

## Marine Mammal Conservation

Because marine mammals live on or near beaches, migrate through international waters, and compete with fisherman for seafood, they often get caught in fishing nets, become entangled in trash, or pass through oil spills. Loss of habitat, fur trading, and human consumption are also human-related causes of death for marine mammals.

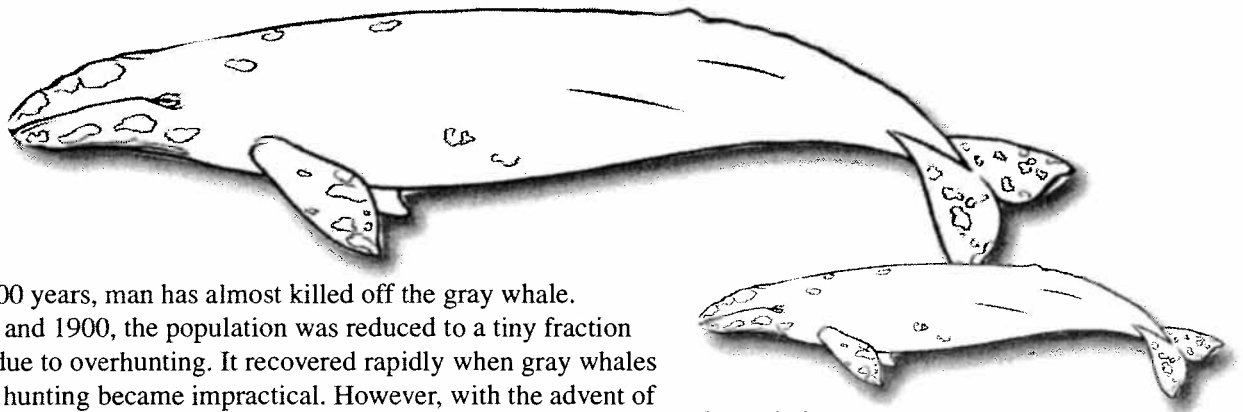
Sea otters were nearly extinct by the turn of the 20<sup>th</sup> century. Their thick fur was so valuable that less than 2,000 otters remained in the world. Fur seals suffered a similar fate. The 1911 International Fur Treaty and the 1972 Marine Mammal Protection Act helped to stop the killing of sea otters and other marine mammals in the United States. Currently, there are over 2,500 sea otters living along the California coast line alone!

Under the **Marine Mammal Protection Act (MMPA)** of 1972, a species is designated as depleted when its population stock falls below its optimum sustainable population (OSP). The MMPA defines optimum sustainable population (OSP) as “the number of animals which will result in the maximum productivity of the population or the species, keeping in mind the optimum carrying capacity of the habitat and the health of the ecosystem of which they form a constituent element.” Once a species has been designated as depleted, a conservation plan is developed to guide research and management actions to restore the health of the species.

The **Endangered Species Act (ESA)** of 1973 has also helped to preserve marine mammal populations. The ESA provides “a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions.” Thanks to the ESA, two other marine mammal populations, the gray whale and the right whale, have been held off from extinction in the United States.



*Sea lion entanglement*



*Gray whales*

Twice in the past 100 years, man has almost killed off the gray whale. Between the 1850s and 1900, the population was reduced to a tiny fraction of its original size due to overhunting. It recovered rapidly when gray whales were so scarce that hunting became impractical. However, with the advent of factory whaling stations that allowed whalers to hunt whales wherever they could be found, as well as the discovery of the gray whales' breeding grounds in Baja California, the population was once again decimated during the 1920s. In 1937, with only a few hundred animals remaining, hunting of gray whales was forbidden. In 1947, an international agreement officially protected gray whales from hunting (with the exception of aboriginal whaling that continues to this day). Due to current protections, experts believe that the population of Eastern Pacific gray whales is currently stabilized at near historic levels of about 26,000 animals.

The northern right whale is the most endangered whale today. Though population estimates are difficult to make, it is likely that only about 300 to 600 northern right whales remain around the world. During whaling times, they were hunted extensively by whalers who felt that they were the “right” whales to hunt (hence their name): slow, easy to kill, and valuable for their plentiful blubber, meat, and baleen. Blubber was made into oil for wax, soap, lamps, and makeup, while baleen was used to make tennis rackets and women’s undergarments. Historically, whales were endangered because they were overhunted. Today, right whales and other whales are mostly endangered due to ship collisions, entanglement in fishing gear, habitat degradation, and pollution.

*Indigenous cultures are still allowed to hunt for whales as a part of their religious and cultural beliefs; this practice is, however, highly regulated.*



## Marine Mammal Research

Marine mammals are fascinating creatures that have captivated humankind for centuries. Much of our knowledge about marine mammals comes from the study of dead stranded animals or from the whaling industry. Through ongoing research and observation, mammalogists, the scientists who study mammals, are learning more about how marine mammals live, communicate, and socialize. This can be a difficult process because humans are not well adapted to maneuvering in and under the water, which is, after all, where marine mammals spend most of their time. All humans usually see of a whale is the blowhole, the back, or the tail fluke!

Due to the difficulty of safely studying such large animals close up, photo identification and radio tagging of marine mammals have become important research tools that allow mammalogists to gather information that would otherwise be all but impossible to learn. Radio tagging or placing color-coded collars on individual animals has also helped scientists to track and follow marine mammal populations to learn more about their swimming, foraging, and migrating behaviors. Even though many people study marine mammals and even though we know a great deal about them, we cannot answer all of the questions. Scientists still have a long way to go before we will fully understand these fascinating creatures!