What Makes Coral Reefs So Special?

Coral Reefs Make a Healthy World

Coral reefs are one of the most spectacular and fragile of underwater environments, covering less than one percent of the ocean floor but supporting an estimated twenty-five percent of all marine life. Even though they are located in the tropics, coral reefs can benefit people and the natural world far beyond their boundaries.

Millions of Humans Depend on Coral Reefs

*"By one estimate, coral reefs provide economic goods and ecosystem services worth about $375 billion each year to millions of people."(*Robert Constanza et al. 1997)

Many countries with coral reefs generate significant portions of their income through tourism. Studies show that on average, countries with coral reef industries derive more than half of their gross national product from them. A good exmple can be found in Boniare, a small Caribbean island. Bonaire earns about $23 million USD annually from coral reef activities-–yet managing its marine park costs less than $1 million dollars annually. (F. Talbot and C. Wilkinson, 2001)

The variety of marinelife and protected beaches supported by coral reefs provide an inviting setting for sightseers, sunbathers, snorkelers, and scuba divers. In fact, there are more than 8.5 million certified scuba divers in the United States who spend money on dive vacations each year. In 1997, the State of Florida earned $1.6 billion USD from coral reef and beach related tourism. For residents of coral reef areas that depend on income from tourism, reef destruction creates a significant loss of employment in the tourism, marine recreation and sport fishing industries.

Coral reefs are also a significant source of protein for millions of people. For people who live in coral reef areas, coral reefs are part of their lives. Reefs are directly linked with traditional, spritual and cultural values of many people who live in reef areas.

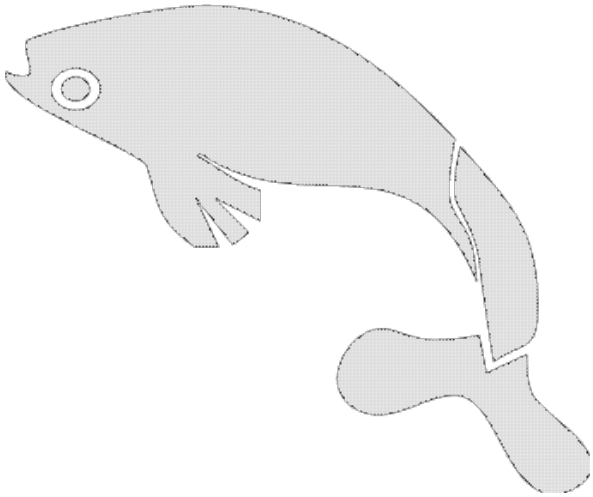
Coral Reefs Save Lives

Just like species in the rain forest, reef animals and plants contain medicinal compounds, many of which are just being discovered. Several important drugs have already been developed from chemicals found in coral reef organisms. The most famous of these is AZT, a treatment for people with HIV infections, which is based on chemicals extracted from a Caribbean reef sponge.

Unique compounds from coral reefs have also yielded treatments for cardiovascular diseases, ulcers, leukemia and skin cancer. In addition, coral's unique skeletal structure has been used to make our most advanced forms of bone grafting materials.

Amazingly, more than half of all new cancer drug research focuses on marine organisms. The beautiful and fragile creatures of our coral

reefs have the potential to make even greater contributions to our lives by providing new cures for life-threatening diseases.



Coral Reefs Protect the Beaches

Another benefit that people receive from coral reefs is the guard they keep on our coastlines. Reefs serve as a buffer, protecting inshore areas from the pounding of ocean waves. Without coral reefs, many beaches and buildings would become vulnerable to wave action and storm damage. In one instance, when coral and sand was mined away in the Maldives, it cost $10 million USD per kilometer to build a wall to protect the coastline. (Coral Reefs, Mangroves and Seagrasses: A sourcebook for Managers, F. Talbot and C. Wilkinson, 2001)

Animals That Live Nowhere Else

Coral reefs are a high-density location of biodiversity. This means that the variety of species living on a coral reef is greater than almost anywhere else in the world. When we protect coral reefs, we protect an abundant array of life.

Coral reef ecosystems are like bustling cities, with buildings made of coral and thousands of marine inhabitants coming and going, interacting with one another, carrying out their business. In this sense, coral reefs are cities under the sea.

Coral reefs provide shelter for nearly one quarter of all known marine species. Over the last 350 million years, reefs have evolved into one of the largest and most complex ecosystems on the planet. The reefs are home to over 4,000 species of fish, 700 species of coral, and thousands of other forms of plant and animal life. Scientists estimate that, in total, more than 1 million species of plants and animals are associated with the coral reef ecosystem.