

Save our beloved sea creatures

by Shivani Mudhol
Opinion Editor

Our generation grew up watching Spongebob with his sea life friends and deep sea adventures, but, as we all know, real life is nothing like Bikini Bottom. In fact, according to the Smithsonian, over 2,270 marine species are considered endangered. Unsurprisingly, many of the causes of endangerment are rooted from man-made causes.

To illustrate the severity of this issue, it is important to understand just how many creatures are close to extinction. Whales, including blue whales and more critically, the North Atlantic Right whale, are considered one of the most endangered species. Both of these recorded populations are less than 30,000, with North Atlantic Right whales critically endangered at 500-600 whales. For reference, a population of 500-600 is the average class size at FHS. Turtles also are notably endangered, with the hawks-bill turtle critically endangered at a population of 8,000. However, the most endangered species is the va-quita, facing extinction with only 10 individuals

left, and, unfortunately, this species will ultimately become extinct.

This state of marine life and its endangerment can be directly correlated to man-made factors. For instance, oil spills due to mining in bodies of water have led to many creatures dying due to the chemicals oil released. Along with this, plastic pollution is one of the leading causes of endangerment of sea creatures. The Great Pacific Garbage Patch is a 1.6 million square kilometer garbage patch in the northern Pacific Ocean that significantly hurts wildlife by suffocating, catching them in packaging or causing severe stomach issues if ingested. Furthermore, due to climate change caused by pollution, the ocean's acidity has greatly increased as a result of an increase of carbon dioxide being dissolved into waters. This causes greater health concerns for marine life, including coral reefs that face coral bleaching, and impacts turtle reproduction due to global warming, causing more male than female turtles as their sex depends on the warmth of their environment.

Despite feeling like a hopeless problem, addressing the issues that our ocean creatures are facing is something that everyone needs to take part

in. Advocating for better care of our environment is the first step, and the best way to start is through education, where students should learn to understand the environmental state of our world today. Taking part in organizations like the Environmental Club at FHS or volunteering at beach clean-ups are important ways to contribute towards a better future for many of these animals. Through these organizations, students can speak up in front of policymakers, bringing light on these issues can help the government come up with better laws that prevent these negative impacts.

There is hope for these creatures, but only if we as humanity start taking these statistics seriously and act on it. Even if it feels futile, educating ourselves, cleaning our planet and taking these issues to the government can help the sea animals who cannot help themselves.

OCEAN

Human impacts on our ocean

by Ren Lynch
Staff Writer

Ocean pollution is defined as the disposal of waste materials like oils and plastics, into the ocean. This causes disruptions of ocean habitats, posing a threat to marine ecosystems and wildlife. Many organizations such as the Surfrider Foundation and 4Ocean work to raise awareness and funding for cleaner oceans. However, some efforts, such as those by the non-profit organization The Ocean Cleanup¹ have been causing harm in their methods by casting a large net scooping up both pollution and sea life. There is immense importance in finding effective methods for cleaning our oceans while preserving marine biodiversity.

FHS has made some efforts to be more environmentally responsible by addressing its plastic waste distribution. Although there is more that the students and staff can do with the right resources.

"Over the years, our cafeterias worked to [provide] utensils that are biodegradable," FHS Principal Bryan Emmert said. FHS has been working to be more environmentally conscious with recycling bins and picking up trash

around campus. There are a few different types of ocean pollution that can be divided into 2 categories. Human pollution which is plastic and garbage, chemicals from skincare products, especially sunscreens, fertilizers, pesticides and insecticides and sewage. Machine pollution which is noise made by ships and maritime equipment, oil spills, toxic industrial waste and light pollution.

Among the human pollution category cigarette butts are a significant contributor, breaking down into microplastic fragments that harm both marine life and humans. Microplastics are very tiny pieces of plastic that if ingested, can damage your lungs and can cause certain types of cancers and for sea life microplastics reduce growth and food intake making it very hard for them to exist.

Abandoned fishing gear is also a big contributor to ocean pollution. Fishing nets that are left behind can cause entanglement of ocean creatures and seabirds in an occurrence known as "ghost fishing." The "Global Ghost Gear Initiative" has been taking a leading role in getting the abandoned gear out

of the ocean by doing clean-up projects around the world.

Although FHS is not in close proximity to beaches, students can still contribute to ocean preservation by signing up for local beach clean-ups in Santa Cruz and Half Moon Bay, joining or starting an environmental/ocean clean-up club, picking up trash around campus, donating to local clean up operations and volunteer at beaches, especially during summer. These can help improve the well-being of our oceans and beaches, benefiting both human and animal life.

Ocean Pollution has been a long-standing issue for years, but with the combined efforts of organizations and individuals dedicated to ocean conservation by volunteering for beach or ocean clean-ups and sorting plastic waste our oceans will become a lot cleaner and safer for its inhabitants.

Moss Landing power changes

by Molly Bobick
Online Editor

Salt air, cool weather, gray skies, but what is that raining from up above? It is soot from the Moss Landing Power Plant. This was the reality from 1950 to 2016 in the area surrounding the Moss Landing Power Plant. The Moss Landing Power Plant was a combined cycle power plant located off Highway 1 in Monterey County, next to Moss Landing Harbor. Combined cycle power plants produce electricity by heating fuel and capturing energy through spinning turbine blades. After this, excess heat is captured and turned into steam, where it is diverted into a separate shaft and converted into additional electricity.

Since 1950, the power plant's 500-foot-tall smoke stacks have served as a constant reminder of the large-scale pollution causing detrimental damage to human and marine life. Not only can the intake process kill organisms and disrupt the harbor's ecosystem, but the extremely hot water reaches temperatures up to 100 degrees. When this water was released into the harbor, it further damages the ecosystem by heating the waters far hotter than their usual

chilly temperature. This type of cooling system was eventually phased out in 2010, but that does not erase the 60 years of ill-treatment inflicted upon the Moss Landing ecosystem.

The smokestacks, which make soot rain from the sky onto the land and sea were decommissioned in the 90s. They stand, untouched, looming over moss landing as a reminder of its past.

Throughout 2020 and 2021, the Moss Landing Power Plant was transformed into the largest battery storage project in the world. These types of facilities are incredibly important in the fight against climate change, as they allow excess power to be stored. Therefore, when there are periods of time with high energy usage, such as the summer months with increased power usage due to air conditioners, and sustainable power production cannot keep up, the system can resort to using stored energy in the batteries

instead of using the power grid. This means that renewable energy sources will become more reliable, and possibly more accessible because when needed, power can be drawn from batteries. Whereas without the batteries, the necessary power would be drawn from unsustainable sources. Vistra Corporation, the Fortune 500 retail energy company leading the project, reports that they will continue to expand at Moss Landing and will invest \$5 billion in future projects.

Members of Generation Z are well known for being passionate about protecting the environment, and ensuring that they have a future. However, they often get overlooked in politics, as older generations in power disregard their ideas, favoring economic growth over the challenge of becoming greener. The new project cannot possibly undo the damage of the Moss Landing plant's past, but it is certainly a step in the right direction.

ELEVATION
SEA LEVEL

The best of California beaches

by Yousef Abdel Hafez
Staff Writer

The beach is a place that has something for almost anyone, whether it is sitting and watching the sunset, or even playing sports. There are many different types of beaches, sandy, seashell, glass and rocky beaches. Alongside the natural beauty of beaches, there are activities to take part in, such as surfing, cliff diving and beach volleyball. There are many worldwide famous beaches in California, including the Santa Cruz Boardwalk Beach, Santa Monica Beach and Baker Beach.

One of the many famous California beaches, the Santa Cruz boardwalk in Santa Cruz, California. This beach has a number of fun things to participate in, making it a good visit.

"At the boardwalk I like to play games. If not, I'd rather relax." FHS grade freshman Miguel Marcos said.

At the boardwalk, the different activities that people can partake in are endless. There is an arcade full of fun games, and outside many roller coasters, bumper cars, food vendors and most importantly the beach itself. The Santa Cruz Boardwalk beach is packed with fun activities like swimming, relaxing on

the sand and surfing. Another amazing beach in California is the Santa Monica Beach. Santa Monica beach is a great place to enjoy relaxing on the sand. However, that is not the only thing to do at the Santa Monica beach, as this beach is known for having gymnastics equipment and ropes to play and train on. Volleyball is a very popular sport there, with volleyball courts being found throughout this beach and are free of charge. Biking is another one of the endless fun activities that can be done on this beach, as there are paved and lit paths to bike along the beach.

A beach that is more local to FHS is Baker Beach in San Francisco. This is a truly amazing place to get a good view of the Golden Gate Bridge. More activities include admiring the native plants and wildflowers, taking a stroll along the water and having a barbecue using the grills provided. This is an incredible place to visit when going to San Francisco.

Going to these beaches is an amazing experience as there are endless

things to do.

Unfortunately, due to human-caused global warming the sea levels are rising and many beaches are in danger. Although, there are things that can be done to help prevent climate change, such as using less water by not leaving the shower or sink running for

longer than necessary, composting leftover food instead of throwing it away, trying to avoid using single-use plastic like bags and utensils and saving electricity by turning off the lights when they are not being used. While doing these things alone will not fix climate change, they can help. These beaches are all worth visiting to see the Pacific Ocean and are part of what makes California unique and beautiful and should be taken care of by helping prevent climate change.