



The Pinniped Press

A newsletter by and for Noyo Center for Marine Science Volunteers

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Volunteer Openings

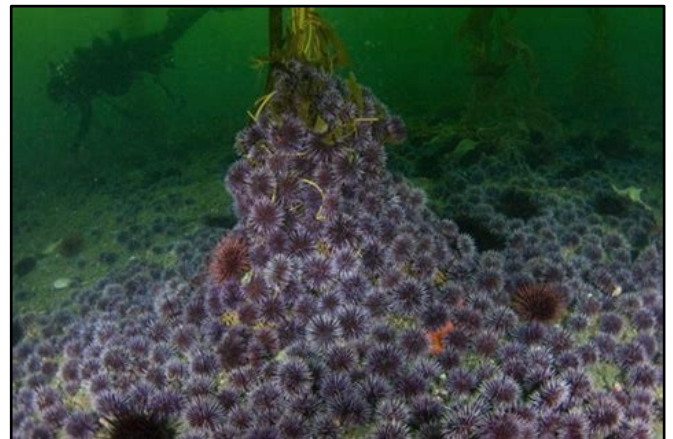
- Docents at the Crow's Nest Interpretive Center: Join us in representing the Noyo Center for Marine Science to our visitors along the coastal trail, meet interesting people and expand your knowledge of marine science.
- Our Fundraising Committee is looking for new members to help with event planning, increasing membership and other fundraising activities.
- Join our kid's education team if you are interested in working with children at various events and after school programs.
- Love the Slack Tide Café? Help us keep it running smoothly by becoming a volunteer team member.

If you are interested, please contact Volunteer Coordinator, Wendi Felson at wendi@noyocenter.org.

The Mendocino Subtidal Forest

By Jim Rolfe

When I moved to Mendocino in 1972, I learned from a local where to shore pick abalone during minus tides. Those days were gone by the early 1980's. As divers continued commercially harvesting the delicious mollusk, stocks were depleted, and by 1997, the California Dept. of Fish and Wildlife (CDFW) closed the commercial harvest but left an 8-month season for recreational free divers (without scuba gear). Then a disastrous event occurred in 2011, when a toxic algal bloom centered off the Sonoma Coast resulted in the die-off of many invertebrates, including sea stars, the main predators of sea urchins in this area.



This was followed in 2013 with sea star wasting disease, which hit the entire west coast and decimated the local sunflower sea star populations. Purple sea urchins quickly over ran the rocky shoreline tidal zones and essentially starved any remaining abalone stocks into catastrophic depletion. The resulting massive urchin beds were called 'barrens' because nothing else could compete with them for the available algae, which is the basis of the invertebrate food chain. In 2018, CDFW closed the abalone season altogether, hoping to halt the decline, and thereafter the abalone became the "canary in the coal mine" species in terms of judging the health of our subtidal ecosystem.

Another primary indicator of subtidal health is the kelp forest, which once flourished along the entire California coast. Beginning in the early 20th century, giant kelp (*Macrocystis pyrifera*) was processed into potash and acetone for industrial use and harvested primarily south of San Francisco. It is a perennial algae with a 7-year life span, whereas bull kelp (*Nereocystis luetkeana*), is classified as an annual algae with a 1-year lifespan. North of San Francisco, bull kelp is the predominant species and is also harvested and regulated by the CDFW.

For more go to Kelp Status Report: <https://marinespecies.wildlife.ca.gov/kelp/true/>

Compounding our understanding of kelp forest vitality is the cyclical nature of coastal upwelling water temperatures, caused by the oscillations known as "El Niño" and "La Niña" events. The interaction of the atmosphere with the ocean causes a fluctuation in ocean surface pressure, resulting in stronger or weaker trade winds along the equatorial zone. La Niña events push more warm water toward Asia, which allows the colder upwelling water to prevail along our coast, while El Niño events shut down the upwelling, which can result in coastal waters up to 10 degrees F warmer.



Current knowledge of north coast bull kelp abundance is partially based on the CDFW surveys conducted in 1989 and 1999. That 10-year study found that south of Fort Bragg bull kelp beds decreased sharply, whereas beds to the north increased sharply. But why?

Aerial photo surveys north and south of Noyo Harbor from 1985 and 1988 had shown an increase in size and density of bull kelp beds that reached what was considered their maximum potential. This increase happened to coincide with the removal of 32,500 tons of red sea urchins off the Sonoma and Mendocino coasts by commercial divers, who found a lucrative market in Japan for fresh 'Uni' (the urchin gonads before they produce roe). This would seem to account for the kelp abundance north of Fort Bragg, but there is no concurrent harvest data to support that conclusion.

CDFW kelp bed reference:

<https://wildlife.ca.gov/Conservation/Marine/Status#28027680-status-of-the-fisheries-report-through-2003>

This is where the Noyo Center enters the picture with its 'community science' and ongoing kelp restoration programs, helping to fill in the knowledge gaps for our stretch of coastline. We are ideally situated between the UC Davis Bodega Marine Lab and the Cal Poly Humboldt Marine Lab in Trinidad, with a core population of concerned citizens willing to volunteer and serve the cause of restoring our ocean ecosystems. For more information on the current state of our local kelp restoration efforts go to: <https://noyocenter.org/help-the-kelp/>

There will be follow up newsletter articles with more in-depth information on the upper story kelp forest as well as the surface species of algae common along our rocky coast, and some of the known factors contributing to their demise and need for restoration. Currently, CDFW and both Marine Labs are documenting the ever-changing salinity, pH, and temperature of the coastal zone waters to understand and mitigate kelp depletion. Meanwhile, many of us dream and look forward to having our own Ocean Science Center, currently in the conceptual planning stages by the Noyo Center. This facility on the Noyo Headlands will be home to a marine research facility where resident biologists will study, document, and experiment with mitigation measures for the plants and creatures who must adapt to our changing environment.

Volunteer Spotlight – Randi and Will Roberts

By Linda Francis

Randi and Will met in Berkeley over 40 years ago though they arrived from completely different directions. Randi's dad was a Chaplain in the Air Force, so she moved a lot growing up. She went to college at Miami University in Oxford, Ohio getting a BA in English and a BS in Education. Her military family was never stationed out West, so after she graduated it was time to head west, first working at the Grand Canyon, and in 1977 she continued West to see the Pacific Ocean, ultimately landing in Berkeley.

Will was originally from southern California where his dad worked in the aerospace industry. He headed north in 1971 to get a degree in Cultural Anthropology from CAL, although his vision for himself was to be a skilled blue-collar worker, a self-employed craftsman builder. This choice worked for him because it was satisfying and fun work, and work he could do as a late riser.

They put down their roots in Berkeley and Will did creative craftsman jobs all over the Bay Area. Randi worked for 20 years at CAL's Early Childhood Education Program, primarily at the Child Study Center. She was an administrator of the program educating the children of staff and students, working with parents, and assisting in various research projects.

In 2009, they bought a home outside Casper, in Mendocino County. Will retired in 2010 and Randi in 2015. They now spend about 75% of their time at the coast, though the Bay Area draws them back, particularly since their daughter Alison's family, which includes a 17-month-old granddaughter, lives in Alameda. Their son Evan lives in Portland and just added a 4-month-old grandson to the family mix.

They discovered Noyo Center for Marine Science after seeing the orca at the C.V. Starr Center in 2018. They later manned Noyo's information table at an Earth Day celebration and were hooked. They wanted to be involved with a cutting-edge group; an active dynamic organization and the Noyo Center fit the bill.

To quote Will, "I like being around the milieu of marine science. I wish I could absorb it through my skin." They both like being outside. Randi is a Beach Survey Program regular – she surveys Frolic Cove and Caspar Sea Rock twice a month. And Randi steps up often to help with outreach and other tasks for the Noyo Center. Randi has participated in other community

science activities such as working with Reef Check, and he volunteers with the monthly COAST dead bird surveys. Again, Will: "The more you know about marine biology the more fascinating it becomes." Will is a docent at the Crow's Nest and puts his carpentry skills to work both there and at the Slack Tide Café.



"Fish Grotto" Watercolor by Sandy Brown
Available at the Discovery Center Store and Slack Tide Cafe



In addition to volunteering for the Noyo Center they are active members of Elder's Climate Action. Every Friday from 12:00 – 1:00 you'll find them on the corner of Main Street Fort Bragg holding signs for climate action. You'll also catch them at the Casper Community Breakfast or find Will playing his guitar, singing, and dancing every chance he gets. And he's recently taken up painting – a real Renaissance man. Parting words: Everyone should become a supporting member of the Noyo Center -- \$100 a month!

Cetaceans in Popular Media

By Teresa Skarr

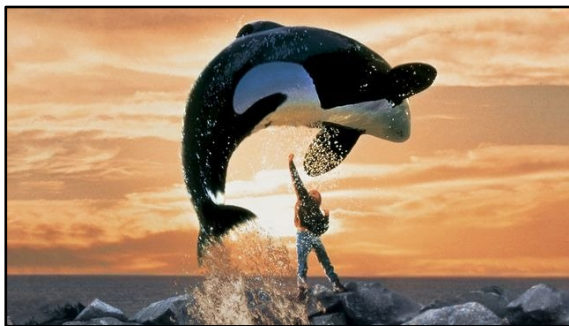
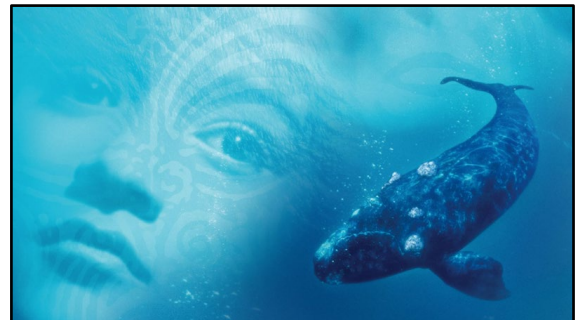
The holidays are a good time to relax and watch movies and TV series, and below are summaries of popular media featuring whales and dolphins. Most are older, kid-focused movies that involve cetaceans in captivity. We hope *Extraordinary Attorney Woo* represents a trend toward media reflecting appreciation for cetaceans in the wild.

Extraordinary Attorney Woo (2022) is a globally popular Korean drama series (“K-drama”) in which the lead character is an autistic young attorney who loves cetaceans. She enjoys talking about whales to her friends and colleagues, she advocates for dolphins to be released from captivity, and she strategizes her legal cases by thinking about how whales would handle similar situations. This 16-episode series is available in over 40 languages and is the most watched non-English TV show on Netflix. Where to watch: Netflix



Dolphin Tale (2011) is a movie starring Winter, a real-life dolphin who became entangled in crabbing gear, which led to the loss of her tail flukes and the lower part of her spine. There are a few cringey parts (e.g., handlers at the marine hospital put Winter into a human swimming race as part of a fundraiser). However, the movie demonstrates some important things too, such as the real hazards of entanglement and importance of calling for help immediately in that situation. The movie also acknowledges the importance of minimizing captivity to only as long as needed to help the animals recover. Where to watch: Netflix

Whale Rider (2002) is a movie about a Maori girl who overcomes family tragedy and sexist culture to learn traditions and help a pod of southern right whales. The movie could be seen as glamorizing the riding of whales and depicts a mass-beaching of a type of whale that isn't known to mass-beach. However, it also reflects deep appreciation for whales and is one of the few movies featuring wild cetaceans. The filmmakers used a combination of models, computer graphics and videos of wild whales to avoid capturing any whales. Although the lead character is a 12 year old girl, the movie has heavy themes and is rated PG-13. Where to watch: Amazon Prime



Free Willy (1996) is a movie starring a previously captured orca named Keiko as Willy. In the movie, Willy is separated from his pod and kept in a small tank on his own in an amusement park, where kids pound on the windows of his tank. There are problematic parts in this movie (e.g., a trainer tells a boy that orcas like to have their tongues petted); however, the overall theme is about the terrible plight of marine mammals in captivity and the importance of rescuing them from abusive human entertainment environments. The movie used models and computer graphics to mitigate harm to Keiko. Where to watch: Amazon Prime

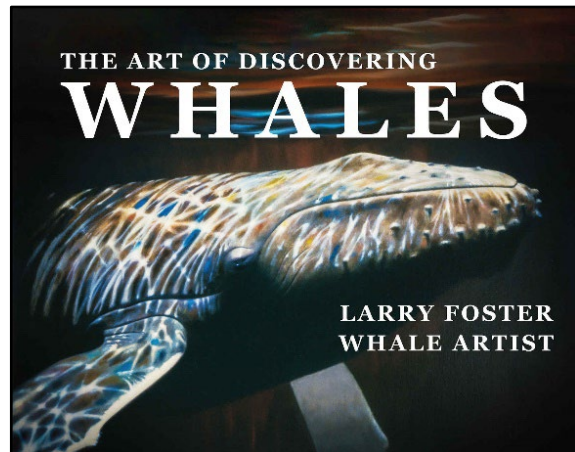
A Note About *Flipper*

Flipper was a TV series filmed in the 1960s, and I enjoyed watching reruns as a small child before I knew that dolphins were captured expressly for the purpose of filming this series. Now that I know the background, I chose not to re-watch *Flipper* for this article. At least two of the trainers who worked on *Flipper* became animal rights activists after witnessing the harms of captivity on these wonderful animals. In fact, former *Flipper* trainer, Ric O'Barry, now a dolphin anti-captivity activist, went on to found the Dolphin Project: <https://www.dolphinproject.com/about-us/about-ric-obarry/>

***The Art of Discovering Whales* by Larry Foster**

Book Review by Donna Worster

As a child, I fell asleep on many occasions listening to my mother reading to me. “Black Beauty” was a favorite book of mine. I’ve recently discovered a relatively new book that is as much for a child as it is for an adult. With the coast so close and the migration of whales right outside our windows, *The Art of Discovering Whales* is a book that illustrates our own “Blue” beauty. Local artist and author Larry Foster starts out the book with gorgeous whale drawings to capture your attention. As you turn the pages, he takes you on a fast journey of his progress in whale discovery. What *do* whales truly look like? To answer this question, Larry Foster has devoted decades of research and study to show whale lovers everywhere the true body shapes of whales, dolphins, and porpoises—Cetacea (he tells us how to correctly pronounce it to). His goal: to debunk the centuries-old myths that incorrectly presented whales as grotesque, blimp-like, and dangerous animals, and to accurately depict whales as the graceful, sleek, and streamlined marine mammals they really are. There is even a section on bottle nose dolphins and the illusive beaked whales. If you recall, our stranding team collected a rare Hubb’s beaked whale when it washed ashore in May, 2022. When we complete the articulation and display this skeleton, you will be able to say, “Yes, it is in Larry Foster’s Book of Whales!”



You can find this book and other beautiful marine themed and nature books, along with lots of new merchandise at the Discovery Center, 338 N. Main Street, Fort Bragg, Thursdays – Mondays, 11 am to 5 pm. You can also purchase *The Art of Discovering Whales* on our [WEBSITE](#).

What Washed In

by Sarah Grimes

I truly do have a dream job that is if you like mucking about in stinky stuff! I walk on beaches and do my best to solve deceased marine mammal mysteries.

Our main partner for funding for the stranding work is from a Prescott Grant managed by the California Academy of Sciences, so a big part of that partnership is the flip side of the field work – grant reporting. It is a world where I often struggle to solve the mystery of how to size an image or wrap the text around it. So, every few months I have to tether myself to the office chair and catch up on all the reporting, sometimes up to 6 months of activity at a time.

The last few months have been an incredibly interesting period with the stranding work. Three whales washed in along this part of the coast – two humpbacks and a rare beaked whale washed ashore and a magnificent sperm whale washed into Mendocino Bay, but never beached. Our efforts to bring it onshore were not successful, but we have been studying it where it sits on the ocean floor just offshore from Fort Bragg. More on that later.



In addition to those large animals, a striped dolphin, a harbor porpoise and all 6 species of pinnipeds washed ashore, including a harbor seal, northern elephant seal, Stellar sea lion, California sea lion, northern fur seal and a Guadalupe fur seal.



California sea lion skull CAS-SWG-184

The mysteries that surround these strandings may well remain mysteries, but occasionally, an obvious clue presents itself. In this case, a deceased California sea lion (CAS-SWG-184) looked to be in good body condition from the outside, measuring 154 cm in length, so he was classified as a juvenile or subadult. But to my surprise when I carefully removed his skull I found a large clam stuck in his esophagus. Poor little guy! Chew your food folks.

For more on this year's marine mammal stranding work, join Sarah Grimes for our upcoming science talk, *Washed Ashore* in 2022, Wednesday, December 14 at 6:30 PM, on Zoom. Register [HERE](#).

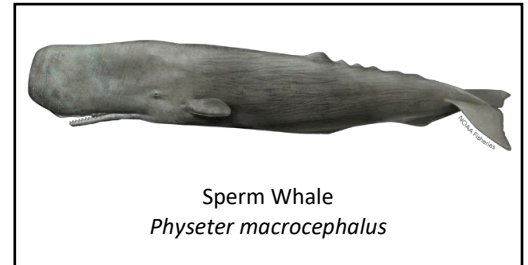
Stop by the Discovery Center on December 17th, from 12-4PM and see some of the specimens collected this year before they are transferred to the California Academy of Science in San Francisco. These specimens will become a permanent part of their collection representing Mendocino County.

Did You Know?

By Donna Worster

Spermaceti? Other than being a fun name to pronounce, NO, I did not! When a massive sperm whale washed into a cove near Mendocino Bay in July some of the photos revealed that there was quite a bit of a waxy, oil-like substance floating in the water, and if you were down wind from it you learned it smells to high heaven. Turns out Spermaceti is a waxy substance found in the head cavities of the sperm whale (and, in smaller quantities, in the oils of other whales). Spermaceti is created in the spermaceti organ inside the whale's head. This organ may contain as much as 500 US gallons of spermaceti. It has been extracted by whalers since the 17th century for human use in cosmetics, textiles, and candles. Theories for the spermaceti organ's biological function suggest that it may control buoyancy, or act as a focusing apparatus for the whale's sense of echolocation, or both.

Fun fact from Wikipedia, "The light produced by a single pure spermaceti source (candle) became the standard measurement of "candlepower" for another century." So, when you light your Holiday candles think of our sperm whale and what he has produced for us.



Calendar

Sunday, December 4, 5 – 7 pm, Lit Boat Parade viewing from the Slack Tide Café deck.

Monday, December 5, 6 pm, Pinniped Press meeting: <https://us02web.zoom.us/j/84852033400>

Tuesday, December 6, 9 am, Red Tide Program Plankton collection and demonstration with Sarah Grimes at the Slack Tide cafe.

Tuesday, December 6th, 2:30 PM for Red Tide Program Mussel collection. Meet at the "Enchanted Trail", Park in pull out just North of Montessori Del Mar School (north of Fort Bragg).

Wednesday, December 7, 10 am, New Volunteer Orientation: <https://us02web.zoom.us/j/87084660614>

Wednesday, December 14, 10 am, Docent's meeting, Crow's Nest deck.

Wednesday, December 14, 6:30 pm, Science Talk: *Washed Ashore, 2022* by Sarah Grimes. Register [HERE](#).

Happy Holidays to all!