## 10 Threats to Ocean Life

Конец формы

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[The ocean](https://www.thoughtco.com/about-the-ocean-2291768) is a beautiful, majestic place that is home to hundreds of thousands of species. These species have a dizzying array of variety and come in all shapes, sizes and colors.  They include tiny, gorgeous [nudibranch](https://www.thoughtco.com/facts-about-nudibranchs-2291859)s and [pygmy seahorses](https://www.thoughtco.com/common-pygmy-seahorse-2291584), [awe-inspiring sharks](https://www.thoughtco.com/facts-about-sharks-2292020) and [enormous whales](https://www.thoughtco.com/facts-about-whales-2291521).  There are thousands of known species, but there are also many more still to be discovered as the ocean is largely unexplored.

Despite knowing relatively little about the ocean and its inhabitants, we've managed to screw it up quite a bit with human activities. Reading about different marine species, you often read about their population status or threats to the species. In this list of threats, the same ones appear over and over.  The issues may seem depressing, but there's hope - there are many things each of us can do to help.

The threats are not presented here in any particular order, as they are more urgent in some regions than others, and some species face multiple threats.

### Ocean Acidification

If you've ever had an aquarium, you know that maintaining the right pH is an important part of keeping your fish healthy.

### What Is the Problem?

A good metaphor for [ocean acidification](https://www.thoughtco.com/what-is-ocean-acidification-2291528), developed for the [National Network for Ocean and Climate Change Interpretation](http://www.nnocci.org/) (NNOCCI), is osteoporosis of the sea.  Absorption of carbon dioxide by the ocean is causing a lowering of the ocean's pH, which means that the ocean's chemistry is changing.

### What Are the Impacts?

Shellfish (e.g., crabs, [lobsters](https://www.thoughtco.com/facts-about-lobsters-2291863), [snails](https://www.thoughtco.com/types-of-gastropods-2291933), [bivalves](https://www.thoughtco.com/bivalve-definition-2291639)) and any animal with a calcium skeleton (e.g., corals) are impacted by ocean acidification. The acidity makes it difficult for animals to build and maintain their shells, as even if the animal can build a shell, it is more brittle.  
   
A 2016 study found shorter term impacts in [tide pools](https://www.thoughtco.com/tidal-pool-overview-2291685).  The study by Kwiatkowski, et.al. found that ocean acidification can affect marine life in tide pools, especially at night. Water already affected by ocean acidification can cause shells and skeletons of tide pool animals to disintegrate at night. This can affect animals like mussels, snails, and coralline algae.

This issue doesn't affect just marine life - it affects us, as it will impact the availability of seafood for harvest and even places for recreation. It's not much fun snorkeling over a dissolved coral reef!

### What Can You Do?

Ocean acidification is caused by too much carbon dioxide.  One way to reduce carbon dioxide is to limit your use of fossil fuels (e.g., coal, oil, natural gas).  Tips you probably heard long ago for reducing energy, such as driving less, biking or walking to work or school, turning off lights when not in use, turning your heat down, etc., will all help reduce the amount of CO2 that goes into the atmosphere, and consequently into the ocean.

### Climate Change

It seems like [climate change](https://www.thoughtco.com/are-climate-change-and-global-warming-the-same-thing-3443706) is in the news constantly these days, and for good reason - it affects all of us.

### What Is the Problem?

Here I'll use another metaphor from NNOCCI, and this one also relates to fossil fuels. When we burn fossil fuels like oil, coal and natural gas, we pump carbon dioxide into the atmosphere. The buildup of CO2 creates a heat-trapping blanket effect, which traps heat around the world. This can result in temperature changes, an increase in violent weather and other threats we're familiar with such as melting polar ice and rising sea levels.

### What Are the Impacts?

Climate change is already impacting ocean species. Species (e.g., the silver hake) are shifting their distribution further north as their waters warm up.

Stationary species such as corals are even more affected. These species can't easily move to new locations. Warmer waters may cause an increase in coral bleaching events, in which corals shed the zooxanthellae that give them their brilliant colors.

### What Can You Do?

There are many things you can help your community do that will reduce carbon dioxide and lower the impacts of climate change.  Examples include working for more efficient transportation options (e.g., improving public transportation and using fuel-efficient vehicles) and supporting renewable energy projects. Even something like a plastic bag ban can help - plastic is created using fossil fuels, so reducing our use of plastics will also combat climate change.

### Overfishing

Overfishing is a worldwide problem that affects many species.

### What Is the Problem?

Simply put, overfishing is when we harvest too many fish. Overfishing is a problem largely because we like to eat seafood. Wanting to eat isn't a bad thing, of course, but we can't always harvest species exhaustively in an area and expect them to continue to survive. The FAO estimated that over 75% of the world’s fish species are either fully exploited or depleted.

In New England where I live, most people are familiar with the cod fishing industry, which was going on here even before the Pilgrims arrived. Eventually, in the cod fishery and other industries, larger and larger boats were fishing in the region, which resulted in a population collapse. While cod fishing still occurs, cod populations have never returned to their former abundance. Today, fishermen still catch cod but under tight regulations that try to increase the population.

In many areas, overfishing occurs for seafood. In some cases, it is because animals are caught for use in medicines (e.g., seahorses for Asian medicines), for souvenirs (again, seahorses) or use in aquariums.

### What Are the Impacts?

Species worldwide have been impacted by overfishing. Some examples other than cod are haddock, southern bluefin tuna and totoaba, who have been overfished for their swim bladders, causing endangerment to both the fish and to the [vaquita](https://www.thoughtco.com/vaquita-facts-2291484), a critically endangered porpoise that is also caught in the fishing nets.

### What Can You Do?

The solution is straightforward - know where your seafood comes from and how it's caught. However, that's easier said than done. If you purchase seafood at a restaurant or store, the purveyor doesn't always have the answer to those questions. If you purchase seafood at a local fish market or from the fisherman themselves, they will, though. So this is a great example of when it helps to buy locally.

### Poaching and Illegal Trade

### What Is the Problem?

Poaching is the illegal taking  (killing or collection) of a species.

### What Are the Impacts?

Species impacted by poaching are sea turtles (for eggs, shells and meat). Sea turtles are protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) but still illegally hunted in areas such as Costa Rica.

Although many shark populations are threatened, illegal fishing still occurs, especially in areas where shark finning persists, such as in the Galapagos Islands.

Another example is illegal harvest of crab by Russian fishing fleets, either by unpermitted vessels or permitted vessels that have already exceeded their allowable catch.  This illegally harvested crab is sold in competition with legally harvested crab, causing losses to fishermen that fish legally. It was estimated that in 2012, over 40% of the king crab sold in global markets was illegally harvested in Russian waters.

In addition to illegal take of protected species, illegal fishing methods such as using cyanide (to capture aquarium fish or seafood) or dynamite (to stun or kill fish) are used in areas such as reefs, which destroy important [habitat](https://www.thoughtco.com/marine-ecosystem-definition-2291621) and can affect the health of the fish caught.

### What Can You Do?

Like with overfishing, know where your products are coming from. Buy seafood from local fish markets or the fishermen themselves. Buy aquarium fish bed in captivity. Don't buy products from threatened species such as sea turtles. Support (financially or through volunteering) organizations that help protect wildlife. When shopping abroad, don't purchase products that contain wildlife or parts unless you know the animal was harvested legally and sustainably.

### Bycatch and Entanglement

Species from small invertebrates to large whales may be affected by bycatch and entanglement.

### What Is the Problem?

Animals don't live in separate groups in the ocean. Visit any ocean region and you're likely to find a large number of different species, all occupying their various habitats. Because of the complexity of species distribution, it can be difficult for fisherman to catch just the species they intend to catch.

Bycatch is when a non-targeted species is caught by fishing gear (e.g., a porpoise is caught in a gillnet or a cod is caught in a lobster trap).

Entanglement is a similar issue and occurs when an animal becomes tangled in either active or lost ("ghost") fishing gear.

### What Are the Impacts?

Many different species are impacted by bycatch and entanglement. They are not necessarily endangered species. But in some cases, species that are already threatened are impacted by bycatch or entanglement and this can cause the species to decline further.

Two well-known cetacean examples are the North Atlantic right whale, which is critically endangered and can be impacted by entanglement in fishing gear, and the vaquita, a porpoise native to the Gulf of California that can be caught as bycatch in gillnets. Another well-known example is the catch of dolphins in the Pacific Ocean that occurred in purse seine nets that were targeting tuna.

Seals and sea lions, well known for their curiosity, may also be entangled in fishing gear.  It is not unusual to see a group of seals at a haul-out and find at least one with some sort of gear wrapped around its neck or another body part.

Other species impacted by bycatch include sharks, sea turtles, and seabirds.

### What Can You Do?

If you want to eat fish, catch your own!  If you catch a fish via hook and line, you'll know where it came from and that other species weren't impacted. You can also support wildlife protection and rescue organizations that work with fishermen to develop gear that reduces bycatch, or rescues and rehabilitates animals affected by entanglement.

### Marine Debris and Pollution

The problem of pollution, including marine debris, is a problem that everyone can help solve.

### What Is the Problem?

Marine debris is a man-made material in the marine environment that doesn't naturally occur there.  Pollution can include marine debris, but also other things such as oil from an oil spill or runoff of chemicals (e.g., pesticides) from land into the ocean.

### What Are the Impacts?

A variety of marine animals can become entangled in marine debris or swallow it on accident.  Animals such as seabirds, pinnipeds, sea turtles, whales and invertebrates can be affected by oil spills and other chemicals in the ocean.

### What Can You Do?

You can help by disposing of your waste responsibly, using less chemicals on your lawn, properly disposing of household chemicals and medicines, avoiding dumping anything into a storm drain (it leads to the ocean), or doing a beach or roadside cleanup so that litter doesn't enter the ocean.

### Habitat Loss and Coastal Development

Nobody wants to lose their home.

### What Is the Problem?

As world population increases, more of the coastline is developed and our impacts on areas such as wetlands, seagrass meadows, mangrove swamps, beaches, rocky shores and coral reefs increase through development, commercial activities and tourism.  Loss of habitat can mean species have no place to live - with some species that have a small range, this can result in a drastic decrease or extinction of populations. Some species may need to relocate.

Species may also lose food and shelter if their habitat size decreases. Increased coastal development may also affect the health of the habitat itself and adjacent waters through an increase of nutrients or pollutants into the region and its waterways through construction activities, storm drains, and runoff from lawns and farms.

Habitat loss may also occur offshore through the development of energy activities (e.g., oil drills, wind farms, sand and gravel extraction).

### What Are the Impacts?

One example is sea turtles. When sea turtles return to shore to nest, they go to the same beach where they were born. But it may take 30 years for them to be mature enough to nest. Think about all the changes in your town or neighborhood that have occurred in the last 30 years. In some extreme cases, sea turtles may return to their nesting beach to find it covered with hotels or other developments.

What Can You Do?

Living on and visiting the coast are wonderful experiences. But we can't develop all coastlines.  Support local land conservation projects and laws that encourage developers to provide enough of a buffer between a development and a waterway. You can also support organizations that work to protect wildlife and habitats.

### Invasive Species

Unwanted visitors are wreaking havoc in the ocean.

### What Is the Problem?

Native species are those that naturally inhabit an area.  [Invasive species](https://www.thoughtco.com/freshwater-invasive-species-prevention-1203599) are those who move into or are introduced into an area in which they are not native. These species can cause harm to other species and habitats. They may have population explosions because natural predators don't exist in their new environment.

### What Are the Impacts?

Native species are impacted through loss of food and habitat, and sometimes an increase in predators. An example is the [European green crab](https://www.thoughtco.com/european-green-crab-facts-2291840), which is native to the Atlantic coast of Europe and northern Africa. In the 1800's, the species was transported to eastern U.S. (likely in the ballast water of ships) and is now found along the eastern coast of the U.S. They have also been transported to the western coast of the U.S. and Canada, Australia, Sri Lanka, South Africa, and Hawaii.

[Lionfish](https://www.thoughtco.com/what-is-a-bony-fish-2291874) are an invasive species in the U.S. that are thought to have been introduced by the accidental dumping of a few live aquarium fish into the ocean during a hurricane.  These fish are impacting native species in the southeastern U.S., and harming divers, who can get injured by their venomous spines.

### What Can You Do?

Help prevent the spread of invasive species. This can include not releasing aquatic pets into the wild, cleaning your boat before moving it from a boating or fishing site, and if you dive, thoroughly clean your gear when diving in different waters.

### Shipping Traffic

We rely on ships to carry goods to us from across the world. But they can impact marine life.

### What Is the Problem?

The most tangible problem caused by shipping is ship strikes - when whales or other marine mammals are hit by a ship. This can cause both external wounds and internal damage, and can be fatal.

Other issues include noise created by the ship, release of chemicals, transfer of invasive species through ballast water and air pollution from the ship's engines.  They can also cause marine debris through dropping or dragging anchors through fishing gear.

### What Are the Impacts?

Large ocean animals such as whales can be impacted by ship strikes - it is a leading cause of death for the critically endangered North Atlantic right whale. From 1972-2004, 24 whales were struck, which is a lot for a population that numbers in the hundreds.  It was such a problem for right whales that shipping lanes in Canada and the U.S. were moved so that ships had less of a chance of hitting whales that were in feeding habitats.

### What Can You Do?

If you're boating, slow down in areas frequented by whales. Support laws that require ships to reduce speed in critical habitats.

### Ocean Noise

There's lots of natural noise in the ocean from animals such as [snapping shrimp](https://www.thoughtco.com/facts-about-snapping-shrimp-3957608), whales, and even sea urchins. But humans make a lot of noise, too.

### What Is the Problem?

Human-made noise in the ocean includes noise from ships (propeller noise and noise from the mechanics of the ship), noise from seismic airgun noise from oil and gas surveys that emit regular blasts of noise over long periods of time, and sonar from military ships and other vessels.

### What Are the Impacts?

Any animal that uses sound to communicate can be affected by ocean noise.  For example, ship noise may affect the ability for whales (e.g., orcas) to communicate and find prey.  Orcas in the Pacific Northwest live in areas frequented by commercial ships that radiate noise at the same frequency as orcas.  Many whales communicate over long distances, and the human noise "smog" can affect their ability to find mates and food and to navigate.

Fish and invertebrates may also be affected, but they are even less studied than whales, and we just don't yet know the impacts of ocean sound on these other animals.

### What Can You Do?

Tell your friends - technologies exist to quiet down ships and reduce the noise associated with oil and gas exploration. But the problem of ocean noise isn't as well known as some other problems facing the ocean. Buying locally-made goods can help also as products that come from other countries are often transported by ship.