
The Great Barrier Reef, Eighth Grade Reading Passage



Where are the most biologically diverse places on the planet? You might guess that the Amazon rainforest or the jungles of India have the most different kinds of animals and plants. But, in fact, one of the areas with the most diversity in animal and plant life is actually underwater. Thousands of different species of fish, birds, and reptiles live by the northeast coast of Australia. Their home is the Great Barrier Reef, the world's largest coral reef.

The Great Barrier Reef is over 1,600 miles long. That's about as long as the distance from Boston to Miami! The reef is so large that it can even be seen from outer space. Scientists believe that the Great Barrier Reef is around 500,000 years old. But it hasn't always looked the way it does today. The reef has most likely had its current shape and structure for the past 6,000 to 8,000 years.

The Great Barrier Reef may look like a rock, but it's actually alive. Coral reefs are underwater structures that are made by tiny animals related to jellyfish called corals. Corals have soft bodies. To protect themselves against attack, corals release a hard material from their bodies. That material builds up until it makes structures that look like rocks. Hundreds of different species of coral make the many structures that make up the Great Barrier Reef.

Within the structures of a coral reef, many ecosystems grow and thrive. Ecosystems contain several species that interact with each other and the environment. Coral reefs are home to about one fourth of all underwater species, all living in the same space. They play an important role in supporting diversity in the ocean. Charles Darwin, the famous scientist, described the coral reef as an oasis in the desert of the ocean. That's because the warm, tropical waters where coral reefs grow usually don't provide many nutrients to the species that live there. But the coral reefs that exist in tropical waters are some of the most diverse ecosystems on Earth.

The Great Barrier Reef is home to over 1,500 different species of fish. But fish aren't the only things that live in the reef.

The Great Barrier Reef also provides food and shelter to sponges, whales, dolphins, turtles and more.

Symbiotic Relationships on the Reef: Clownfish and Sea Anemone



The Great Barrier Reef is home to a number of species that have very special relationships. These species depend on each other for survival, and benefit each other. This kind of relationship is called symbiotic and mutualistic. One example of this kind of relationship is the partnership that exists between the clownfish and the sea anemone.

Clownfish are small fish, about three to seven inches long. They can be orange, red or yellow, with black and white stripes. They live inside sea anemone. The sea anemone is a cousin to the jellyfish. They have long tentacles and look like underwater flowers. The sea anemone has a hidden power, though. Its tentacles have a poison that stops fish from moving. Once the fish can no longer move, the sea anemone eats them.

How does the clownfish survive living inside such a dangerous home? The body of the clownfish is covered in a particular kind of slimy coating. This coating protects the clownfish from the anemone. It stops the anemone's poison from working on the clownfish.

Because clownfish live inside anemone, the poison protects them from other fish or animals that might eat them. The clownfish is also able to eat some of the food the anemone can't eat. And the sea anemone benefits from having clownfish live inside it, as well. The clownfish helps to protect the sea anemone from fish and small creatures that might otherwise harm it. In this way, the clownfish and sea anemone benefit each other.

Visitors to the Reef: Humpback whales



The Great Barrier Reef is a permanent home for many animals and plants. But many other species just visit the area. The humpback whale comes to the Great Barrier Reef every winter to give birth to its young. Though humpback whales look similar to fish, they are mammals. Instead of scales, they are covered in skin. Each humpback whale has different markings on its skin, similar to how every human being has a different fingerprint. Humpback whales are one of the largest animals on the Great Barrier Reef. They are about as long as a medium-sized school bus. Humpback whales usually come to the ocean's surface to breathe every seven to fifteen minutes, but they can remain underwater for as long as 45 minutes. Humpback whales are famous for their singing. Male humpback whales make noises that last up to twenty minutes and sound eerily like songs.

Even though humpbacks are huge, they only eat the tiniest of fish. These whales like eating plankton-, shrimp-like creatures called krill, and other small fish. Humpback whales don't have sharp teeth like sharks. Instead, their mouths are filled with large plates of baleen. Baleen is made out of the same material that human fingernails are made from.

These plates allow the whales to strain out the small fish from the seawater. To eat, the humpback whale will gulp a mouthful of plankton or krill and then let the water flood out.

Humpback whales work together to hunt these small fish. They use a strategy called bubblenet feeding. One whale will blow a wall of bubbles around the fish, while other whales will make noises. This all confuses the fish. When the fish are confused, the rest of the whales can herd them together and up towards the surface. Then the whales can easily swim up with their mouths open, and eat large quantities of the fish. The average humpback whale eats 4,500 to 5,500 pounds of plankton, krill and fish each day during their feeding season.

The Great Barrier Reef is very important for the humpback whales' survival. Humpback whales come from Antarctica to the Great Barrier Reef from May to September. They do this to have their young and to build up strength before they return to the Antarctic waters in the summer.

The Future of the Great Barrier Reef

The Great Barrier Reef, home to so many diverse species, is now in danger because of several threats. One of these threats is pollution. Pollution puts the coral reef and the species that live in the reef in danger. When there are floods, rivers coming from northern Australia can bring pollution from farms to the ocean. Farm pollution includes animal waste and chemicals. In the past, wetlands between the rivers and the Great Barrier Reef would keep the worst of the pollution from reaching the ocean. But now there are fewer wetlands near the coast. As a result, pollution from these rivers has become worse.

Human interference is also a threat to the Great Barrier Reef. This includes shipping accidents and fishing too much. Many ships pass through the Great Barrier Reef when they are bringing things to and from Australia. It can be hard for captains to steer the ship through these waters. In fact, as of 2013, there were over 1,600 shipwrecks in the Great Barrier Reef. Shipwrecks damage the structure of the Great Barrier Reef. They can also spill oil into the water, killing local species.

Many scientists think of climate change as the greatest threat to the Great Barrier Reef. As the climate changes, the temperature of the ocean is rising. This makes coral reefs weaker and more likely to get diseases. Rising ocean temperatures also affect the ecosystems in the coral reef. They throw off the balance that allows so many species to exist in the same space. The Great Barrier Reef is one of the planet's greatest sources of biodiversity, but it may disappear within our lifetimes.