

## Grades 5-8: Ocean Conservation

CONSERVATION refers to the protection of animals, fungi, plants and their habitats, and the protection and management of the biodiversity of our planet. According to the Environmental Protection Agency “there are approximately 1300 endangered or threatened species in the United States today. **Endangered** species are those plants and animals that have become so rare they are in danger of becoming extinct. **Threatened** species are plants and animals that are likely to become endangered within the foreseeable future throughout all or a significant portion of its range.” An **extinct** species is one that no longer exists. An **invasive species** is an animal or plant that has been introduced into a habitat, either accidentally or on purpose, and causes environmental harm or affects human use of natural resources.

### Zone A – Shipwrecked and Ocean Realm

**Rainbow Reef** – Corals get their color from algae, called zooxanthellae, that lives inside of them. The algae provides food for the coral, and in return, the coral provides shelter for the algae. Because algae are plants, they require sunlight to grow. When coral turns white, this means that the zooxanthellae has either died or left the coral. This whitening of coral is called coral bleaching.

- Why do you think there aren't coral reefs off the coast of New Jersey?
- What do you think are some causes of coral bleaching?

**Ocean Realm** – Of the seven species of sea turtles that live in our oceans, all of them are listed as either “Threatened” or “Endangered.” Sea turtles face a variety of threats in the wild, including becoming by-catch in fishing nets and lines, destruction of the beaches where they lay their eggs, and being poached for their meat for food and shells to

make jewelry and clothing. Some turtles mistake plastic bags and balloons for food items like jellyfish. Artificial lighting also causes hatchling turtles to mistake house lights for the light of the moon, thus getting confused and traveling away from the safety of the ocean.

- What is something people can do to help baby turtles find their way to the ocean?
- Why is something like a fishing net or line a hazard for animals like sea turtles?



For the full “Ocean Conservation” Exhibit Companion, visit [Educator Inlet at AdventureAquarium.com](http://EducatorInlet.atAdventureAquarium.com)

## Zone B – Penguin Island

There are 17 species of penguin, and 13 of them are listed as either “Endangered” or “Threatened”. All species of penguins are protected from hunting and egg collecting. However, there are other factors that cause penguins to remain on the endangered list. These include oil spills, pollution, habitat destruction, overfishing, and careless boating.

- African penguins are in trouble because people collect their guano, or poop. Why do you think this is a problem for the penguins, and why do you think people would want the penguin waste in the first place?
- Why do you think overfishing is a cause of a decrease in the penguin population?



## Zone C – KidZone

**Lionfish** – Lionfish are native to Indo-Pacific waters and can often be found on reefs or on the fringes of reefs and rocky lagoons. They are an example of an invasive species. Thought to be accidentally introduced in the waters off the East Coast of the United States in the late 1980’s-early 1990’s, lionfish reproduce quickly. They have few predators, and are very aggressive.

- What are some of the ways you think the lionfish was introduced into the waters off the East Coast?
- Do you think it is possible for people to remove all of the lionfish from their non-native habitat?

**Banggai Cardinalfish** – The Banggai cardinalfish is a small, shallow-water reef fish found in only one area of the world, in a very limited area of Indonesia. Unfortunately, their small population is being over-exploited. The fish are easy to catch, are slow to reproduce and are being collected faster than they can replenish the population.

- Do you think that a large number of Banggai cardinalfish that are collected in Indonesia survive the trip to pet stores in the United States?
- Do you think a small fish like the Banggai cardinalfish is important enough to be saved?

## Zone D – Shark Realm



**Sand Tiger Shark** – Sand tiger sharks are listed as vulnerable by the IUCN. Their population has reduced over 20 percent in the past 10 years. Their decline is due to many factors, including shark finning, collection for shark liver oil, and being caught accidentally in fishermen’s nets. Some sharks are caught in nets that are put out in Northern Australia to protect swimmers from sharks, while still others are caught by fishing trawls and fishing line. Sand tiger sharks are slow to reproduce, with females producing only 2 pups every 2 years.

- How do you think the Sand tiger shark’s slow reproduction contributes to their decline?
- What do you think are some of the reasons that people hunt sharks?