

# 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  
June 2020

## FFMR Volunteers Continue to Help Protect Harbor Seals Despite Covid-19 Setbacks: Volunteer Bluff-Top Monitoring

by Linda Ciotti

We all have seen a change in our lives since the first shelter-in-place orders were issued in March. At the March 11 FFMR Board of Directors meeting, San Mateo County Parks Director, Nicholas Calderon, informed us that FMR would be closed and all gatherings and hikes within the park system would be canceled, which of course meant that all FFMR tours were also canceled. This had an impact on all of the schools and students who were looking forward to a field trip to FMR for a guided educational tour of the park and tidepools. This also impacted our dedicated volunteers who look forward to leading tours, especially in the spring when the low tides provide the best tidepooling and the weather is also improving.

On March 17, FMR was closed to all visitors, including the beaches and tidepools. All parking lots were closed, as well as the Visitor Center and restrooms. However, the trails did remain open as long as visitors were exercising social distancing and not assembling in groups.

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*There were enough violations during the initial period, including accessing beach areas and disturbing the resting harbor seals and pups, that it was apparent FFMR might be able to help out after all.*

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groups from gathering and getting visitors to practice social distancing while walking the trails within FMR. There were enough violations during the initial period, including accessing beach areas and disturbing the resting harbor seals and pups, that it was apparent FFMR might be able to help out after all.

Unfortunately, the shelter-in-place order arrived just as the harbor seal pupping season was getting started. Under normal conditions, FFMR would be more active in protecting the harbor seals from disturbance by visitors, which could result in a mom abandoning her new pup.

Around April 20, FFMR contacted the Parks Department, to see if volunteers could help monitor from the bluff-tops to advise people that the beaches were closed and there is no beach access. The department thought this would be very helpful but did not want too many volunteers at one time to keep the total number of people in the reserve down. So, initially, only volunteers living between Montara and Half Moon Bay, who could walk or bike into the park, were asked to



*Baby seal basking while mama snoozes*

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*Unfortunately, the shelter-in-place order arrived just as the harbor seal pupping season was getting started.*

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It didn't take long before the Parks Department closed all trails due to the difficulty in stopping

*continued on page 3*

## Friends of Fitzgerald Marine Reserve

P.O. Box 669  
Moss Beach, CA 94038  
Phone: 650.728.3584  
[www.fitzgeraldreserve.org](http://www.fitzgeraldreserve.org)

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### Our Mission:

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

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## Volunteer Spotlight: Marian Miller

I was born and raised in Belmont and now live in San Mateo. I found no reason to leave this beautiful part of California! I always enjoyed going to the coast with my family, but unfortunately, we were unaware of Fitzgerald Marine Reserve. We went to Dunes Beach, San Gregorio and the beach we called Shipwreck, which is now below the Ritz Hotel and golf course. Many things have changed on the coast, but I think it has always retained its charm and attraction. It is a place that I never tire of visiting. In high school biology, we went on a field trip to the tidepools near the Pigeon Point Lighthouse. I can still remember the excitement of seeing a sunflower seastar for the first time!

I met my husband, Phil, at UC Berkeley. We lived in a student co-op near campus; I was in Room 5 and he was in Room 6. He likes to joke that I was “the girl next door.” I was an English major and later had a career teaching English as a Second Language to adult students at the Sequoia Adult School in Redwood City. The students were so appreciative and hard working.

We have two children, Emily and David. When our children were young, we did a lot of camping and enjoyed visiting several national parks. I was fascinated by the animal life in the parks and became more interested in the wildlife in our area, especially in birds and ocean life. When Emily was in elementary school, I attended a field trip with her third-grade class at FMR and loved the tour that the docent gave. I thought that I would like to do that in the future when I retired, and here I am.

Some of my most memorable adventures have been on or near the ocean. The highlight on a family trip to Costa Rica was on the Atlantic coast in Tortuguero National Park when we were led onto the beach at night to watch a green sea turtle lumber out of the roiling gray ocean to lay eggs the size of ping-pong balls on a beach that she may not have been to for twenty-five years. Amazing! Another fantastic ocean adven-

ture was a whale-watching trip to the Farallon Islands where my long-time friend and I were lucky enough to see two blue whales hanging out right

next to our boat on a wonderfully calm day. A couple of years ago, on a trip to Hawaii, I went on a night snorkeling trip to see Manta Rays. Huge rays with wingspans of 8–10 feet came circling up with mouths agape to capture the plankton that was illuminated by the light in the surfboard onto which we were holding.

My daughter, Emily, was interested in animals from as early as I can remember. She now lives with her husband in Pacific Grove. She worked as a research scientist with the Monterey Bay Aquarium for two years, and just started a job at MBARI, which uses remotely operated vehicles to study the deep ocean.

My son, David, works in the area of battery storage in the energy field. He lives in Berkeley with his wife and 15-month-old daughter, Clara. During this shelter-at-home time, we babysit Clara during the week while David and his wife, Tay, work here at our home. We joke that when David was growing up, we doubt that he ever thought that he and his wife would be working from his childhood bedroom.

This shelter-in-place has been difficult for all of us. I imagine that the animals are quite content to be left alone, but I really miss being at the coast. I miss leading excited children on tours that are like treasure hunts. I miss walking the beach and bluff counting seals and seeing all the adorable pups, and I miss all the wonderful people who care so much about this amazing place! ♦

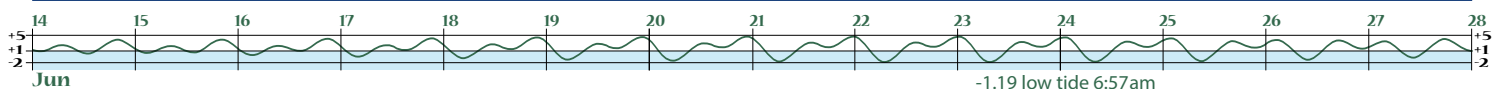


The graph displayed across the page bottoms shows tides for 6/14/20 to 11/1/20 at Princeton Harbor. Where the date appears is midnight. The reefs are accessible for exploring during low tides—at least +1 or below. This area is shaded light blue. See: <http://www.fitzgeraldreserve.org/newffmr/site/lowtides/> and click on “Tides” for a more detailed tide chart.

*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 are:

-1.19	6/23	6:57 am	-0.87	8/2	4:39 am
-1.39	7/5	5:36 am	-0.79	8/19	5:31 am
5th lowest tide of 2020			-0.39	9/16	4:19 am
-1.10	7/21	5:57 am	-0.92	10/19	7:31 pm





**Blufftop** *continued from page 1*

volunteer and station themselves at six locations extending from the main access point adjacent to the parking lot in Moss Beach, all the way to Pillar Point: one volunteer at each location at a time. An email was sent to those coastside volunteers and there was an immediate response from ten volunteers.

At the time of writing this, the program has been active for only a little over two weeks and our volunteers have been successful in educating those visitors who arrive thinking the park or beaches are open, despite the many signs posted throughout the system, and although several main access points have been barricaded by the Parks Department.

On May 8, the Parks Department let us know that because the effort by FFMR volunteers was successful and had been very helpful to the parks staff, all of the FFMR volunteers could be included in this effort. Many active FFMR volunteers do not live within the six-mile stretch between Montara and Half Moon Bay, so opening up this volunteer opportunity to them will help provide more coverage than what we have been able to do thus far. The harbor seals need protecting seven days a week so having more volunteers on site for longer periods each day will be beneficial to our resident harbor seal population.

Here are the FFMR Volunteer Naturalists who are continuing to help protect and preserve the unique environment at FMR:

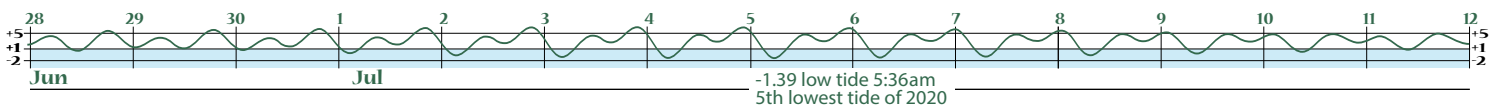
- |                   |                   |                 |
|-------------------|-------------------|-----------------|
| Kris Lannin Liang | Mary Larenas      | Carol Davies    |
| Audrey West       | Clare Chanin      | Karen Kalumuck  |
| Paul Gater        | Jody Stewart      | Keith Mangold   |
| Linda Ciotti      | Vidyut Lingamneni | Patricia Miller |

We also want to get the message out that the beaches will remain off limits until the park reopens. Because FMR is a Marine Protected Area (MPA), is part of the Montara State Marine Reserve, and is home to a rookery of harbor seals year around, protecting the natural resources within the boundaries is a high priority for FFMR and the San Mateo County Parks Department.

Kris Liang, who heads up FFMR's Sealsitters group, reported during a Harbor Seal Survey on May 3 there were 192 adults and immature harbor seals and a record 73 pups observed during that season isn't quite over be more pups to add having little to no hu- the beaches during definitely been a good seals at FMR. To learn seal population and see tographs of this year's visit the Sealsitters Facebook page: <https://www.facebook.com/FMRSealsitters/>

*As of the May 3 Harbor Seal Survey there were 192 adults and immature harbor seals and a record 73 pups.*

Please be a good steward and abide by all signage and understand that protecting all of the natural resources, including the harbor seals, is a high priority. What you do not disturb today will be here for future generations to enjoy. ♦



# Thumbs UP to the FFMR Training Classes

by Ed Milner, a “newly minted” 2019 naturalist class graduate

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*Giants games, Sharks games, and Warriors games, but Fitzgerald tours are the most popular events of all! The naturalists all did such a great job of conveying their knowledge AND triggering a sense of awe and excitement in the participants.*

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*But I can tell you that the FFMR naturalist classes really challenged me to remember different species, and to relate some of the more interesting anatomical features to certain genus or species.*

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Growing up, we went to the beach at Pawley’s Island in South Carolina. For four generations and for over thirty years we went every June. Low tide meant time to play softball on the beach. The tide coming back in meant a stick, twine, and chicken necks to go crabbing on the creek or off of a dock. The end of the island meant walking through thousands of fiddler crabs, seining the creek, and catching fish. Low tide also meant tidepooling around the jetties: we found mussels, barnacles, anemones and fish.

I’ve lived in the Bay Area for 21 years, but didn’t discover Fitzgerald Marine Reserve until about three years ago. Casting about for a location for a corporate team-building exercise, I came across the website for FFMR. Though we ended up doing a scavenger hunt around the Pillar Point Harbor, a small group of us went one morning to FMR to look around at low tide.

As the organizer, I was deemed to be the “expert.” “Yes, that is an anemone, yes, that looks like a hermit crab.” But I was hooked, partly because I wanted to know more. I signed up for a tour on the county website and brought an alumni group from my college. The feedback from multiple alums was that this was the best event we’ve ever done. Giants games, Sharks games, and Warriors games, but Fitzgerald tours are the most popular events of all! The naturalists all did such a great job of conveying their knowledge AND triggering a sense of awe and excitement in the participants.

Every time I step onto the reef, I feel this great feeling of peace. Though the tide pools are full of combat, prey and predator, I never feel more at one with Nature than when I’m on the reef. How do I get more opportunities to be on the reef? I’d discovered what I wanted to do when I grow up (I’m sixty something). So I signed up for the classes that started in February. Now I’m a newly minted naturalist!

Though I have a bachelor’s degree in Biology, I was not good at botany and zoology. Abstract concepts like the effect of salt on water flow across a porous membrane or the role of hydrogen bonding in DNA replication were interesting to me. Remembering anatomy or species names, not so much.

But I can tell you that the FFMR naturalist classes really challenged me to remember different species, and to relate some of the more interesting anatomical features to certain genus or species; and much cheaper than a private college education! We were treated to a symphony of “wicked” smart presenters, all who showed their enthusiasm for their topic. It was pure joy to go hunting for symbionts, worms, and fault “goo.” Who knew how cool all of it would be!

May 11th of 2019 was the 50th anniversary celebration, which provided me with the opportunity to “float” about the reef. It was a pure joy to share with others the knowledge that I’d gained, and for that matter the enthusiasm instilled by each of my naturalist professors.

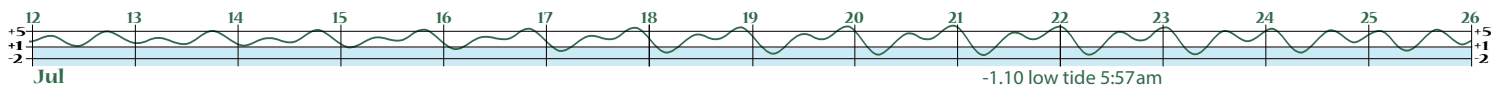
There’s a wonderful passage in Thoreau’s *Walden*, in which the philosopher/naturalist describes fishing at night, and how getting a bite helped him connect the deep water below him with transcendent cosmogonic themes (the science of the origin and evolution of the universe). “It seemed as if I might next cast my line upward into the air, as well as downward into this element which was scarcely more dense. Thus I caught two fishes as it were with one hook.”

I know what he means. At one instance, it feels wonderful to help preserve the reef, but equally wonderful to see the light bulb going on for a child or adult with whom you’ve shared something exciting, like an urchin or ochre star or octopus; two fish with one hook. My family took to the beach for thirty years; the Fitzgerald family has taken to the reef for fifty! Happy Birthday, Fitzgerald Marine Reserve! ♦

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# 2020 FFMR Training Class

by Susan Evans

The 2020 FFMR Training Class had a tremendous start! On the first day (February 1), 13 eager-eyed students received not only a binder and history book, but also a laminated Northern California Tidepools chart. The chart was a first and was a very welcome addition. We had a total of six classes: four lectures by Joseph Centoni, one lecture by Bill Kennedy and one lecture by Jean Replicon.

We also had two excursions to Mavericks and, for another first, the combined attendance for both excursions included ALL students!

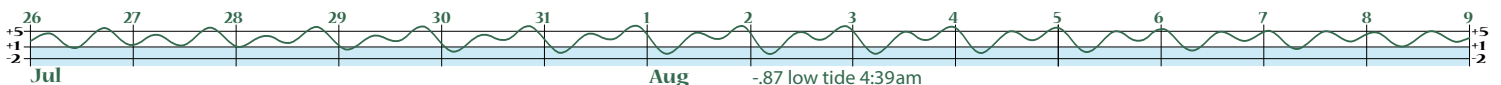
For the second year in a row, Joseph invited us to his classroom at Half Moon Bay High School to study Echinoderms and Cnidarians. Laboratory work found the students examining various anemones and seastars under the microscopes. Students (and other attendees) especially enjoyed Joseph's NEW touch tidepool tank!

We were again treated to the wonders of Pillar Point Harbor when Bill Kennedy helped us find and identify skeleton shrimp, a large red snapping shrimp, fluted bryozoa, a feather duster worm and a lined shore crab. Our FMR mollusk exploration led by Jean Replicon found a treasure trove of nudibranchs: two *Hermisenda crassicornis*, a ringed dorid (*Diaulula sandiegensis*), a Hilton (*Phidiana hiltoni*), a sea lemon (*Doriopsilla gemela*) and a red *Rostanga pulchra*. There was also another first: perfect attendance through the first six classes!!

Unfortunately, after only six classes (with three remaining), we were forced to cut short our fun due to the coronavirus outbreak. As of this writing, a final class is still pending. However, after grading all exams, I can congratulate the following graduates: Sara Anderson, Cathleen Coulman, Lisa DiLorenzo, Chris Doan, Greg James (refreshing), Bill Kennedy (presenter and refreshing), Al Kordesch, Eileen Ovrachim, Kim Pratt, Dane Rook, Jaime Samson and Mark Welch!

Thank you to Ron Olson for class set-up and the mentoring program. Thank you also to Patti Miller for binder copying, Paul Gater for the low tide sheet and Carol Ferguson for jacket ordering.

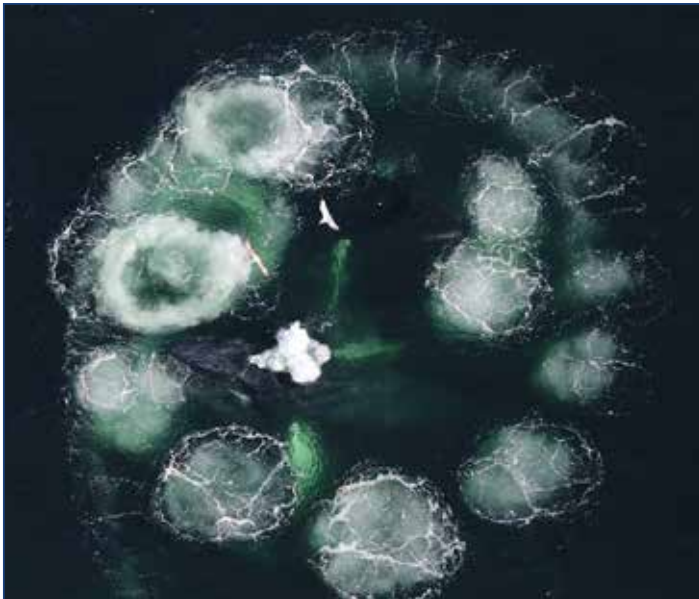
*Editor's Note:* Congratulations to Susan for leading yet another successful training session during this unusual time. ◆



# The Brain Beneath the Waves

by MaryJane Schramm, NOAA Greater Farallones National Marine Sanctuary

A pale, attenuated summer sunlight washed across the calm waters of Alaska's Inside Passage, while wind-ripples tickled the surface. We—researchers and interns with the Alaska Whale Foundation—had anchored in a remote cove off Chichagof Island near a slender finger of land that probed the swift currents of Chatham Strait like a swizzle stick. This created localized nutrient upwelling, attracting abundant krill and herring—also, hungry humpback whales (*Megaptera novaeangliae*) whose dining etiquette we were there to study.



*Aerial view of bubble net, showing gradual rise toward the surface; note humpbacks' long white pectoral fins.*  
Credit: NEFSC/NOAA



*Humpback feast: In a coordinated fish capture and final lunge to the surface, humpbacks maximize feeding success and minimize energy spent per whale by forcing prey into dense bait balls.*  
Credit: NMML/NOAA

## All In the Family

Slowly, our small craft approached a group of humpbacks. Researchers, working under federal permits, had studied these whales, famous for their coordinated bubble-net feeding, for decades. The core group included “Captain Hook,” “Blubberlips,” and several others. “Rake,” a new mom, had parked her nearly-weaned calf safely on the sidelines: the action would soon become intense. Cameras were poised, a hydrophone was lowered. We watched, listened and waited.

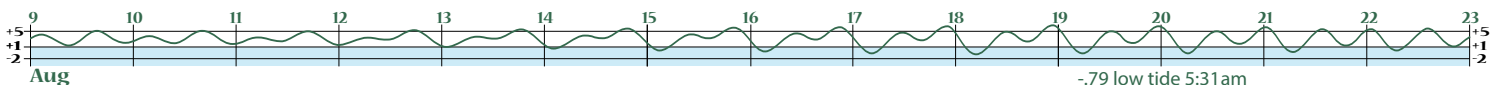
## Knowing the Signals

Everyone knew the drill: the whales surrounded a school of herring. Each took up a position at the surface. Their plan was to enfold the fish in a 3-D curtain of bubbles exhaled sub-surface, to startle and compact them into forming dense, nutritious “bait-balls.” One whale dove deep: the net-blower, who set things in motion. Having set the net he laid down a series of pulsed calls. Soon the others dove, further corralling and compacting the fish, adding their voices to the chorus. Finally, a trumpeting blare signaled a rush to the surface, their huge mouths agape, pleated throats distended with fish and sea water. They erupted through the surface in a churning confusion of heads, jaws, leaping fish, explosive puffs of whale breath, and deep gulps. Success!

## Breaking Bread Together

To achieve this level of efficient cooperative feeding, both visual and acoustic tools were employed. Even as they hunted, these whales evaluated and assessed their efforts, communicating and adjusting strategies. Not every group dive ended in a surface-rush. Perhaps the net contained too few fish, and a lunge to the surface would yield insufficient food to justify the energy expended. Abort mission, and try again.

These maneuvers prompted the questions, “Who was quarterbacking? Do they switch roles? Is there a humpback vocabulary, an ethogram or catalogue of behaviors?” Later, when data was analyzed, the acoustic recordings would be correlated with observed and videotaped behaviors, to provide insights into whale communication and interactions. Over time, this knowledge could help us better understand these social whales’ conservation needs.





## Spindle-Brain

Humans, and few other higher order animals—great apes, elephants, certain dolphins and whales—most notably humpbacks—possess spindle neurons in their brain’s cortex. Neuroanatomists theorize that spindle cells are what make us “human”: capable of sophisticated functions like complex speech, self-recognition, and empathy for non-related others. They confer the ability to anticipate problems, strategize, and form hunches. In some cetaceans they are three times more abundant than in humans. This fact, and these humpbacks’ behavior, seem to confirm their capacity for higher-level brain function.

## Aiding Our Neighbors

Although many humpback populations were removed from the Endangered Species List, those that feed off our coast, the Central American and Mexican breeding groups, remain “Endangered” and “Threatened,” respectively. Migrating here brings them into contact with coastal shipping, fishing operations, recreational boaters, and elevated noise levels. Ship strike and entanglement take significant tolls, but agencies such as the National Oceanic and Atmospheric Administration and its marine sanctuaries, the State of California, shipping industry, fisheries, and scientific groups are working together to reduce these threats. Learn more about Greater Farallones and Cordell Bank national marine sanctuaries’ efforts to save our local whales at: <https://farallones.noaa.gov/eco/vesselstrikes/> ◆



*Humpback's baleen "strainers" trap fish behind, while water is expelled, leading to The Big Gulp.*

*Credit: NMFS/NOAA*



*Humpback cows gradually wean their calves, who become independent at around one year. This Hawaiian cow-calf pair may visit Chatham Strait!*

*Credit: HIHWNMS/NOAA*

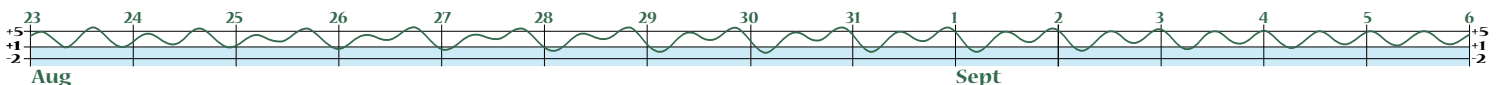


*Disentanglement expert Ed Lyman prepares to attempt rescue of a satellite-tagged humpback whale entangled in gillnet, Chatham Strait.*

*Credit: NOAA/NMFS/AKFSC*

June 8 is World Oceans Day, when global leaders are called upon to protect 30% of the Earth's land and ocean by the year 2030 with a network of conservation areas, to benefit all living things on this blue planet. Learn more at <https://worldoceansday.org/> Enjoy an insightful and inspiring article on whale recovery: <https://time.com/5837350/humpback-whales-recovery-hope-planet/>

This November at the San Francisco Zoo, Greater Farallones National Marine Sanctuary will sponsor a soiree and talk by Dr. Laurance Doye, of the Search for Extraterrestrial Intelligence (SETI) Project. He will discuss humpback whale song, information theory and patterns in humpbacks’ communication systems as a proxy for an ETI signal, should one be received. Details will be posted at [www.farallones.noaa.gov](http://www.farallones.noaa.gov)



# Children and the Healing Power of Nature

by Michele Beasley, Executive Director, San Mateo County Parks.

*“The students had hours where they could just be kids, getting dirty, climbing on trees and learning to skip rocks.”*

— Lindsay B. at St. James Community Foundation



*A docent from Friends of Fitzgerald Marine Reserve talks about sea life with kids from the Boys and Girls Club of North San Mateo County.*

and psychologists are learning just how terrible this can be for young brains.

Some children face even bigger obstacles when it comes to getting enough time in nature. There may be no parks near their home or school and no way of getting to the parks further away. Landwise, San Mateo County is one of the smallest counties in California. However, if you live in North Fair Oaks and lack adequate transportation, Fitzgerald Marine Reserve may as well be in Florida.

## Richard Louv and Nature Deficit-Disorder

In 2005, Richard Louv introduced the world to the concept, ‘nature-deficit disorder,’ through his book, *Last Child in the Woods*. It describes the human costs of being estranged from nature. These costs include diminished use of the senses, difficulty staying focused, child and adult obesity, Vitamin D deficiency and much more. In addition to these mental and physical costs, Louv has been sounding the alarm about the consequences to our environment if kids are not being raised to have a close relationship with nature. If so much of a child’s day is taken up with screen-time, when do they get to play outside and get their hands muddy? If a child lives far from a park, how can they experience nature and reap its rewards? If children grow up without a real connection to nature, what will they pass on to their children? As Louv once asked, *“If nature experiences escape younger generations, who will be the future stewards of the earth?”*

Raising children to have a love for nature is important for their health, for our communities and ultimately for the planet. The beauty of getting kids out in nature is that you are reaching them as they are forming their ideas about the world and what is of value to them. Making them feel welcome and engaging their curiosity can turn them into lifelong supporters. They in turn may bring along their parents.

## Removing Barriers

A lack of transportation to the parks is a significant barrier and one that tends to affect lower-income households at a disproportionate rate. And it is clear that if tomorrow’s leaders are to continue a legacy of protecting and stewarding parks and open space, then we must introduce them to the parks today.

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*...think back to how and where you used to play as a child.*

*During the summer, perhaps you left the house after breakfast and did not return until it was time for dinner.*

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*It’s not quite the same for children today.*

*The average American child spends between 5-8 hours per day looking at a digital screen, and the average age a child receives their first phone is ten.*

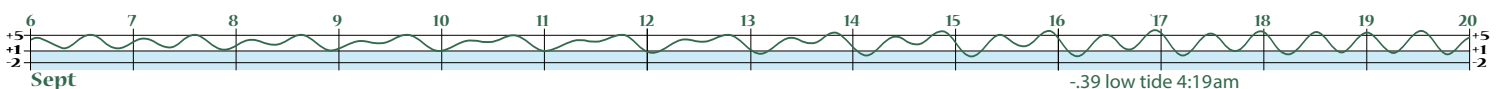
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Last year, the San Mateo County Parks Foundation connected more than 600 children and 75 chaperones to the parks through our field trip program. For many of these kids, it was their first time standing in a redwood grove or seeing a banana slug.

During any one of these trips, the children will look around in awe. Some giggle when they learn about ‘scat’. Others marvel that a bay leaf acts like bug repellent. And someone points to a red-tailed hawk. *Just one visit may be the spark that captures their imagination.*

Now, think back to how and where you used to play as a child. Do you have memories of playing hide and seek, climbing trees and exploring creeks? What is your earliest memory of an animal and why is it memorable? During the summer, perhaps you left the house after breakfast and did not return until it was time for dinner.

It’s not quite the same for children today. The average American child spends between 5-8 hours per day looking at a digital screen, and the average age a child receives their first phone is ten. Kids today barely stand a chance as they are bombarded with social media, apps and video games like never before. Going online is addictive and it is affecting emotional development, leading to anxiety as opposed to stimulating self-confidence. Time in nature is being replaced with digital screen-time





The San Mateo County Parks Foundation covers the cost of bus transportation to the parks for schools and youth groups that cannot otherwise afford it. In doing so, we connect them to programs in the parks run by Friends' Groups or park rangers.

One such field trip was for a mothers' group out of North Fair Oaks. They and their toddlers, in partnership with Peninsula Conflict Resolution Center and Community Alliance to Revitalize Our Neighborhood (CARON), visited Edgewood Park. Volunteers from Friends of Edgewood orchestrated a Spanish-language welcome, puppet show and nature walk. One mom shared beaming, "We had the experience of knowing the mice houses. There are so many and those houses have different rooms—it was a beautiful experience."

*Just one visit can be the spark.*

### The Reports Are In

Last June, the University of East Anglia in Norwich, England published their findings on whether time in nature leads to better health. They did this after surveying over 140 studies that involved nearly 300 million people from 20 countries.

They found that time in nature is associated with significant health benefits such as reducing one's risk for type II diabetes and cardiovascular disease as well as reducing one's blood pressure, heart rate and stress levels. The benefits to kids are enormous, from improved concentration to better motor coordination to stronger bones.

In Japan, 'forest-bathing', or shinrin-yoku, has been in practice since the 1980s where it is a cornerstone of preventive health care and healing in Japanese medicine. People derive many health benefits from simply being under the forest canopy.

The Nordic countries are well-known for having children spend up to half the school day outdoors (hail or shine) understanding the real-world application of their classroom studies. And now doctors in Scotland are actually prescribing nature to their patients.

Consider this fact: In 2016, the United States spent \$10,348 per person on healthcare while the median per-person spending on urban parks was \$831. Parks have been left out of the health equation even though so much data points to their benefits. Physical inactivity contributes to many chronic diseases, so it literally kills people. A walk in the park on a weekly basis may be just what the doctor ordered.

And they are starting to do it right here. Pediatricians with the San Mateo County Health

System are giving out park prescriptions that recommend spending one hour in nature, twice a week. "We want to promote the use and enjoyment of parks and public lands to benefit our patient's physical and mental health," says Dr. Rachel Borovina with the Healthy Lifestyle Clinic. "The smiles, laughter, and visible decrease in stress for both the patients and parents should be enough to confirm that time spent in nature is important to our health."

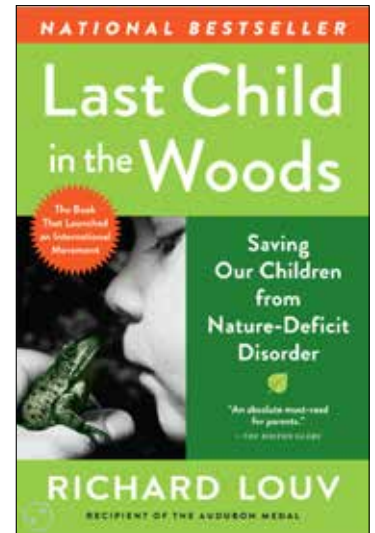
We got to witness this in action when Dr. Borovina brought several families who are patients at the Health System for a "Walk with a Doc" at Wunderlich Park. Docents from Friends of Huddart and Wunderlich Parks were on hand to take small groups on a 30-minute walk in nature. To witness the kids' and their parents' faces light up at the height of trees or sight of a horse is magic.

These parks are our shared legacy and the more people who fall in love with them, the better off we all are. This is why the San Mateo County Parks Foundation is committed to promoting an inclusive environment in our wonderful park system so all may benefit from the healing powers of nature.

Although the parks programs are suspended at this time due to COVID-19, we look forward to reopening when possible.

For more information on our field trip programs and to get ideas about how to spend time with children outdoors, please visit <https://SupportParks.org>

*Screen shot from Support Parks website.*

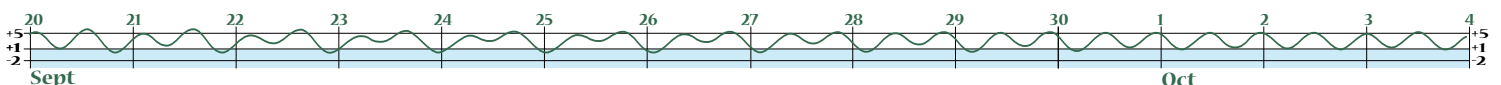


*Louv's research reveals the human costs of being estranged from nature.*

### Youth Environmental Education Field Trips

The Youth Environmental Education Field Trip Program provides outdoor education opportunities for low-income youth in San Mateo County. This program serves schools, as well as after-school and summer programs.

Because a lack of transportation can be a barrier in getting to the parks, the San Mateo County Parks Foundation funds school or youth organization's transportation needs and connects them to docents to lead hikes and explain the wonders of the park.



# The Infamous Gull

by Janet Pelinka

In spite of the universal use of the general term “seagull,” no specie is actually called a seagull. Gulls are not associated with just marine or coastal environments, but are found far from the sea in many different habitats. There are more than 50 gull species, some living well into their twenties, and at least one gull species is found on every continent, including Antarctica.

Gulls are often considered nuisances and get a bad reputation for stealing food—grabbing a bag of chips or a sandwich from the picnic table.

They foul our beaches, windshields, and if you are unlucky, your shoulder. Most gulls are opportunist eaters and their diet may include anything they can catch, scavenge or steal from seals and other gulls. They gather in noisy flocks and squabble loudly over morsels of food wherever those are dropped—in parking lots, at garbage dumps, on beaches. The western gull (*Laridae occidentalis*) has even been known to steal milk from lactating female seals while the seals lie on their backs sleeping on the beach.

But gulls are intelligent, adaptable and often beautiful birds. In the July 6, 2016 issue of *Living Bird*, David Bonter and Shailee Shah tell us that scientists see a different side of gulls. “On their coastal breeding grounds, where they nest in colonies of thousands, gulls engage in a series of elegant, complex social behaviors. Their unruly flocks actually consist of choreographed postures and finely graded vocalizations that impose order, communicating everything from the presence of food or predators to anger, submission, hunger, cooperation, and pair-bonding.”

Gulls are monogamous creatures; they mate for life and are devoted parents. The couple meets each year to reproduce and to take care of their offspring. Two to four eggs are incubated by both sexes for up to 30 days in May and June. A disagreement can occur over whose turn it is to sit on the eggs and can result in one parent pushing the other off the nest to gain its turn at incubation. The chicks hatch fully covered in down and are fed by both parents who take turns throughout the day at about 3–4 hour intervals. The parents look after

them until they fledge after five or six weeks and for a period afterwards.

There are a couple of features these birds have that are interesting to note. For a gull floating on the sea there is water, water everywhere and many a drop to drink. Unlike humans, gulls are able to drink salty ocean water without experiencing dehydration. The salt is expelled through glands and ducts connected to their bills. Their feet can withstand extremely cold water and ice temperatures for long periods of time. As explained in the article “How Do Gulls Deal With Cold Feet?” (*All About Birds*, January 9, 2017), “Keeping an entire foot warm requires a tremendous energy cost. Instead these birds allow the foot to approach freezing temperatures.” The article goes on to describe a countercurrent heat exchange in the body of the bird that allows enough heat to reach the foot to prevent it from freezing.

If you decide to become a “guller,” the chart shown here is full of information to guide you. For novice birders, gulls are extremely difficult to identify. They can take up to four years to achieve adulthood and exhibit changing plumages as they mature. The adult bird displays a non-breeding plumage for much of the year. It may be more camouflaged with duller colors and less distinct markings than during the breeding season.

As gulls do not display a variety of colors, the differences between the non-breeding and breeding plumages are fairly subtle. In some of the gull types these plumages can change throughout the seasons. Meanwhile, gulls are notorious for their diversity

of molts and can prove tough to ID in summer and fall. To make this even more challenging, gulls cross-breed with other species of gulls, forming hybrids that reflect the looks and characteristics of each of the parent birds. Jessie Barry (*BirdScope*, 2010) offers that a good start is to sort the birds by size and body shape. That can narrow the field extensively. Then concentrate on color patterns of the back, head, wings and legs. Eventually you will be able to identify the bird who eagerly awaits that brief moment when you turn away from your lunch. Good luck!

*continued on page 12*



Western gull  
(*Laridae occidentalis*)  
Photo: Wikipedia

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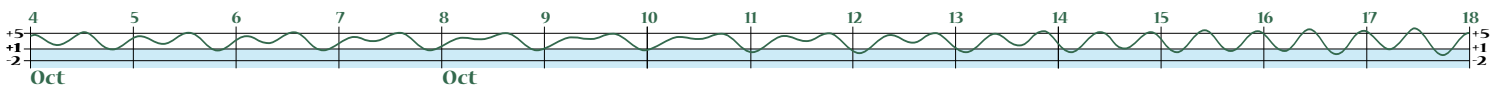
*“Their unruly flocks actually consist of choreographed postures and finely graded vocalizations that impose order, communicating everything from the presence of food or predators to anger, submission, hunger, cooperation, and pair-bonding.”*

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*For novice birders, gulls are extremely difficult to identify. They can take up to four years to achieve adulthood and exhibit changing plumages as they mature.*

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# TEST YOUR GULL ABILITY

By John Muir Laws

## WESTERN GULL

Year-round resident  
nests in the Bay Area



## GLAUCOUS-WINGED GULL

Found year-round but  
uncommon in summer



## HERRING GULL

September to May



## THAYER'S GULL

October to March



## CALIFORNIA GULL

Found year-round, some  
nesting in the Bay Area



## RING-BILLED GULL

Mostly fall-winter



## MEW GULL

September to May



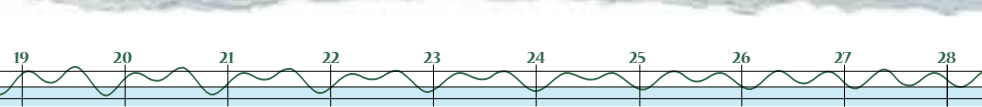
## BONAPARTE'S GULL

Found year-round

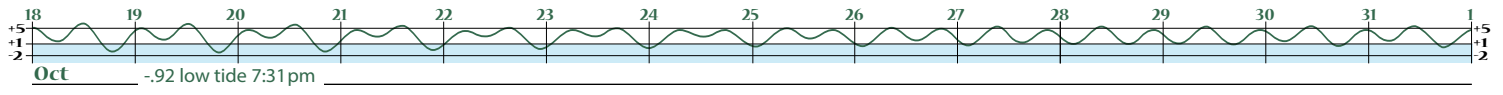


## HEERMANN'S GULL

Mostly summer-fall



The large species of gulls take four years to reach maturity, starting with brown plumage and slowly molting into adult grey and white feathers. Heermann's, ring-billed, and mew gulls take three years to reach maturity. Bonaparte's gulls mature in two years. Between molts, feathers fade and wear and may lose most of their color. Many gulls hybridize. A western x glaucous-winged is very common. Most adult gulls have brown-streaked heads in winter (shown) and white heads in summer.



## The Infamous Gull *continued from page 11*



In 1848, a swarm of ravenous katydids (sometimes referred to as Mormon crickets) began consuming the crops of Mormon settlers in Utah. Fortunately for the settlers, when California Gulls (*Larus californicus*) returned to their nearby breeding grounds, they found a bountiful feast of the insects. They devoured the pests, saving the crops from complete destruction.

A golden statue in Salt Lake City commemorates the event, and in recognition the California Gull was designated the state bird of Utah in 1955.

*Photo: Wikipedia*

Each year California Gulls (*Larus californicus*) flock to islands in Mono Lake, nesting grounds for one of the world's three largest colonies of such gulls. But in recent years the birds have been facing a formidable foe—bright-green Eurasian bush, *Bassia hyssopifolia*, commonly known as five-horn smotherweed. Its growth began in 2016 and quickly covered 70% of the gull nesting grounds. This annual can persist for years by casting off thousands of sticky seeds.

This past February, conservationists finally got what they hope will be a solution: a federally controlled burn aimed at destroying thousands of the nonnative spider-like plants. “We’re dealing with a botanical invader about which little is known that is exploding across a unique and isolated micro-environment with its own micro-climate,” says Jeff Karl, a forestry technician for the Inyo National Forest. “So, this treatment has to be the start of a long-time commitment based on lessons learned along the way. Otherwise, these weeds might come back stronger than ever.”

*Mono Lake Burn, Photo: Robbie Di Paolo*



*Photo: Mono Lake Committee*



## 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:

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