

WHAT YOU CAN DO TO PROTECT ST. KITTS – NEVIS CORAL REEFS

- Snorkel aware, dive with care. Avoid all contact from fins, hands, and equipment on fragile corals and never stand on the reef.
- Anchor in sandy areas, away from corals and seagrasses. Look before you drop the anchor. If available, use reef mooring buoys.
- Unless you are fishing for dinner, avoid harvesting marine life. Sea turtles are endangered and should never be taken, especially eggs.
- Bring your trash back to shore and retrieve any marine debris seen floating in the ocean, especially fishing gear. Turtles, fish, birds, and whales become entangled and can choke on trash and plastics can suffocate corals. Recycle your waste, if possible, once back on land.
- Use biodegradable bilge cleaner and cleaning products and never discharge bilge water or holding tanks near the reef. Avoid the use of toxic cleansers.
- Support efforts to improve sewage treatment, installation of vessel pump out facilities and reduce agricultural, stormwater and wastewater runoff or discharges into the ocean. Corals need clear, clean water.
- Be A Sea Fan! Join Reef Relief. Memberships begin at \$30/year and you'll receive Reef Line, our newsletter, and other membership privileges. For \$50., you'll receive our members-only Protect Endangered Coral Reefs tshirt and bumper sticker as well.

— Special Thanks to —



For more information, contact

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ST. KITTS – NEVIS CORAL REEF GUIDE

for kids of all ages!

Coral reefs are delicately balanced underwater worlds that are home to more kinds of life than any other marine environment. St. Kitts – Nevis has many coral reefs that are alive with an abundance of fish, stony and soft corals, algae, sponges, jellyfish, anemones, snails, crabs, lobsters, conch, manta rays, sea turtles, sharks, dolphins and other creatures

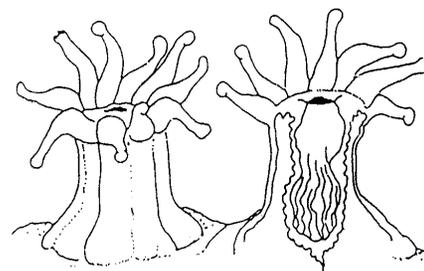
CORAL POLYPS

The massive formations at the reef are formed by thousands of tiny, slow-growing animals called **coral polyps**. They form a thin skin of living tissue on top of the limestone remains of coral skeletons secreted over thousands of years. The reef is constantly growing new colonies of polyps, but reefs grow very slowly – typically only one-half inch per year.

A **coral polyp** resembles a tiny sea anemone and contains within its body a symbiotic algae, called **zooxanthellae**, that gives it color. The **zooxanthellae** use light and photosynthesis to provide food for the **coral polyp** in exchange for protection and nutrition.

Corals are divided into two groups, hard and soft corals. Hard corals are either branching or boulder shapes that create the structure of the reef. Soft corals are filter feeders with soft skeletons such as sea whips and sea fans.

Corals need warm, clear, clean, nutrient-free ocean waters to survive. They cannot survive exposure to air, and very warm temperatures (above 88 degrees F, 31 degrees C) cause them to expel their **zooxanthellae** and lose their color. This is called coral bleaching.



coral polyps

Coral, for all its sturdy appearance, is extremely fragile. Even the slightest touch can destroy the living polyp, leaving the coral vulnerable to disease.

ST. KITTS – NEVIS

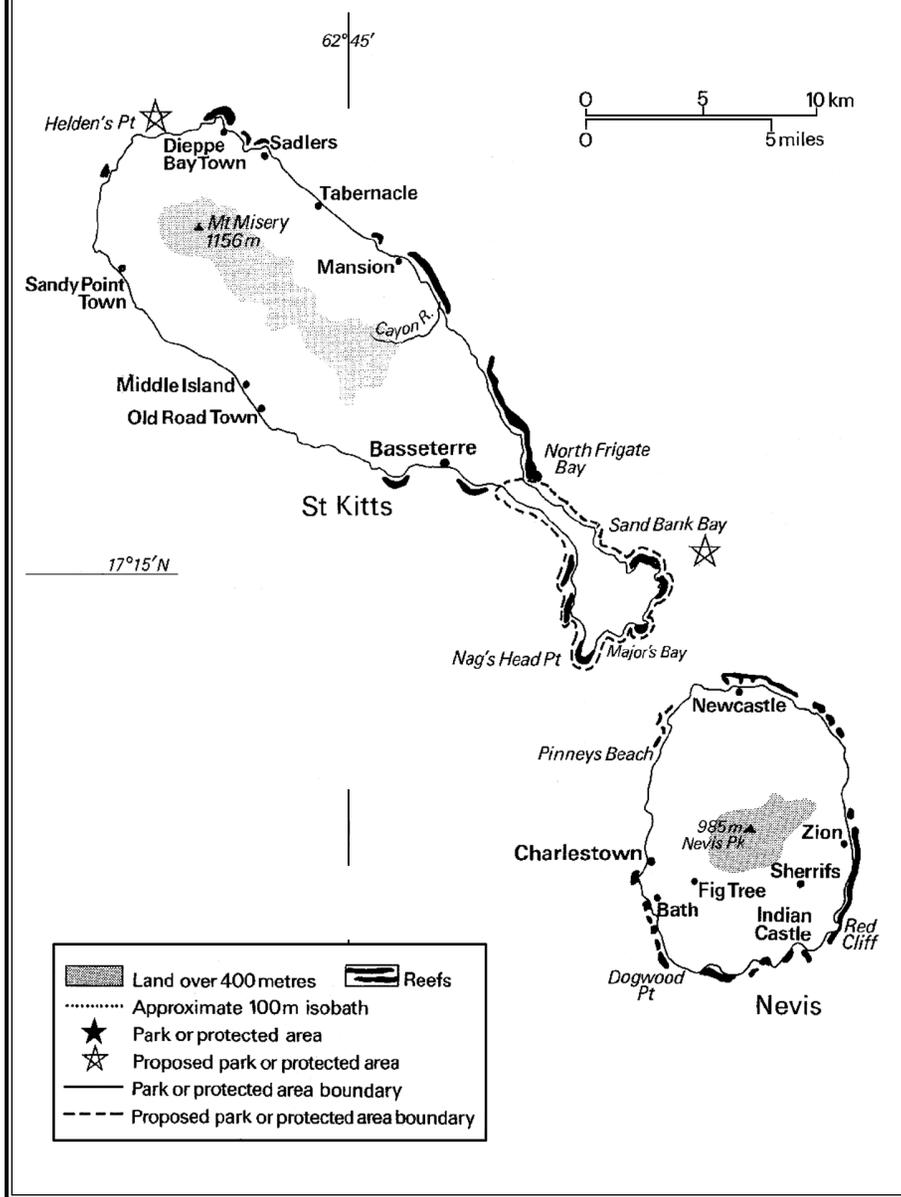


Chart reproduced from *Coral Reefs of the World Atlantic & Eastern Pacific, Volume 1*, edited by Sue Wells, IUCN Conservation Monitoring Centre, United Nations Environment Programme 1988.

WHY DOES THE REEF NEED PROTECTION?

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

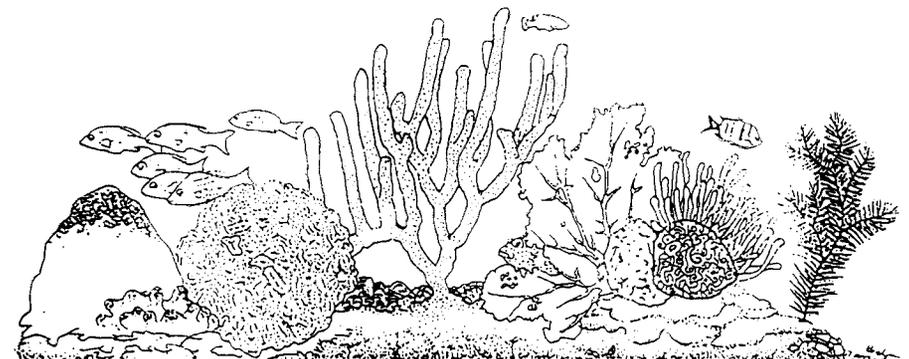
Coral reefs are typically "spur and groove" formations—a series of ridges and channels—and are found in shallow waters. This makes them very attractive, productive and easy to get to. Because of their great beauty, they attract tourists, new residents and snorkelers, divers, fishermen and boaters every year. They are often loved to death by those who value and admire them the most.

According to the *World Atlas of Coral Reefs*, by Mark Spalding, Cronna Ravilious and Edmund Green, and others, there has been a progressive degradation in reefs throughout the Lesser Antilles over the past two decades.

Coral reefs in St. Kitts and Nevis are declining due to:

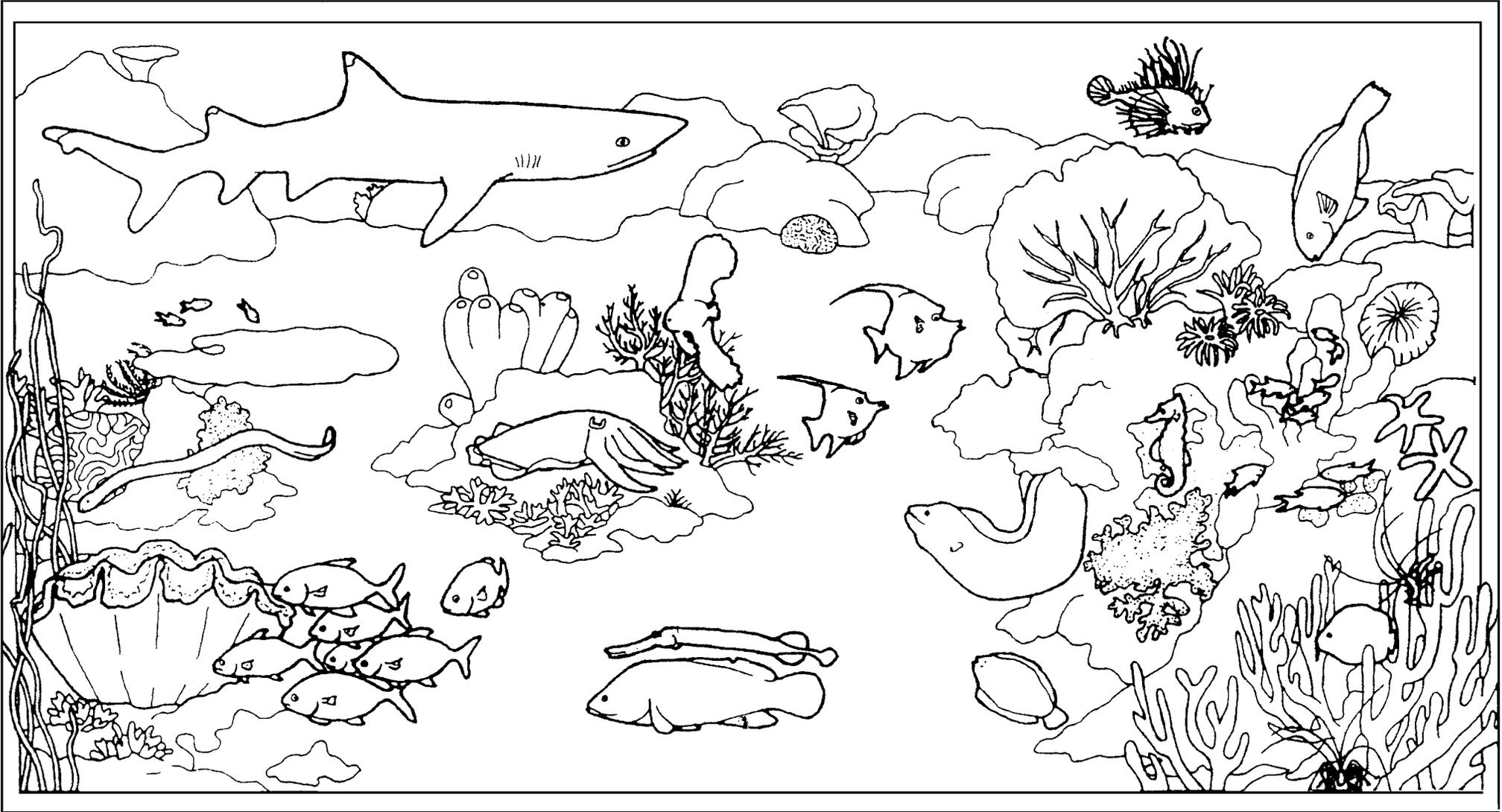
- Ocean pollution on the north coast of the southeast peninsula
- Heavy use at Frigate Bay. Soil runoff and sewage effluent have caused algal blooms.
- Mining for sand has affected Sandy Point in St. Kitts and areas of Nevis.
- Overfishing of conch and lobster
- The sale of turtle shells, meat, and souvenirs is heavy and sea turtle populations are declining.

There are established closed seasons and minimize size laws for sea turtles, but no marine protected areas exist, although some studies have begun to study the north coast of St. Kitts and the entire south east peninsula and its wetlands as potential reserves.



CORAL REEF COLOR PAGE

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



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

CORAL REEF COLOR PAGE

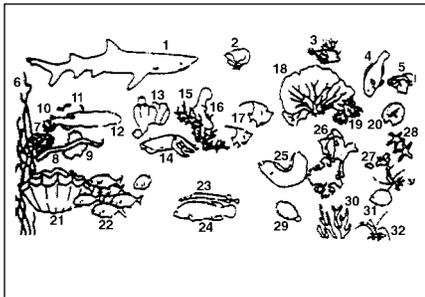
THE CORAL FOREST: *Diversity of Life on the Coral Reef*

Coral reefs 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. 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 Great 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 | 17. Moorish idol |
| 2. Lettuce coral | 18. Gorgonian fan coral |
| 3. Butterfly cod (lionfish) | 19. Sea anemone |
| 4. Parrotfish | 20. Mushroom coral |
| 5. Soft coral | 21. Giant clam |
| 6. Sea whips | 22. Six-banded trevally |
| 7. Brain coral | 23. Trumpetfish |
| 8. Olive sea snake | 24. Coral cod |
| 9. Soft coral | 25. Yellowmargin moray eel |
| 10. Feather star | 26. Spotted seahorse |
| 11. Damselfish | 27. Sponge |
| 12. Plate coral | 28. Blue sea star |
| 13. Vasiform sponge | 29. Flowery flounder |
| 14. Cuttlefish | 30. Branching coral |
| 15. Needle coral | 31. Emperor angelfish (juvenile) |
| 16. Batfish (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. The massive structure of reefs protects islands from erosion. The natural loss of coral skeletons, along with the skeletons of small algae, 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.

ST. KITTS – NEVIS

St. Kitts and Nevis are independent islands that are part of the Lesser Antilles, with the Caribbean Sea to the west and the Atlantic Ocean to the east. They are situated on the same submerged bank as St. Eustatius to the southwest and all were formed by volcanos.

There are several small spur and groove and fringing reefs with Elkhorn and fire coral formations on the northeast side of St. Kitts and Nevis. Reefs are numerous on the east coast between Canada Estate and North Frigate Bay, off of Frigate Bay and at Dieppe. On the Caribbean side, nearshore reefs have little coral coverage (20%) with more coral further offshore. The Atlantic coast has patch reefs with 10% living coral.

On Nevis, the northeast coast has some coral, but it is mostly covered in algae, with coral on the sides of the spur and groove channels. Extensive seagrass beds lie off the north west and southern coast.

Sea turtles, including Green, Hawksbill, Leatherback, and Loggerhead, are found in the region and some still nest on the islands. The southeast end of St. Kitts has seagrass beds that are used by nesting sea turtles. Others nest in the Frigate Bay area and on the small beaches of southeast Nevis.

Conch and lobster fishing is important. Pinney’s Beach near Charlestown in Nevis is the main recreational beach and the southeast coast is also a snorkeling site. Half Moon Bay north of Muddy Point is a popular beach and reef area. The south east peninsula has potential for snorkeling and diving.

WHAT IS THE CORAL REEF ECOSYSTEM?

The coral reef ecosystem is a complex interdependent environment consisting of

- coral reefs
- mangroves
- 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.

