Save our Seals: SOS

The guide below is intended for upper elementary-aged youth to complete, discuss and share with their families. Visit www.marinemammalcenter.org for more information and resources.

Write your thoughts on these questions:

1. What do you think the term "human interaction" means?

2. How do you think humans help the ocean and marine mammal habitats?

3. How do you think humans hurt the ocean and marine mammal habitats?

We receive numerous patients every year because of humans getting too close to marine mammals. Watch the video and read about #LeaveSealsBe here.

Why do you think campaigns like #LeaveSealsBe help our patients?

Read through the Human Interactions sheet. Do an assessment by walking around your house to determine if your household contributes to any of these interactions. One way to examine your house's impact on ocean trash is to audit the trash your home throws away in a day. Cut out or copy the table onto another sheet of paper.

Type of Trash	# of pieces (tally)
Plastic	
Paper	
Glass	
Metal	
Food Scraps	
Misc (list items)	

Place a sheet by your trash can(s) and explain to your household what is and ask that they put a tally each time they throw something away. Before bed, turn the tallies into a pie chart or bar graph to see what waste your house produces the most of.

What ways can you think of to reduce the number of things being thrown away?

Pick one human interaction that you think is most important for preventing animals from becoming patients at The Marine Mammal Center.

Brainstorm ways that you can help reduce this form of human interaction or choose one that you're passionate about that isn't listed here. Design a campaign that can be done virtually through a flyer or video and shared via social media, texts, emails, etc. Following your creation of your campaign, find one way that you personally can make a positive impact for marine mammals and the ocean environment. Share your project with The Marine Mammal Center by emailing it to edu@tmmc.org! Don't forget to tag @TMMC

The Marine Mammal Center®

Human-Caused Injuries

In 2009, 19 sea lions were rescued suffering from gunshots. Sadly, those are only the seals and sea lions the Center knows about and it is most likely that countless others that don't strand on a beach just die at sea.

“Unfortunately, our latest gunshot wounded patient, Silent Knight, is only the latest in a long line of marine mammal gunshot patients rescued by The Marine Mammal Center,” said Dr. Jeff Boehm, executive director at The Marine Mammal Center. “In 1992 we began keeping records on human interactions with marine mammals and since then, volunteers and staff have rescued nearly 500 marine mammals (primarily sea lions) that had been shot. We even came to the rescue of a poor sea lion that had been shot in the neck with an arrow from a crossbow."

California sea lions are hurt by humans more than other marine mammals because they outnumber all other pinnipeds and marine mammals combined. The U.S. Marine Mammal Protection Act (MMPA) protects all marine mammals, including cetaceans (whales, dolphins, and porpoises), pinnipeds (seals and sea lions), sirenians (manatees and dugongs), sea otters, and polar bears within the waters of the United States. The Act makes it illegal to "take" marine mammals without a permit. This means people may not harass, feed, hunt, capture, collect, or kill any marine mammal or part of a marine mammal. The Act also formalized the marine mammal health and stranding response program to improve the response of stranding and unusual mortality events. The National Oceanic Atmospheric Administration (NOAA) website gives the complete text of the Act.

Marine Science Research plays a key role at The Marine Mammal Center. The Center regularly conducts and contributes to a long list of cutting-edge research projects that are published peer-reviewed journals. You can read just a few of the many groundbreaking studies the Center has helped publish regarding Negative Human Interaction (gunshots, entanglements, harassment and boat strikes) as well as papers about toxic algae poisoning, cancer and pathogens.

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Oil Spills

Oil in or on the water is extremely dangerous to wildlife. For instance, when an animal lands in an area affected by oil, it will try to preen or clean itself and ingest the toxic petroleum product, causing severe damage to internal organs. Ingesting oil will greatly disrupt the reproductive process, and animals that have survived oil spills may suffer the long-term effects of breeding problems and may produce deformed offspring.

From the Oiled Wildlife Care Network: There are different effects on different classes of marine mammals. Heavily furred animals, such as sea otters and fur seals, are more severely affected by oiling because these species rely on their thick haircoat to maintain warmth and buoyancy. The fur traps a thin layer of air adjacent to the animal's skin (in a similar fashion to birds), and this air layer prevents the skin of the animal from encountering the cold ocean water. When exposed to oil, the alignment of the hair is altered; the air layer is destroyed; and mammals rapidly become hypothermic.

There are cumulative impacts to sensitive shoreline organisms (such as clams, crabs, macro invertebrates) which die or bio-accumulate the toxic components of petroleum products. This toxicity moves up the food chain, negatively impacting reproduction, shortening life span and leading to mortality of larger animals (birds and mammals) that may prey on these organisms.

If you find oiled wildlife in your area, please call 1-877-UCD-OWCN (1-877-823-6926) and report it immediately. Do not attempt to rescue the wildlife yourself and keep pets away from the area. Untrained individuals who attempt to rescue wildlife may cause more harm than good and may injure themselves in the process. If oiled animals are scared back into the water by pets or people, their chances of survival decrease dramatically.

The Marine Mammal Center is a member of the Oiled Wildlife Care Network, which coordinates all oil spill response in the state of California. Our hospital is a primary facility for oiled seals and sea lions, and our staff and volunteers are specially trained to assist if called upon during an oil spill event. The Marine Mammal Center has, in the past, assisted agencies by rescuing marine mammals and birds caught in the toxic goo.

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Entanglement


NOAA permit 18786

Entanglement is a worldwide issue that results in the injury or death of thousands of marine mammals. The sources of the items that entangle these animals range from fishing gear to marine debris, otherwise known as ocean trash. Marine mammals such as whales, dolphins, seals, and sea lions become entangled while swimming or when hauled out on a beach.

Entangled animals may become restricted in their ability to move their flippers which can affect their ability to swim and may cause them to drown or starve. Heavy gear makes animals particularly susceptible to drowning. When animals' ability to swim is impaired, this makes them more susceptible to boat strikes or predation. They may also suffer from physical injuries due to the entangled item cutting into their blubber, especially if they become entangled before fully grown.

Although the problem of ocean trash can seem overwhelming, there are some simple things you can do every day to minimize your impact on the ocean. If you think it isn't worth the time and energy, remember the animals who make the ocean their home. Afterall, everything we do, not only affects them, it filters down to us - we eat the same food and we swim in the same water - and the ocean is the planet's biggest life source. When fishing or boating, do not leave gear or trash behind and consider participating community clean-ups.

If you see an entangled animal, keep your distance from it, note the GPS coordinates, and report it to your local responder via the national entanglement response and stranding network. Please do not attempt to free an animal on your own and wait for trained personnel to arrive.

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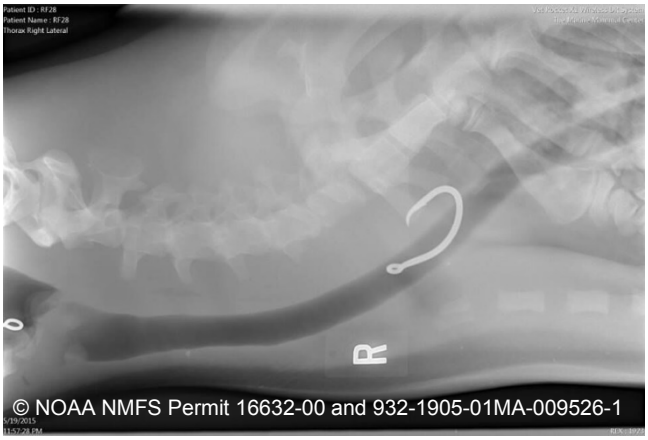
Commercial Fishing

Commercial fishing is catching fish for profit and typically involves fishing from wild populations. Fisheries provide a large amount of food to many countries around the world. Interactions between marine mammals and fisheries can include bycatch, marine mammal depredation, and the removal of marine mammal's prey by fisheries.



Bycatch is the accidental capture of a species that was not the fishing target. This can include turtles, sea birds, or marine mammals such as dolphins, sea lions, or whales. Modern fishing methods involve large nets that are undetectable and inescapable for bycatch which results in death or injuries. There are efforts to reduce bycatch by working with fisheries to develop new fishing gear that can allow the unintended animals to escape.

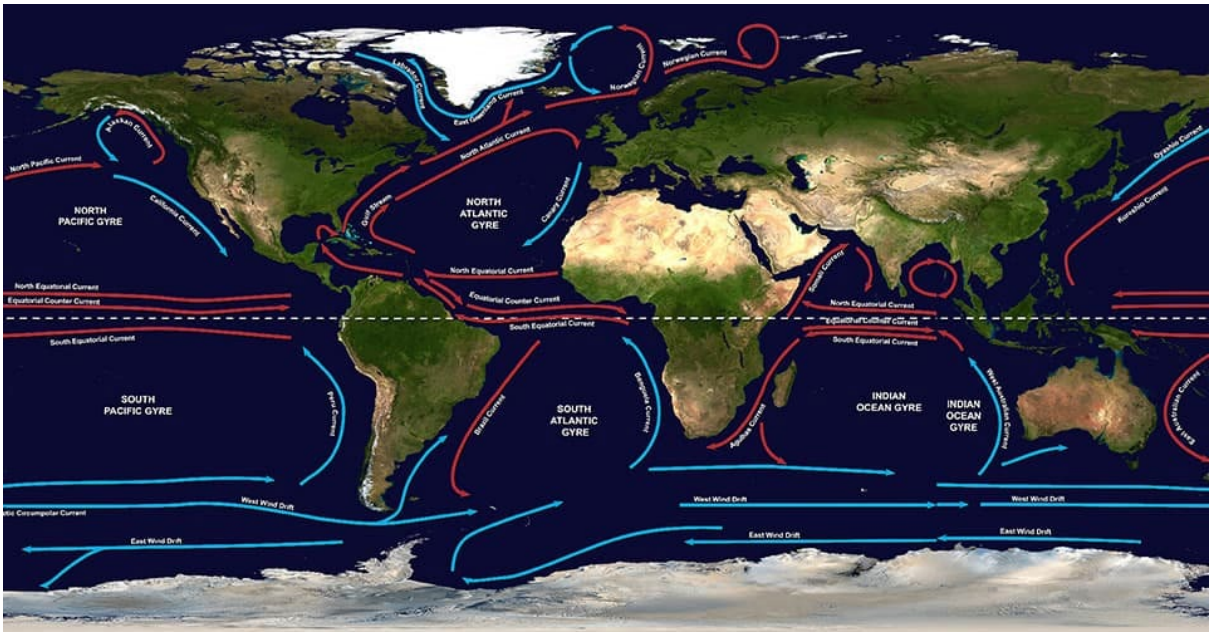
California sea lions are easily viewed in the wild, which puts them at high risk for habituation to humans. Habituation is when there is a decrease in an animal's response to humans after being exposed to them and they become used to their presence. Trying to feed them is illegal because it can alter their behavior and habituate them to people and ships. It is important that they do not learn to associate humans with food because this can cause them to change their hunting practices and go after bait on fishing gear. Sometimes they become victim to retaliation, such as shooting, by irritated fisherman or boaters.

There's a limit to the fish in the sea. Humans are removing fish from the oceans at a rate faster than fish can reproduce. This results in a decrease in populations and limits the amount of fish for marine mammals. Better equipment, technology, and the need to make more money have made it easier to catch fish with less effort. These developments have resulted in a loss of 90% of the ocean's large predatory fish. The state of global fisheries threatens is threatening food supplies, economies, and recreation in all parts of the world. By supporting sustainable fisheries, we can help reduce the amount of sea lion's affected by commercial fisheries. Monterey Bay Aquarium's Seafood Watch program helps people choose sustainable seafood, which is fish that caught or farmed in ways that support a healthy ocean for current and future generations. By following their recommendations, we can ensure that there are enough fish left for the predators of the ocean, such as sea lions.

Plastic Pollution

Trash ends up in the ocean due to rain washing it into waterways that lead to the ocean, as well as wind patterns picking up garbage on land and carrying it to the ocean. 90% of the trash found in the ocean is plastic and the large amounts of trash are having an impact on marine life and marine ecosystems. The most common types of plastic in the ocean are Styrofoam, microbeads from soaps, fibers from clothing, bottles, straws, bags, feminine care products, balloons, and cigarette butts. When the large pieces of plastic garbage enter the ocean through waterways, the air, and sewers, they get broken into smaller pieces by waves. This results in a soup of small plastic particles, called microplastics. These smaller pieces can be mistaken as food and are ingested by marine life. Ingesting plastic can lead to suffocation, starvation, and death. Small pieces of plastic even end up in the seafood that humans eat. As fish eat plastic, the toxins in plastic can accumulate and the toxins work their way up the food chain.

Marine mammals that live in areas unpopulated by humans are still susceptible to plastic pollution due to the gyres of the ocean. A gyre is a large vortex created by rotating ocean currents. Gyres move plastic waste and debris and can accumulate them in unpopulated areas of the ocean. There are five major gyres as shown below:



Regardless of where you live in the world, the amount of plastic you use can impact marine life. Although the problem of ocean trash can seem overwhelming, there are some simple things you can do every day to minimize your impact on the ocean. If you think it isn't worth the time and energy, remember the animals who make the ocean their home. Afterall, everything we do, not only affects them, it filters down to us - we eat the same food and we swim in the same water - and the ocean is the planet's biggest life source.

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