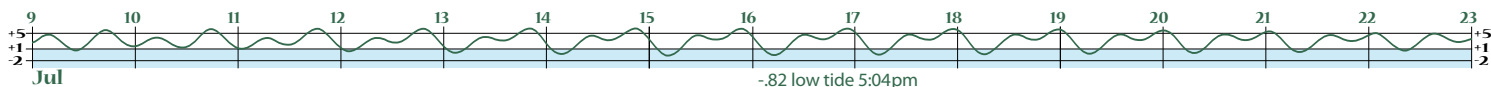
We showed them shell fragments in the Seal Cove soil that were left there by the natives hundreds of years ago. Many showed deeply felt appreciation knowing that while holding a shell fragment in the palm of their hands that they were touching items touched by Chiguan.

They were charmed by the Smith’s grand-niece’s story that in the bedrooms on the ocean side of Smith house you were lulled to sleep by the sound of the waves whereas in the bedrooms on the other side of the house you fell asleep to the owls hooting in the cypress trees.

After the tour the seniors had lunch at the FMR picnic tables while Tom and I engaged them in Q & A. Before they departed in their SRC van, we gave them copies of *Between the Tides* to take home. We asked their Wellness Director for feedback from the seniors and were encouraged by their impressions of the tour:

“I was so impressed with our ‘tour guides’ at Fitzgerald!”

“I have been there numerous times mainly for tide pooling and geology, but never for human history. So this is definitely a very educational experience. Good lectures and a great field trip. Personally, when I travel, I always want to learn something. This is one of those trips!”



“The combined presentation of the two docents—their varied interests, stories, and experiences—will receive an A+ from me. I would recommend this tour to friends.”

The SRC Wellness Director also provided insight and encouragement. She explained that outdoor field trips commonly met seniors’ physical needs, but also meeting their intellectual needs with a field trip was a challenge. She recognized and shared that our tour actually met both their physical and intellectual needs.

Other FFMR volunteers with connections to senior groups became aware of the success of the SRC tour and contacted Tom and me about doing tours for the groups with which they were connected. This led to Tom and I conducting land tours for Palo Alto’s Channing House later in October and Half Moon Bay’s Senior Coastsiders in mid-December. We received feedback from those tours similar to that from the SRC tour. During this period Tom, Karen and I consulted with my good friend who instigated the SRC tour, other FFMR Volunteers, and the staff of the San Mateo County Parks Department’s Interpretive Division¹ about how to improve these tours to make them safe and comfortable for seniors with diverse levels of physical abilities as well as more educational and engaging.

Based on these experiences it was eminently clear that offering land tours of FMR for senior groups made sense. First they have symmetry with FFMR’s tide pool tours in that both are for organized groups that stay together and whose individuals know each other, are easy to schedule, and have organized transportation. Second, there is great public interest in indigenous history and culture. Third these tours fit with both FFMR’s and San Mateo County Parks Department’s desire to provide programs for segments of our community that have been underserved with respect to park activities. Fourth they provide volunteer opportunities for FFMR that don’t require a good low tide and for its volunteers who cannot comfortably access the tide pools. Finally, the three tours we conducted were thoroughly enjoyed by the seniors and the FFMR tour guides.

Unfortunately, the recent unexpected damage and closure of FMR due to storms has temporarily deterred efforts to schedule and conduct more senior land tours. Once the Reserve is reopened and the damaged bridge over San Vicente Creek is replaced we will be able to return to having these senior land tours. In the meantime, if you have any questions about these tours, please direct them to info@fitzgeraldreserve.org. ♦

¹ See page 1 for information on the San Mateo County Parks Interpretive Division.

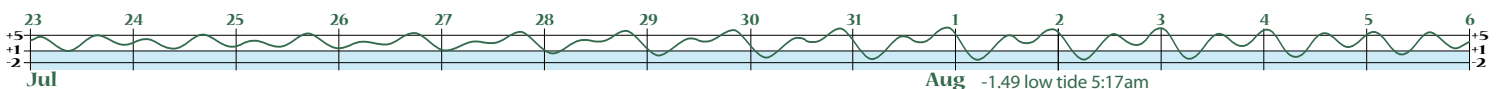


We wanted to make the seniors aware of the rich history of FMR and the connections its prior inhabitants had with the plants, the land and the ocean.



Photos 1 & 2: Saratoga Retirement Community, October 2022

Photo 3: Half Moon Bay Senior Coastsiders, December 2022





Further Bits and Pieces

The Gray Whale of Seal Cove – page 8

Did you notice the ranger lying on the ground by the head of the whale?!

A necropsy was performed on the gray whale... Animals are necropsied...humans are autopsied

World Travelers: Our Coastal Strawberries – page 4

The French king sent a spy to South America—that spy was Amédée Francois Frézier, a military engineer and cartographer.

Frézier was impressed with the large size and flavor of the white-berried strawberry plants he encountered in Chile. In addition to gathering information of potential military significance, Frézier gathered strawberry plants. He chose five large specimens and packed them for the 6-month-long trip home, managing to keep them alive for the entire journey.

Frézier's ancient surname was derived from fraise, the French word for strawberry!

Fitzgerald Joins Coastside Gives

by Graham Brew, FFMR Board Member

The Friends of Fitzgerald Marine Reserve are extremely grateful for the very generous donations that we receive throughout each year. These donations allow us to carry out our mission of education and preservation. The majority of donations to FFMR fund scholarships of college-bound Half Moon Bay High School students who show exceptional promise in marine biology and environmental science.

One constraint on our fundraising efforts are the limits of our mailing list. Until now, word-of-mouth and individual outreach have been the predominant methods of growing our donor base. This year, in the interests of casting a wider net for donors, FFMR is participating in the well-known “Coastside Gives” charitable campaign. The Mavericks Community Foundation, through Coastside Gives, provides a convenient way for people and organizations from Montara to Pescadero to make charitable donations.

If you live in this catchment, you probably know of this campaign through the flyer that gets delivered to all Coastside homes in the spring (coastsidegives.org).

The 2023 drive began on March 1 and will continue to May 4th, the well-known “Coastside Day of Giving.” To make a donation to FFMR through Coastside Gives between now and May 4th, visit: <http://www.mightycause.com/organization/FFMR>

Participating in Coastside Gives will broaden our donor base and help FFMR continue our vibrant mission for many years to come. Note that our participation in Coastside Gives is a supplement to, not a replacement for, our existing fundraising efforts. We welcome all our donors to contribute via whichever channel makes the most sense to you. And the FFMR Board extends our very deepest gratitude to all our donors, no matter the method or level of contribution. Thanks! ♦

Friends of Fitzgerald Marine Reserve

Donation Chair, P.O. Box 669, Moss Beach, CA 94038, or through our website: <https://www.fitzgeraldreserve.org/donations>

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 _____