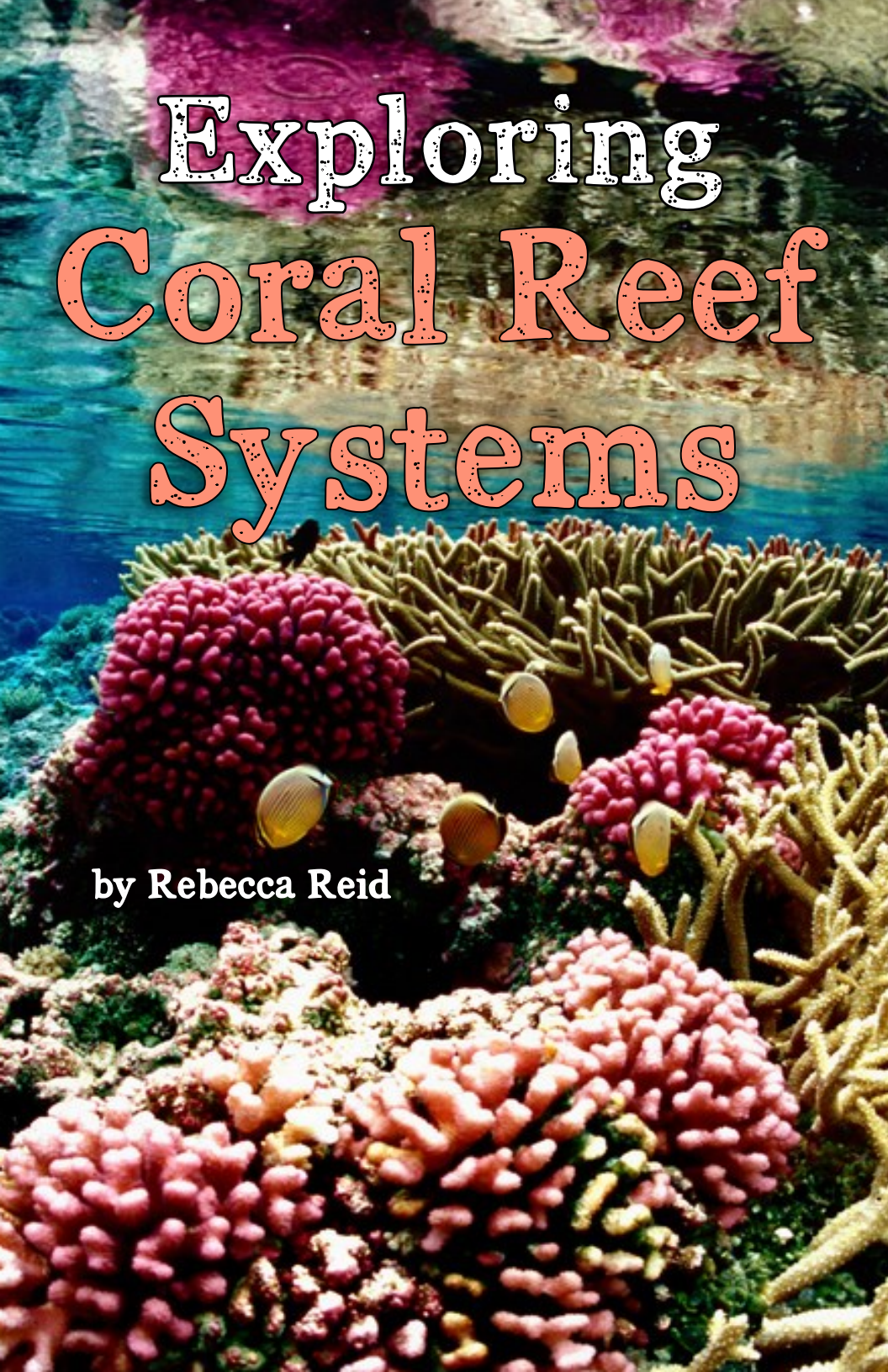
Exploring Coral Reef Systems



by Rebecca Reid

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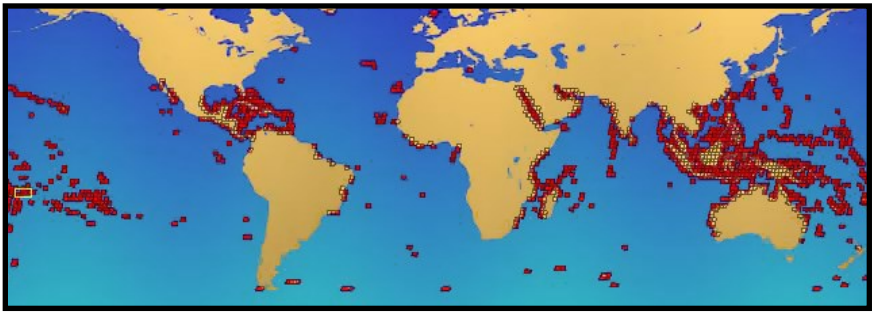
What is a coral reef system?

Coral reef **ecosystems** are underwater neighborhoods. Many different kinds of animals and plants live in coral reef systems. They depend on each other to survive.

Coral reefs usually form in shallow and warm waters in the tropics. The tropics are along the equator of the earth.



The largest coral reef is the Great Barrier Reef. It is near the coast of Australia. It stretches for more than 1,600 miles!

The Great Barrier Reef can be seen from outer space.

There are three main kinds of coral reefs.

1

Fringing reefs form close to the shore.

Barrier reefs form out from the shore. They leave a trench between the shore and the reef.

2

Atolls are coral reefs that surround a place that once was an island.

3

What is coral?

Did you know that coral is alive?

Coral are tiny animals with no spine. Coral **polyps** leave a skeleton behind them over time. Little by little, the skeleton becomes larger.

It takes millions of years to make a coral reef. The skeletons left behind from thousands of coral polyps form in to a reef.

What lives in a coral reef system?

Coral is only one organism that lives in a coral reef. A coral reef system is home to many different kinds of animals and plants.

Many of the large animals in a coral reef system eat the smaller animals.

A barracuda hovers in the water. It will move quickly to capture and eat its **prey**.

The large **predators**, like barracuda and sharks, hunt at night.

Other predators that visit a coral reef system are dolphins, sea turtles, and pelicans.

Whales, the largest mammals, also may visit. But whales are not predators to most coral reef animals. Most whales eat small krill.

How do small organisms survive in a coral reef system?

Because there are so many predators, small fish have **adapted** in order to protect themselves.

Stingrays have long, flat bodies and a slender tail. A stingray whips out the tail and "stings" the enemy fish.

Puffer fish are also unique. They do not have scales! When they are bothered, they puff out like a balloon.

Jellyfish protect themselves with stinging tentacles. The tentacles poison small fish.

Angelfish are colorful fish. They have spikes in their fins to protect themselves.

Many other creatures live in a coral reef. Some of these creatures do not have their own defense systems.

Sea stars and sea urchins call the coral reef home.

The coral reef provides places to hide. Rocks, coral, and seagrasses provide shelter.

The organisms in a coral reef work together to survive. **Symbiosis** means the organisms depend on each other.

For example, clown fish and sea anemone need each other. Like the jellyfish, the sea anemone has stinging tentacles that poison small fish.

The anemone does not sting the clown fish. Instead, the clown fish gives nutrients to the anemone. The anemone gives the clown fish protection from larger predators.

Why are coral reef systems important?

It took millions of years for each coral reef ecosystem to develop. There are unique organisms in each coral reef, and together they survive.

If one part of the system were out of balance, the entire coral reef may be in danger.

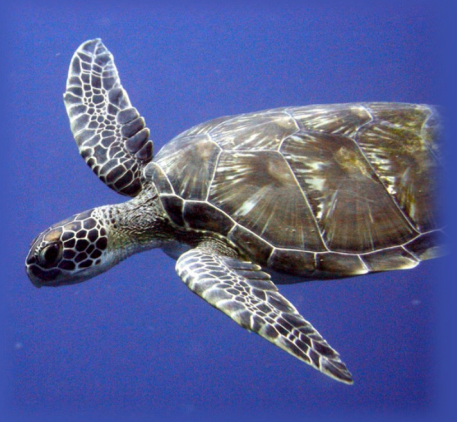
Humans are the newest threat to the coral reef systems across the globe. Coral reefs are very fragile and very old. The entire coral reef neighborhood can be easily disturbed.

Human Effects on Coral Reef Systems

Cause	Effect
Over Fishing	Humans have eliminated some species of fish that help protect the coral. In other places, aggressive fishing methods directly kill the coral.
Pollution	Communities near the ocean put chemicals in the water. The chemicals make fish ill.
Garbage	Plastic, metal, and rubber garbage in the seas damage coral and kill fish.
Coral Damage	Some tourists take coral as a souvenir. Other times, ships run over coral, breaking the reef.

Humans need to be careful not to harm the complex systems that make up a coral reef. It has taken millions of years to form!

Glossary



adapted. Changed to better meet the needs of an environment

atoll. A reef that forms around a former island

barrier reef. A reef that forms a short distance from the shore

ecosystem. A complex environment in which animals, plants and other organisms work together to survive

fringing reef. A reef that forms close to the shore

polyp. The column-shaped body of living coral

predator. An animal that eats another animal

prey. Animals that are hunted by a different animal

symbiosis. The way in which two organisms need each other in order to survive