BETWEEN the TIDES

Friends of Fitzgerald Marine Reserve

June 2022

Sea Anemones of Fitzgerald Marine Reserve

by Tom Niesen, photos by Tom Niesen except where noted

First some zoology. Sea anemones are classified in the phylum Cnidaria, a reference to the unique cell organelles they possess called cnidae. Animals in the group may have several types of cnidae. Some are utilized to attach things to their bodies or to hold on the substrate as we'll see. The most obvious cnidae are the stinging cnidae, called nematocysts, that are mainly located on their tentacles. These stinging cell organelles are used in prey capture and defense as anyone who has run afoul of a jellyfish can attest.

These stinging cell organelles are used in prey capture and defense as anyone who has run afoul of a jellyfish can attest.

The cnidarian life cycle typically alternates between two body types, the sessile (attached) polyp and the swimming medusa). Sea anemones are classified as polyps and lack the medusa form. Other types of cnidarians may lack a polyp stage and occur only as medusa, like is seen in many jellyfish species. Anemone polyps have a columnar central body topped with the anterior or oral disc containing the central mouth and ringed by tentacles, and a posterior or pedal disc that is typically used for attachment.

Sea anemones are classified in the cnidarian class Anthozoa which includes the stony corals. At FMR there are several species of sea anemones and I will mention the most abundant and where you will find them.

The first and most conspicuous anemone is **the giant green,** *Anthopleura xanthogrammica*. As the common name implies this anemone is large (3-4 inches in column diameter) and bright green. Giant greens are found in the mid to lower tide pools and lining the surge channels that funnel water on and off the tidal zone.

Anthopleura sola, **the sunburst anemone,** is another large anemone which has conspicuous solar rays radiating out from its centrally-located mouth. It can co-occur with *A. xanthogrammica* in mid and lower tide pools. Individuals of both these two anemones are products of sexual reproduction. The morphological differences between these two large anemones are detailed by Karen Kalamuck in the March 2022 edition of *Between The Tides.*

A third, mid-tidal member of this genus, *Anthopleura elegantissima,* has inch wide polyps that can multiply asexually by splitting apart longitudinally and form genetic clones which spread over available space. This asexual mode of reproduction of clone formation has given this anemone the common name, **the aggregating anemone.**

photo: Dr. John Pearse, UC Santa Cruz

continued on page 3

Friends of Fitzgerald Marine Reserve

P.O. Box 669
Moss Beach, CA 94038
Phone: 650.728.3584
www.fitzgeraldreserve.org

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

Newsletter Editors:
Janet Pelinka
Sasha Greenawalt

Design and Production:
Martie Bateson Sautter
Sautter Graphics and Print

Webmaster:
Galen Goyer

Banner photo:
Rob Cala

Message from President Ron Olson

It appears that somehow the year has gotten shorter. We have slipped from winter right into summer with very little spring. Things started out promising. Heavy early winter storms did manage to deposit rocks and boulders on our northern beaches. Some of the rock was pushed in by the ocean and some was washed off the hillsides. Usually moderate storms help to coax some of the rocks back into the depths, while allowing fine sand to take their places. With our stormy season apparently coming to an end, it is unlikely that our soft, sandy beach will return this year. Our last rainstorm did help to recharge San Vicente Creek; nevertheless its flow to the beach should stop fairly soon.

One area that looks forward to the return of summer is our cypress grove. With its cool shade and dry ground, families look forward to strolling and playing under its canopy. Some of our local birds have taken advantage of the weather and have started to nest earlier than usual.

Parking has always been a problem, especially on days with a good low tide or on any sunny weekend. Now that the trail from the parking lot down to the tide pools is closed (due to the heavy storms this past winter) the only way to get to the tide pools is via the Seal Cove stairs, a ten-minute hike away from the parking lot and the restroom. The eighty plus steps there that lead to the beach can also be a challenge for families with tired children. These and other factors can shorten our tempers and decrease our abilities to tolerate things that normally wouldn't irritate us.

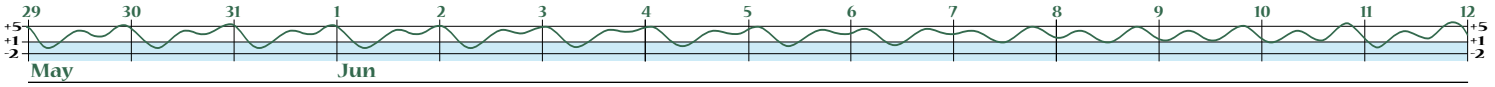
When I am roving or conducting a tour, I always think about why all of these people are here. People come to get out in the fresh air. They come to experience a beautiful beach and to share their experiences with friends and family. I usually ask visitors why they chose to come, and I try to find ways to improve their visit. With all of the challenges that families have experienced over the last two years, people are looking for ways to relax and to see things return to a more normal state. The only advice that I can give to everyone is to take a deep breath and let nature heal us. ◆

The graph displayed across the page bottoms shows tides for 5/29/22 to 9/16/22 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: https://fitzgeraldreserve.org/lowtides/

Good low spring/summer tides are in the early morning. They change to evening tides in September. 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:

-2.08	**6/15**	**6:04am**	-1.33	8/11	4:47am
lowest tide of 2022			*7th lowest tide of 2022*		
-.76	6/29	5:52am	-.08	8/26	5:01am
-1.84	7/14	5:51am	-.74	9/08	3:40am
3rd lowest tide of 2022			-.25	10/5	1:33am
-.46	7/28	5:31am	-.08	10/12	7:13pm



Sea Anemones *continued from page 1*

As they multiply and spread, individual clones can come in contact and "fight" over available space. Fighting involves the polyps on the edges of the battling clones stinging one another with their nematocysts, causing the wounded anemones to pull away, thus forming an open space between the clones (referred to as "no man's land"). Note that the polyps are identical in this genetic clone.

Another clone-forming anemone that also engages in these "border wars" is the beautiful **strawberry anemone,** *Corynactis californica. Corynactis* clones are typically orange, pink, scar-

let or red in color, but can also be purple, brown, yellow or almost white. Its tentacles are tipped with white clubs. Strawberry anemones are about an inch in diameter and found in the low intertidal and occur in the shallow subtidal zone as well. The anemones seen in the illustration belong to two clones different in color pressed against each other.

The proliferating anemone, *Epiactis prolifera,* is also common in the low tidepools, occurring in a range of vivid colors, shown here is a red and a green polyp. Each is about an inch in diameter with vivid, radiating white stripes adorning the central oral disc. The common name "proliferating" suggests another anemone that practices asexually reproduction. But this anemone produces sperm and eggs. The females' eggs are fertilized in her stomach where the young develop until they reach a size that allows them to crawl out and attach to mom's column. Here they feed and grow until large enough to crawl off and live independently. It is not unusual to find an adult polyp surrounded by a ring of smaller dispersals that have left the parent's column. Unlike most anemones discussed here that anchor themselves to solid substrates like boulders or bedrock, *Epiactis* is quite agile and can be found on small rocks, shells and even on holdfasts and blades of algae.

Occasionally, a **large red anemone** may be seen in the mid to low intertidal, although they are more common in the subtidal. These are anemones in the genus *Urticina* (formally *Tealia*) and three species may be found. *U. crassicornis* has a bright red column four inches in diameter that can have patches of green or brown with stout, blunt tentacles of green, brown and white. It can be seen in the low intertidal attached to the sides and bottom of rocks.

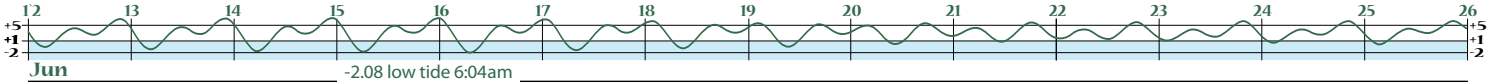
U. lofotensis' column is bright red with white spots arranged in longitudinal columns that appear as white stripes when the column is contracted as can be seen in the individual shown here. The light red and orange tentacles are slender and slightly elongated. A beautiful animal.

U. coriacea is typically buried in patches of sand, gravel or shell between large rocks. Its column is dull brownish red to brick red and up to four inches in diameter. The column is covered with stout tubercles to which sand and other materials strongly adhere. Its tentacles are short and blunt, colored green pink or blue with one or more bands of white or pink. ◆

Fighting [Anthopleura elegantissima] *involves the polyps on the edges of the battling clones stinging one another with their nematocysts, causing the wounded anemones to pull away, thus forming an open space between the clones.*

photo: David Cowles, Friday Harbor Marine Labs

photo: inverts.wallawalla.edu



Spotlight on Miranda Holeton

I'm Miranda, a new member of the board of directors for the Friends of Fitzgerald Marine Reserve (FFMR). I grew up in Montara, California and attended Farallone View Elementary, Cunha Intermediate School, and Half Moon Bay High School.

I first discovered my love for Fitzerald Marine Reserve (FMR)in high school when I took a 6:45am marine biology class with FFMR's founder, Bob Breen. We explored the tidepools and walked through the reserve as the rest of our peers snoozed. The cypress grove at FMR (or "3 palm," as I grew up calling it) quickly became one of my favorite places on earth. I'm not religious, but it's as close to a church as I can conceive. The grove is strange in some ways. It's not a far-off wilderness, nor even "naturally" occurring (the trees were planted), and it's a mere half-mile long and a tenth of a mile wide. But something magical happens when I walk its trails. The peaceful ocean

The cypress grove at FMR (or "3 palm," as I grew up calling it) quickly became one of my favorite places on earth. I'm not religious, but it's as close to a church as I can conceive.

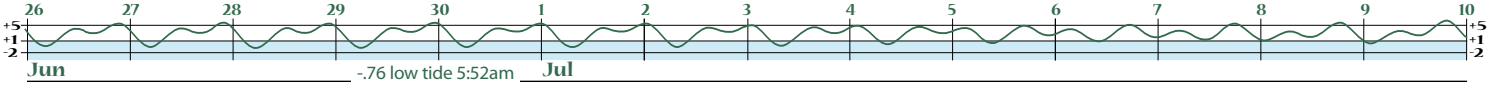
Cypress Grove, photo: San Mateo County Parks Foundation

rumble overcomes all other sounds. The rows of hundred-year-old Monterey cypress trees lining the blufftop drown out my thoughts. The trees on the western edge are typical on the central coast—asymmetrical and windblown, with thick branches stretching eastward and roots dangling precariously over the eroded cliff edge. The eastern row is almost a mirror image, the branches of each goliath stretching as if to embrace its westward neighbor, creating a photogenic tunnel for its visitors below. But a grove of tall, spindly matchsticks in the center of the forest blocks the embrace. The matchsticks are cypresses, to be sure, but unrecognizable as such. They grew straight toward the receding sunlight the way we might run for an elevator as the doors begin to close. No time for side trips or embraces, just a century-long, straight-line dash. The result is a closed canopy. Nothing grows on the forest floor, and the branches below the canopy are dry and dead. It is beautifully desolate. Sunlight pocks the ground for most of the day creating a symmetrical patchwork of soft spotlights. In the morning and evening, the sun beams into the forest diagonally, creating stripes of light from matchstick shadows. More typically, however, the light is refracted through thick, low-lying coastal fog that mystically weaves through the forest.

Fog smells like home. It feels crisp and nourishing, the good kind of humid. It wraps its arms around my skin like a hug. I didn't know how much I loved the fog until I left for college and encountered its sinister cousin—smog. I lived at the eastern edge of LA county, trapped inside an "inversion layer" of pollution. The stark difference from my coastal hometown led me to interrogate why the air is so terrible in certain places and how it impacts nearby communities. I learned about environmental racism and injustice (a privilege in itself, to learn about injustice rather than experiencing it), and things started to click. Why did I get to grow up with crisp ocean air, parks and greenspace, while some communities were left to bear a disproportionate brunt of environmental ills? And what can I do about it? These themes and questions have guided me ever since.

With those themes in mind, I moved back home after college. I went on plenty of walks in my beloved cypress grove, and as any good 21-year-old would, got a job at a local sandwich shop. I washed dishes, bussed tables, and occasionally struck up conversations with patrons. A few of our regulars happened to be park rangers from FMR. I had never considered a career in parks, but a gregarious, white-haired ranger sparked my interest when he passionately described his day-to-day duties (notably skipping over the part about cleaning bathrooms). I grabbed my cellphone and forwarded him my resume right there in the sandwich shop, and the rest was history! I planned to work at FMR for a couple years and stayed for five. I got paid to walk my favorite trails, roam the tidepools, and observe harbor seals. I learned how to use power tools, chainsaws, and lawn mowers, installed

Henry Doelger planted these 3 palms by his house on what is now marine reserve property. He also planted many similar palms at Westlake Shopping Center which he developed in 1948.



floors and patched roofs, built fences and restored habitats. I grew up and learned how to be accountable. I even met my husband. For these and many other reasons, I wouldn't trade my five years as a ranger for anything in the world.

As an associate attorney I will help the firm litigate high-impact environmental cases.

Ultimately, however, I knew I wanted to pursue a career that would allow me to be an advocate. With mountains of support from my family and husband, I decided to go to law school. Even without the onset of a global pandemic, law school was difficult—excruciatingly difficult—but also wonderfully energizing and inspiring. I took courses on environmental justice, climate change law, food justice, and water law, to name just a few. And most recently, I landed my dream job at Sher Edling LLP. As an associate attorney I will help the firm litigate high-impact environmental cases. For example, Sher Edling's "climate damage and deception" practice holds the fossil fuel industry accountable for its decades-long campaign of deception about the science of climate change and the role its products play in causing it. This incredible privilege and responsibility represent everything I went to law school for.

Now that my life has settled down, I'm excited to rediscover the tidepools and trails at FMR and reconnect with FMR's fabulous community of volunteers, staff, and visitors. I look forward to putting my skills and passion to use to help the board preserve this magical place for future generations to enjoy. ◆

I had never considered a career in parks, but a gregarious, white-haired ranger sparked my interest when he passionately described his day-to-day duties (notably skipping over the part about cleaning bathrooms).

Docents Brave the Elements!

by Karen Kalumuck

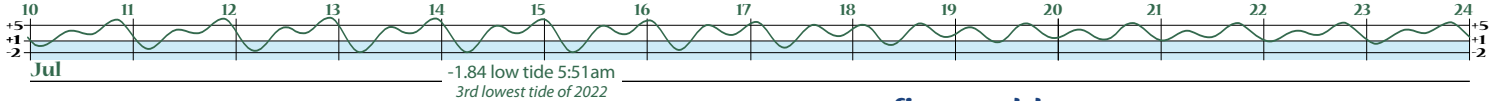
Ugh! I grunted as my right hip impacted the rocky reef with a loud thud. The 40mph wind gust literally swept me off my feet, which was rather easy since my feet were in contact with a massive bloom of super-slippery, iridescent algae, *Mazzaella,* which covered massive patches of "black tar" algae. The combination thwarted any attempts at traction. Fortunately, only my pride was injured.

Along with myself, ten other dedicated docents and friends braved the wind and 7am starting time to conduct FFMR's sixth research survey on May 19. The low tide should have been spectacular—a minus 1.6 feet at 8am. However, the ceaseless wind pushed the water back into the large channels and splashed over the reef's surface. Continuously rippling water in the channels made finding, and identifying, our target creatures a challenge.

Nevertheless, we were able to continue our docmentation of select species. Prior articles in *Between the Tides* describe these surveys in more detail (March 2021; September 2021). Briefly, we are tracking giant green anemones, *Anthopleura xanthogrammica,* and sunburst anemones, *Anthopleura sola,* all sea stars and nudibranchs, and select invasive species.

Kudos and many thanks to all the hearty souls who came out that day: Barbara Dye, Sarah Carter, Linda Ciotti, Marsha Cohen, Jeanette Hyer, Paul Jordan, Gregg Langlois, Karen Madsen, Ed Milner, and Fred Stein. Let's do it again on July 15! ◆

A sunburst anemone (A. sola) *displays its acrorhagia, or fighting tentacles, during the May 19 research survey. Photo: K. Kalumuck*



2022 FFMR Volunteer Training Class

by Susan Evans

When Ron, Joseph and I first met for the 2022 training class planning in August 2021, we knew the odds of actually having a class were stacked against us. Covid had been with us for 1½ years and people were still debating masks, social distancing and vaccinations. Not only did we not know what Covid would be doing in six months, we didn't even have a place to meet. Our previous meeting space was too small for social distancing 14-16 students, and we needed to accommodate the 2020 training class students for whom last three classes were cancelled in March 2020. Oh yes, we also needed a Marine Mammal lecturer.

By January 2022, the class had 16 sign-ups and a waiting list! Room B in the Half Moon Bay Library could socially distance 16 students and one entire wall could fold to provide excellent ventilation. Of course, masks and proof of vaccination were required.

The first class, which had a late opening, brought on new concerns. After a three-hour lecture, plus Coastal weekend Highway 1 traffic, could we possibly arrive at FMR on time for the low tide?

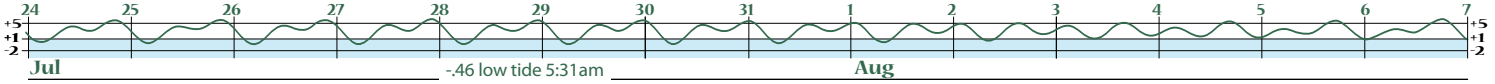
Nicole Thometz, a professor at S.F. State, agreed to teach Marine Mammals and she gave a powerful presentation. One student commented, "I am still processing how dolphins hear through acoustic features in their jaw and project sound through their melon. So fascinating!"

In early February, Joseph Centoni informed us that we were allowed to use his Half Moon Bay High School classroom for lab work. Students had mentioned how much they liked Joseph's dedicated and enthusiastic teaching and his wonderful presentation style. In lab, students looked at plankton samples from Pillar Point Harbor and saw copepods and phytoplankton. They also used the microscopes to explore the tiny external structures of live urchins, sea cucumbers and brittle stars. Of particular interest were their pedicellariae, minute stalked pincers covering the urchins. These tiny claw-like organs constantly work to remove debris, encrusting organisms and parasites from urchin skin.

Bill Kennedy treated us to his engaging presentation style, expert knowledge and enthusiasm for the harbor trip. Students loved seeing the barnacles, sponges, and feather worms, exclaiming, "Fascinating and a whole new world!" Jean Replicon lectured on mollusks and students liked the detailed information and great specimens. Irina Kogan lectured on geology and students enjoyed her infectious enthusiasm for the topic.

Students wrote coastal bird reports and gave lectures to the class. Kudos to all who fully used the AV equipment (with help from Ron and Natalie). All students ended up with a "take- home" package of 14 bird reports.

Many thanks go to Ron Olson for his kindness and never-ending patience with peers and students. Students loved his sense of humor, thought him the best baker, liked his friendliness and excellent information, and found him always available for



mentoring. Ron organized the entire Mentoring Program and provided each Saturday class (and teachers) with his home-baked cookies and breads!

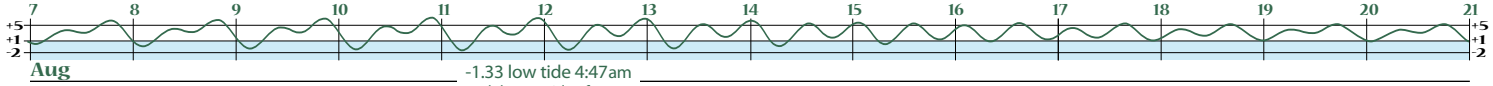
Thank you to Tom Ciotti and Karen Kalumuck for their history and plant lectures. (Unfortunately the walk was rained out for the second time in three years.) Take heart Tom, as students found your lecture "heartfelt," a fount of knowledge and a generous sharing of personal knowledge of reserve history and expert scientific background. Students were fascinated by Karen's "virtual tour," found her super interesting and were surprised at the number of plants at the reserve. Thank you to Elaine Reade who collected clothing orders and also proved to be a great travelling "saleswoman" with multiple jackets! Also thanks to Linda Ciotti and Carol Ferguson who travelled great distances to find/order our new jackets. Lastly, but certainly not least, I thank Paul Gator for the low tide sheets, Patti Miller for binder copying, Carol Davies for door monitoring and Ron, Karen and Graham for their panel discussion participation.

Luckily for me, all those "concerns" never amounted to much. We arrived at FMR on time for all low tides, serious Highway 1 Saturday weekend traffic never materialized, library openings were timely and students described the class as: "Fun, ran smoothly, greatly organized, incredibly informative and would recommend 1000%!" And, most importantly, all teachers and staff are healthy. Wow, were we ever lucky! We beat ALL odds!!!

Congratulations to the Class of 2022

Kathy Barton, Eric Bing, J.R.Blair, Sarah Carter, Natalie Downe, Jordynn Edison, Paul Jordan, Gregg Langlois, Melody Lee, Deborah Pierce, Mary Shields, Chris Tauscher, Ellen Tjosvold and Janet Urioste.

You were an intellectual delight!



The Chiguan
The First Stewards of Fitzgerald Marine Reserve

by Tom Ciotti, FFMR Volunteer Naturalist

The name Costanoan derives from the Spanish word "costaños," which means coastal people...

The Chiguan were the native people who, for thousands of years, cared for and managed the land and seashore now known as the Fitzgerald Marine Reserve.

The native peoples of Central California did not have written languages. Language, knowledge, skills, culture, and beliefs were passed from generation to generation orally, by ceremony or by example. This fact, together with the rapid demise of their populations, the suppression of and general lack of outside interest in their languages, histories, and cultures, and their removal from their ancestral lands all at the hands of the Spanish, Mexicans, and Americans have severely limited our knowledge, understanding, and appreciation of these people. The specific information we have about the Chiguan comes mainly from written accounts by early Spanish missionaries of encounters with the Chiguan, Mission Dolores records, and archeological studies.

Map of Costanoan Language Distribution, Crosses denote Missions Subdivided: Karkin (purple), North (brown shades), South (green shades)

Native peoples names and words used in this article are phonetic translation spellings made by Spanish missionaries or American scholars who interviewed native speakers many years after the native peoples first contact with the Spanish in 1769.

Terminology/Names

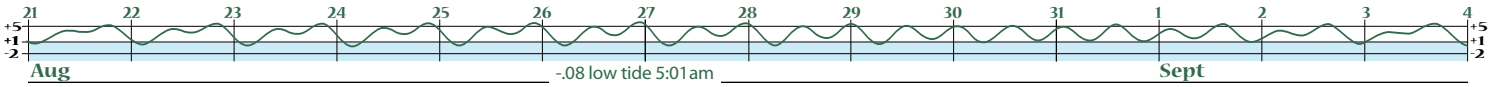
The name *Costanoan* derives from the Spanish word "costaños," which means coastal people and was used by the Spanish explorers to identify the native peoples of the San Francisco and Monterey Bay areas. "Costanoan" is now a linguistic term used to designate a family of six distinct languages spoken by various segments of those people.

The name *Ohlone* is believed to derive from the name of the native peoples of the watersheds of the lower San Gregorio and Pescadero Rivers who called themselves the Oljone. The name Oljone may have also been used by Central Valley native people to refer to native people of the west. An 1861 newspaper article misspelled and anglicized Oljone into the name Ohlone. Today Ohlone is broadly accepted (but not by all native persons or groups) as a generic identifier for all Costanoan-speaking native peoples from the San Francisco Bay Area to Big Sur.

The Chiguan Language

The language spoken by the Chiguan was one of three dialects of one of the six Costanoan languages (see map). That dialect is now named Ramaytush. It derives from American ethnologist J. P. Harrington's 1921 interview of a native speaker of a related dialect who said the word "rámái" refers to the San Francisco Peninsula and the word "tush" denotes people. In 1978 another American ethnologist, Richard Levy, combined and anglicized those two words into the word "Ramaytush" to refer to the dialect spoken by the native peoples of the San Francisco Peninsula. Also, according to the Association of Ramaytush Ohlone website "all persons indigenous to the San Francisco Peninsula should be identified either as Ramaytush or by their local tribal name."

The only known verifiable documentation of the Ramaytush dialect is a 58-word vocabulary taken by a U.S. Indian Agent in 1850 from Pedro Alcantara who was born in 1786 in a Ramaytush Ohlone tribe other than the Chiguan. There exists a listing of 104 purported Ramaytush words and their English translations that are a combination of the Alcantara vocabulary, 26 words recorded during a 1775 Spanish naval exploration of San Francisco Bay, and 20 words obtained in 1912 from an unidentified elderly man in San Luis Obispo. Those 104 words and translations appear on separate brass plates embedded in the sidewalk on the south side of King Street between the Cal Train Station and Oracle Park in San Francisco. The plates form part of the



Barbary Coast Trail and are intended to honor the native people of San Francisco.

The Chiguan Population

When Mission Dolores was establish in 1776, the Chiguan population was reported to be about 50 people comprised of about nine families. The Chiguan chief was 60 year old Egidio Cancégmne who lived at Ssatumnumo. His older brother, Luciano Yaguéche, (originally from Ssatumnumo) was the chief of a village of the Aramai tribe whose territory was directly north of the Chiguan territory. Because of this connection, some historians believe the Chiguan and Aramai tribes may have been united at some time.

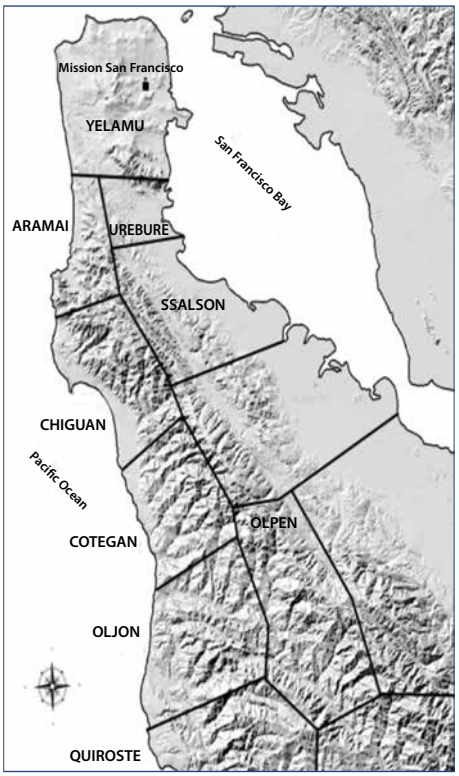
Pre-Mission Ramaytush Ohlone History

For the reasons stated above the historical record of the Ramaytush Ohlone tribes, including the Chiguan, is scant. The historical records of some of the other Ohlone tribes fared better and some generalizations can be made from them. The Ohlone generally believed and continue to believe they have been here since the beginning of time and that they were created here and did not migrate here from elsewhere.

In contrast, today's archeologists and evolutionary biologists believe humans began migrating into the Americas from Asia at least about 20,000 years ago. Up until about 3500 BC it is believed those people had a mobile foraging lifestyle with little village existence.

A 2009 Golden Gate National Recreation Area paper about the Ohlone breaks the post 3500 BC Ohlone history into three periods based on archeological evidence: Early, Middle, and Late. In the Early period from 3500 BC to 500 BC a sedentary, village lifestyle emerged as evidenced by milling tools and the appearance of middens and shell beads used as currency in trading. During the Middle period from 500 BC to 1000 AD midden numbers and size increased indicating growth in village lifestyle and likely segregation into tribes. In the Late period from 1000 AD to 1700 AD, the use of bow-and-arrow technology began, mortuary practices evidence social stratification based on wealth, and shell bead trading became geographically limited indicating more restricted and controlled tribal territories.

In the early 20th century a survey of prehistoric archeological sites within the Chiguan territory was made. In 1911 a site, called the Princeton Mound, near the location of the Chiguan village Chagúnte was excavated and the materials found there indicated the Chiguan likely had a similar culture to and perhaps common ancestry with other Ohlone peoples of the San Francisco Bay Area. During the 1960s a site near the location of the Chiguan village Ssatumnumo was excavated and materials similar to those found at the Princeton Mound were discovered



Map of Ramaytush Ohlone Tribes

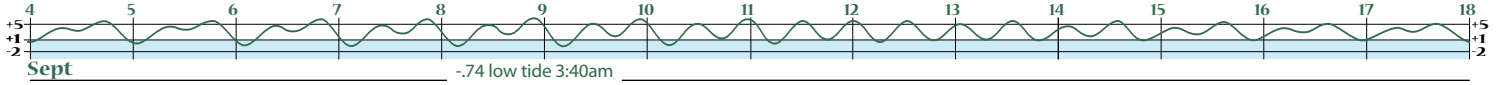
A site on the bluff overlooking Seal Cove within the reserve was excavated in 1994 by Mark Hylkema for San Mateo County Parks. The materials found indicated the presence of an ancient hearth used to cook mussels, abalone, and other marine and terrestrial animals. Radiocarbon dating of soil and shell materials indicated the site was used by several generations of Chiguans between 700 and 900 years ago. Interestingly, a much older partial stone crescent likely used to scrape hides was also found. The crescent dated to about 10,000 years ago and is the oldest artifact ever found in San Mateo County.

Chiguan Lifestyle

There are no lifestyle records specific to the Chiguan. In 1942 J. P. Harrington published a report titled Anthropological Records that provides extensive information about 11 Central California tribal groups, one of which is identified as "Costano, Northern" and is said to be based on interviews with persons from Mission San Jose and vicinity, likely from the Muwekma Ohlone tribe of the East Bay. In 1978 Richard Levy authored a chapter of a Smithsonian Institution report about Ohlone anthropology. It is reasonable to assume Chiguan lifestyle was similar to that described in these reports.

According to these reports men and children were naked and barefoot. Women wore front and back aprons but were otherwise ➥

The only known verifiable documentation of the Ramaytush dialect is a 58-word vocabulary taken by a U.S. Indian Agent in 1850 from Pedro Alcantara who was born in 1786 in a Ramaytush Ohlone tribe other than the Chiguan.



unclothed. Rabbit or sea otter skin capes were sometimes worn in winter. Hair was long and often doubled back or tied on top of the head. Tattooing of the face and arms was common as was wearing body paint. Based on these reports the adjacent depiction of two Yakut hunters could easily be representative of the appearance of Chiguan or other Ohlone men.

A tribal chief could be either male or female and succession was subject to approval by the tribe. The chief was assisted by a council of elders. The chief's role was more advisory than authoritarian and tribe members enjoyed significant personal freedom. Tribes also had one or more male or female shamans who diagnosed and treated disease and allegedly controlled weather, predicted the future, and ensured good harvests.

Northern Valley Yokut Indians hunting on bay of San Francisco • Louis Choris c. 1822

The Ohlone peoples were hunter-gatherers and each tribe relied primarily on the natural resources within its own territory for sustenance. When the tribe's needs were not fulfilled by those resources, the tribe would trade with neighboring tribes to meet its needs. Ohlone people used sustainable hunting and gathering practices and had a deep respect for Mother Earth and connectedness with all earthly things. They genuinely believed they were created to take care of Mother Earth and its inhabitants and resources and that she, in return, would take care of them.

Replica of Ohlone (Chiguan) Hut in the graveyard of Mission San Francisco de Asís, San Francisco

Tribes respected each other's territories and intertribal disputes usually resulted from unauthorized territorial incursions.

Housing was domed and circular in shape, had a single rectangular door, and was usually constructed from a willow frame covered with tule. Because of their lifestyle, it is likely the Chiguan spent most of their time outdoors and used houses mainly for shelter, sleeping, or storage.

There was extensive intermarriage between neighboring tribes leading to a strong degree of "community" between the tribes. There were regular intertribal gatherings, particularly around harvest times.

Ohlone peoples reportedly indulged in the world's oldest profession. They also tolerated transgender individuals, whom they dubbed "two spirits," and it is indeed fitting their homeland is on the Central California Coast rather than in Texas.

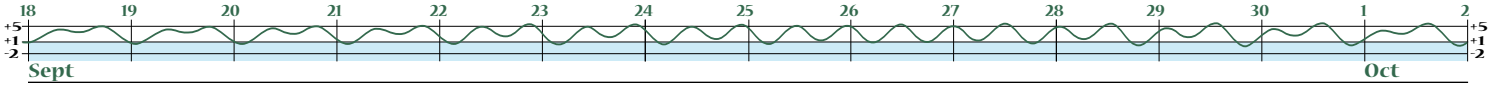
The dead were buried on the day they died. To discourage the ghost of the dead from lingering, the deceased's possessions were buried/cremated with the body, a widow would cut or singe her hair to make herself unrecognizable, and it was taboo to speak the deceased's name.

Missionization of the Ramaytush Ohlone

When the Spanish arrived the entire Ramaytush Ohlone population was estimated to be about 1,400. The Spanish began bringing natives into Mission Dolores in 1777. Once at the Mission natives were prohibited from leaving, discouraged from speaking their languages and practicing their cultures and ceremonies, converted to Christianity and baptized, taught Spanish, and subjected to forced labor. Peninsula tribes along the Pacific Coast began being brought to the Mission in 1779 starting with the Aramai. By 1791, 44 Chiguan—essentially the entire tribe—was at the Mission. Other natives from the East Bay, Marin, and farther north were also brought to the Mission starting in 1779, leading to the native Mission population becoming multi-ethnic, blended, and ultimately identified as Doloreños.

The harsh treatment of natives at the Mission and their lack of resistance to European diseases such as measles rapidly diminished their numbers. In 1794, 54 natives from tribes along the Pacific Coast of the Peninsula died at the Mission of unreported causes. At the end of 1806, a measles epidemic year, their population had fallen to 47. By the end of 1817 only 19 people born in those tribes, five Mission-born children of coastal tribe parents, and five Mission-born children of one coastal tribe parent had survived.

At the end of 1823 only one Chiguan was reported living at the Mission! No tribally born Chiguan or descendant of a tribally-born Chiguan is known to have survived past the 19th century.



Only three Ramaytush Ohlone family lineages are reported to have survived into the 20th century, and only one of those lineages, descended from an Aramai couple born before the Spanish arrived, has descendants alive today. One of those descendants, Jonathan Cordero, formed the Association of Ramaytush Ohlone. As indicated previously, there was extensive intermarriage between adjacent tribes, known family relationships between members of the Chiguan and Aramai tribes when the Spanish arrived, and a possibility that those tribes had been united at some time. While we have no way of tracing the ancestry of the Aramai couple from whom Jonathan Cordero descended, those facts make it possible that one or more of their ancestors was Chiguan or a member of the possible united tribe. So if anyone alive today could legitimately claim Fitzgerald Marine Reserve as being part of their ancestral homeland it might be Jonathan Cordero and the other living descendants of that Aramai couple.

Closing Thoughts

I hope this article has provided readers with a basic understanding of the native peoples who resided on the Pacific Coast of the San Francisco Peninsula in the past. I apologize to those people and their descendants for any inaccuracies or mischaracterizations that may exist in the information I have provided. Finally, as a Volunteer Naturalist at Fitzgerald Marine Reserve I want to say to the Chiguan, the first stewards of the reserve, that I am deeply honored to try to walk in your footsteps. ◆

Only three Ramaytush Ohlone family lineages are reported to have survived into the 20th century...

Help document California's incredible coastal biodiversity!

Snapshot Cal Coast 2022 is June 13th–July 4th!

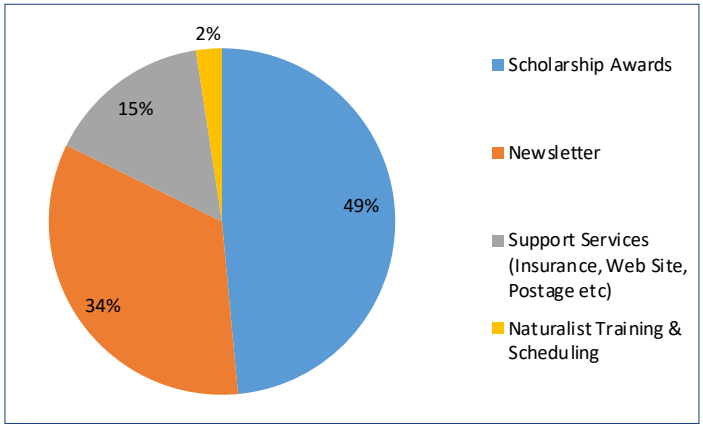
Snapshot Cal Coast is an annual California statewide community science effort that encourages people to make and share observations of plants, animals, and seaweeds along the California coast using the iNaturalist app. Led by the California Academy of Sciences with support from the California Ocean Protection Council, the California Department of Fish and Wildlife, and the MPA (Marine Protected Area) Collaborative Network, and an array of other partners, we are creating a valuable snapshot in time of where species are located along our coast. This data is needed to determine species ranges now against which we can measure and monitor changes in the future. It will also assist scientists at local, regional, and state levels, to answer targeted research questions in support of California Marine Protected Areas.

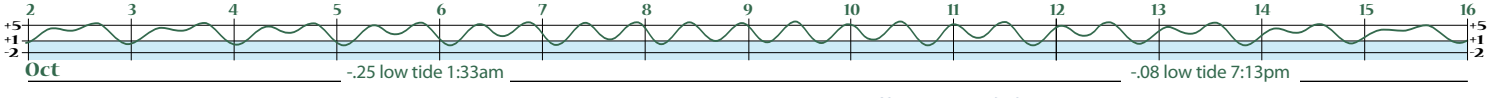
For more information go to www.calacademy.org/calcoast ◆

iNaturalist

FFMR 2021 EXPENSES

This chart shows the 2021 expenditures amounting to $30,913. All of the Friends of Fitzgerald Marine Reserve dollars come from donations from our generous supporters. Last year our expenses exceeded incoming donations by almost $8,000. So you see how important it is that we sustain and expand our donation base if we are to continue our outstanding outreach programs. By making a donation you become a Friend and are helping to raise awareness of the exciting marine environment found at the reserve. ◆





It sure looks like this beautiful pregnant female was living her best life today.

This is our favorite pose, hands down. When seals position themselves like this, they are totally vulnerable—which means they feel safe—not headed toward the nearest ocean exit, not scanning for predators...just lounging in the sun getting all their valuable nap time under sunny blue skies...
https://www.facebook.com/FMRSealsitters/

April 6, 2022
Sealsitters Timeline Photo

Harbor Seals

The harbor seal count as of April 22, 2022 was 12 pups and 97 adults and immatures.

For their protection you are advised to maintain a distance of 300 feet. All marine mammals are federally protected by the Marine Mammal Act. If you see a stranded marine mammal on the beach immediately notify the Marine Mammal Center, (415) 289-7325. It is normal for a mother seal to leave her young pup alone on the beach for up to 24 hours while she feeds. You may not see the mother offshore, but if she sees you near her pup, she may not think it's safe to come back and could abandon her pup. ◆

Friends of Fitzgerald Marine Reserve

Donation Chair, P.O. Box 669, Moss Beach, CA 94038, or through our website: 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 _____