BAHAMAS CORAL REEF GUIDE

for kids of all ages!

WHAT IS A CORAL REEF?

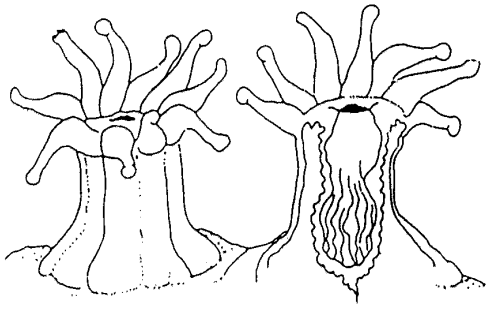
Coral reefs are delicately balanced underwater environments that are home to millions of kinds of plant and animal life, more than any other marine environment in the world. In some parts of the world, they have been around for 250 million years. The Bahamas coral reefs are alive with an abundance of fish, stony and soft corals, algae, sponges, jellyfish, anemones, snails, crabs, lobsters, conch, manta rays, sea turtles, shark, dolphins, and other creatures.

WHAT IS THE REEF MADE OF?

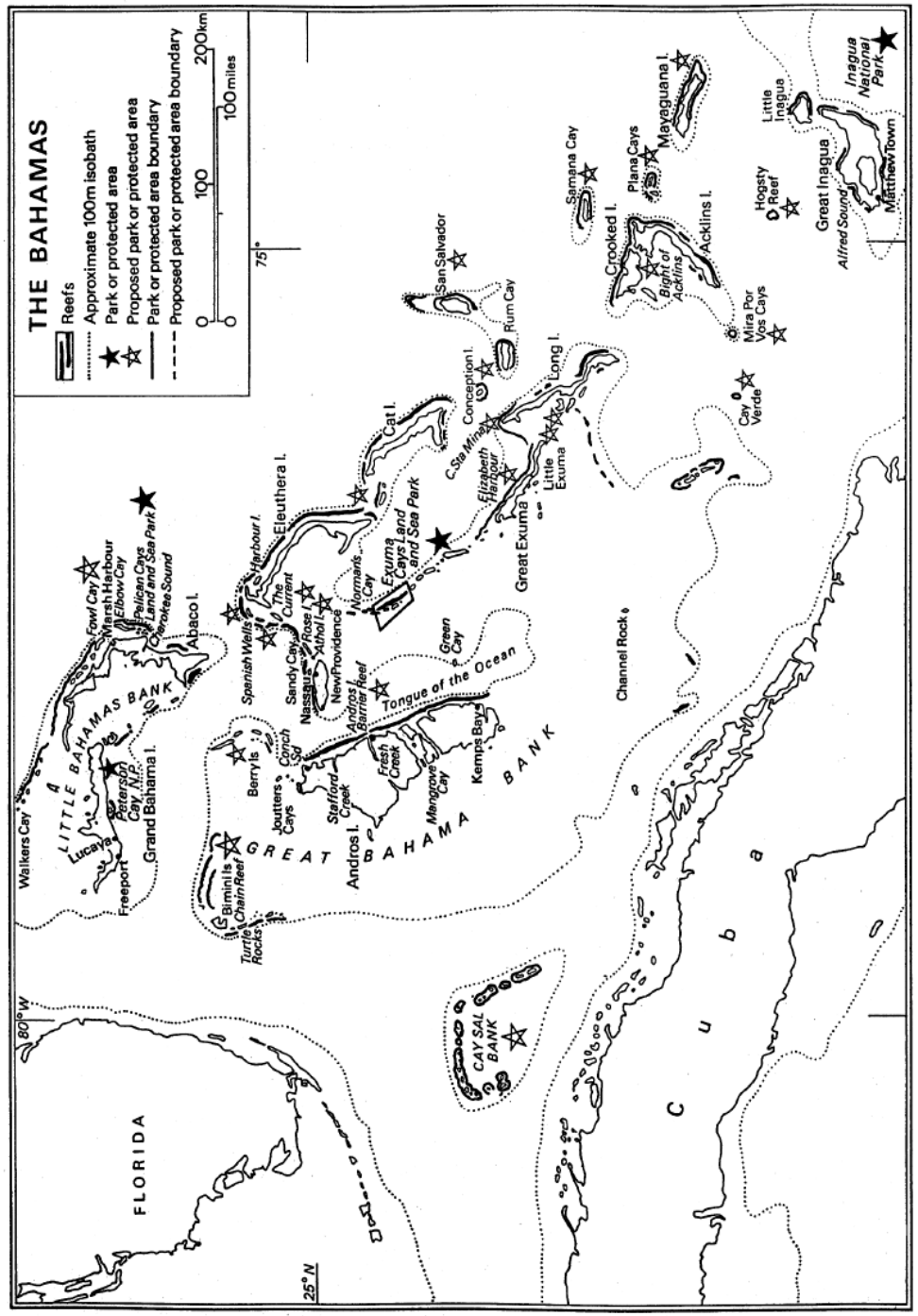
The reef structure itself is made from the skeletons of corals. Thousands of small, slow growning individual coral polyps are connected in colonies to form a thin skin of living tissue. This living tissue layer secretes the limestone skeletons we recognize as coral heads and branches. Over thousands of years, these thin plates or layers of calcium carbonate, create the massive structures we know as coral reefs. The reef is constantly growing new colonies of polyps on top of the skeletons of older ones, but the reef grows very slowly, typically one-half inch per year. Coral, for all its sturdy appearance, is extremely fragile – even the slightest touch can destroy the living polyp, leaving the coral vulnerable to disease.

CORAL POLYPS

Coral are colonial animals consisting of many polyps. An individual coral polyp resembles a tiny sea anemone and contains within its body tissues minute symbiotic algae, known as **zooxanthellae**. These algae photosynthesize just like land plants and provide food for the coral while the coral provides protection and nutrients. This symbiotic relationship is essential to both the algae and coral polyp. Corals are divided into two groups, hard and soft corals. Hard corals create the structures we call reefs. Soft corals are filter feeders with soft skeletons like whips and sea fans. Corals require clear, clean, nutrient free waters to thrive. Corals also need warm ocean water to survive. They cannot be exposed to the air and very warm temperatures (above 88°F, 31°C) cause them to bleach white.



coral polyps

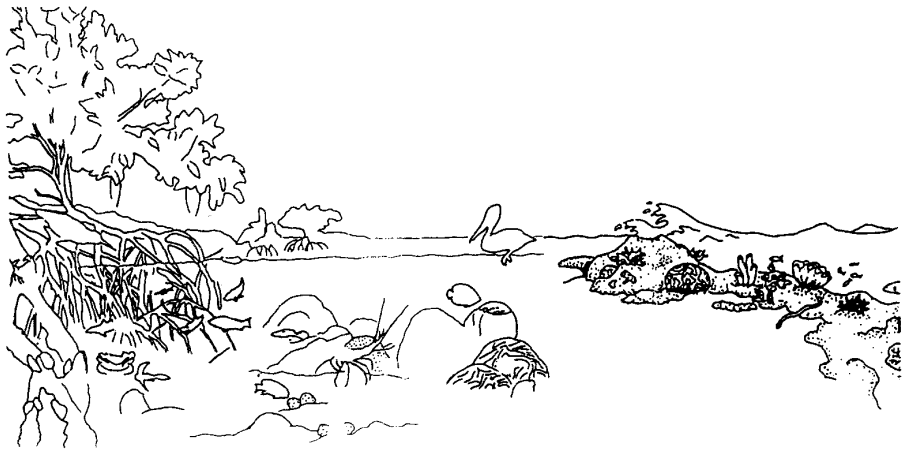


THE BAHAMAS

The Bahamas is the only example of a large open ocean island system lying within the Atlantic Ocean tropics. It is an archipelago that extends over 500 miles between south-east Florida and northern Hispaniola covering 100,000 square miles. The Bahamas includes 2,750 islands, cays, and rocks bathed by warm ocean currents. There are many areas with extensive and virtually untouched coral reefs. More than 50 hard coral species have been documented including brain, boulder, star, staghorn, elkhorn, starlet, and finger corals. Coral reefs fringe most of the northern and east coasts and bank edges of the Abacos, Andros Island, Eluthera, Cat Island, Rum Cay, San Salvador, the Exumas, and Crooked Island, as well as sheltered areas on other islands. The Lucayan Cavern is one of the largest underwater cave areas in the world. The Great Bahama Bank is too turbid for full reefs to develop but some small patch reefs grow in the rocky areas to the southwest of Grand Bahama Island. Several marine protected areas have been established to safeguard selected coral reefs and fish populations in the Bahamas.

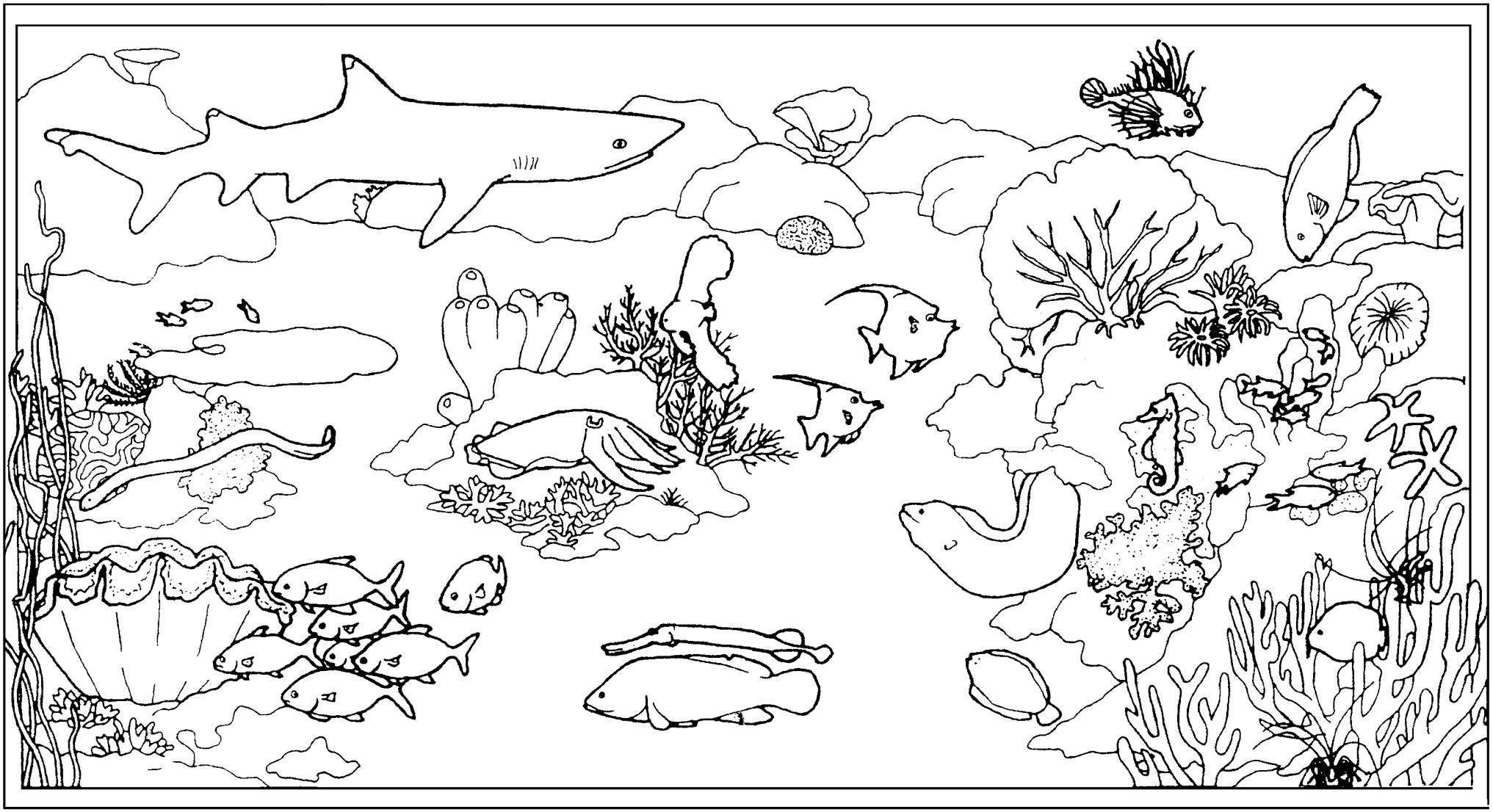
WHAT IS THE CORAL REEF ECOSYSTEM?

The coral reef ecosystem is a complex interdependent environment consisting of coral reefs, mangroves and seagrass beds. Each of these communities plays an important role in the life and health of the reef, from providing nurseries for young reef creatures to filtering water and trapping sediments. The delicate structure of the reef itself relies upon the conditions favorable to the good health of many different forms of life: hard and soft corals, algae, fish, sponges, crustaceans, worms, turtles, dolphins and other sea life.



CORAL REEF COLOR PAGE

THE CORAL FOREST: *Diversity of Life on the Coral Reef*



NOTE: See next page for information and Key to the Illustration.

CORAL REEF COLOR PAGE

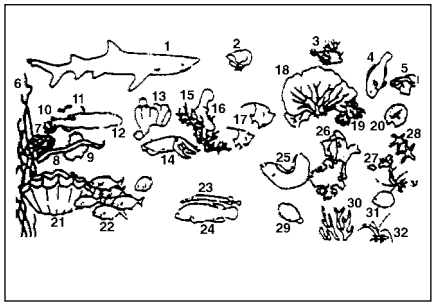
THE CORAL FOREST: *Diversity of Life on the Coral Reef*

Coral reef were first formed more than 250 million years ago, and since that time they have successfully developed and supported a tremendous array of plant and animal life, earning them the name "rainforests of the sea." Today, reefs are found in 109 countries around the world; however, it is estimated that they are either destroyed or damaged by human activity in 93 of them. Like the rainforests, their survival is threatened. With the rainforests, they depend on an interrelated ecosystem whose health and balance is critical to ensure the continued biodiversity of species, protect coastlines, and supply food and medicine. Enjoy the beauty of the coral reef, learn about its vast diversity of life, and help to preserve it for generations to come.

KEY TO THE ILLUSTRATION

Location: The Breat Barrier Reef, Australia

Key Fact: The Great Barrier Reef is the largest structure visible from outer space. Located along the northeast coast of Queensland, it is 1,240 miles (2,000 km) long and consists of more than 2,500 major reefs.



1. White tip reef shark
2. Lettuce coral
3. Butterfly cod (lionfish)
4. Parrotfish
5. Soft coral
6. Sea whips
7. Brain coral
8. Olive sea snake
9. Soft coral
10. Feather star
11. Damselfish
12. Plate coral
13. Vasiform sponge
14. Cuttlefish
15. Needle coral
16. Batfish (juvenile)
17. Moorish idol
18. Gorgonian fan coral
19. Sea anemone
20. Mushroom coral
21. Giant clam
22. Six-banded trevally
23. Trumpetfish
24. Coral cod
25. Yellowmargin moray eel
26. Spotted seahorse
27. Sponge
28. Blue sea star
29. Flowery flounder
30. Branching coral
31. Emperor angelfish (juvenile)
32. Banded coral shrimp

WHY IS THE REEF IMPORTANT?

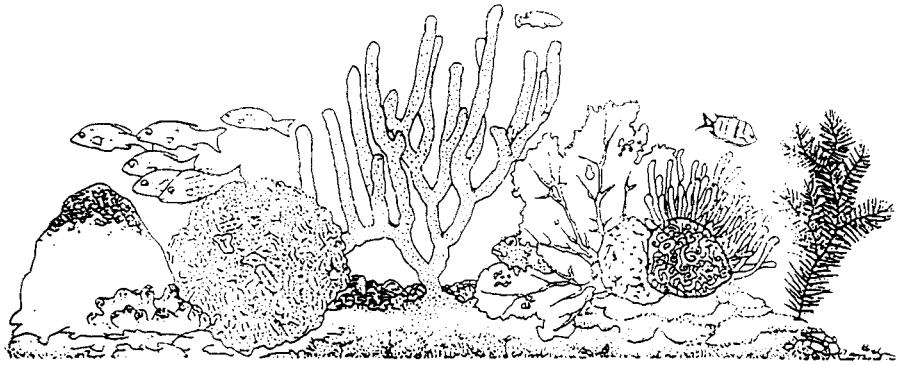
The coral reef is home to more different types of marine life than any other place, including more than 150 species of tropical fish and over 50 species of coral (80% of all coral species found in the tropical western Atlantic). The massive structure of reefs protects islands from erosion. The natural loss of coral skeletons, along with the skeletons of small agae, create sand for beaches. The reef provides food and protection for fish, mollusks, and other organisms that are important parts of marine food webs. They are also of great economic importance to us. Prostaglandin, one of the newest cancer fighting drugs, was first isolated from Bahamian sea fans.

WHY DOES THE REEF NEED PROTECTION?

Coral reefs deserve protection for their natural value. In addition, the economic, tourist, and recreational and private resources of the Bahamas are dependent upon the continued health of the coral reef. The coral reef ecosystem is the breeding ground for 90% of all local commercially harvested sea life and 70% of sportfish. Coral reefs are a barrier to storm surges and hurricanes, absorbing the impact of wave and wind action for many of the islands.

Coral reefs are typically "spur and groove" formations – a series of ridges and channels – and are found in shallow waters. This makes them very attractive, productive, and easy to get to. Fishermen and tourists alike can easily visit coral reefs. They produce numerous species of fish and mollusk that are of great economic importance. Because of their great beauty, they attract tourists, new residents and thousands of snorkelers, divers, fishermen and boaters every year. They are often loved to death by those who value and admire them the most.

The population of the Bahamas is still small and mostly limited to urban centers, but the Bahamas is growing rapidly and is attracting more people. There are important lessons to learn from the history of a near neighbor, the Florida Keys,



that began in a similar way. There has been a steady decline in the extent and diversity of coral reefs of the Florida Keys. So many people live near and visit the reefs of the Florida Keys that they are literally being destroyed by the impact of human beings – from declining water quality to physical damage from marine debris, anchors, boat groundings, and even the careless touch of diver or snorkeler.

The greatest threat to Florida's coral reef is water quality decline from agricultural runoff from Florida Bay and inadequate sewage treatment in the Keys. Water visibility has dropped dramatically, while coral diseases and nuisance algae are increasing at an alarming rate. Recent efforts to improve water quality have resulted in some promising improvements. But isn't it better to protect the reefs in the first place?

Protecting your coral reefs is protecting your future.

For more information, write to

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