CORALS

The Animals That Build and Live on Our Coral Reefs

Photo: Miami-Dade County

OUR FLORIDA REEFS
YOUR VOICE, OUR FUTURE

Corals are some of the most unique and oldest living animals found on the planet. Living close to our beaches, they construct massive coral reefs, often called the "rainforests of the sea," that support a rich and diverse web of life in our ocean.

Florida's coral reefs are home not only to corals, but also to a vast array of fish, sponges, and other ocean life. They protect our beaches during storms, provide year-round enjoyment to South Florida residents and visitors, and are vital to our local economy. Yet, most people know very little about the amazing animals that make up our coral reefs.

Close up view of pillar coral (Dendrogyra cylindrus).
Photo: Dave Gilliam, Ph.D.

About Corals

Corals are animals that range in size from a pinhead to a DVD. They can live as individual animals called polyps or, like the condos of South Florida, in communities containing thousands of individuals. Most corals grow extremely slowly, adding less than an inch each year. A single community – called a colony - can live for hundreds of years. The oldest known colony in southeast Florida is over 300 years old!

Our coral reefs are made up of different types of corals. ***Stony corals***, which have calcium-based, limestone skeletons, are the primary reef-building corals. New colonies grow on top of old colonies, which over time builds the reef foundation. ***Soft corals***, including sea fans and sea whips, don't have a hard limestone skeleton, so they don't add to the reef foundation. Their flexible skeleton allows them to sway with the waves and ocean currents.

Like all animals, corals are limited by their surroundings. The main factors affecting coral growth are temperature, depth, light, salinity, water quality, and currents. Small changes in any of these factors can affect a coral's growth.

Corals form an important symbiotic relationship with small marine algae, known as ***zooxanthellae*** (*zoh-zan-thel-ee*). The algae provide the coral polyp with food, oxygen, and its brilliant color, while the coral provides the zooxanthellae with safe shelter. Just like humans, corals get stressed. When they do, it can lead to a phenomenon known as ***coral bleaching***. Bleaching occurs when the algae is expelled from a stressed coral, leaving the coral only with a "bleached" limestone skeleton appearance. The zooxanthellae may return to a coral if its stress levels return to normal, but if they don't, the coral may die from starvation.

Threats to Corals

Many different global and local threats can limit coral growth or even kill them. For example, increases in global greenhouse gases may increase ocean temperatures, leading to stress and coral bleaching. Oceans also absorb carbon dioxide, and as they become more acidic, it will affect the corals' ability to produce their limestone skeleton.

Photo: William Goodwin

Locally, a number of factors threaten coral reef health. Increases in human population lead to increased pollutants that enter the ocean through land-based sources, such as storm-water runoff, partially treated wastewater outfalls, and inlets – further degrading the quality of water in the marine environment. Other factors, such as invasive species, unsustainable fishing efforts, and damage to coral habitats from anchors and coastal development, are impacting the coral reefs' ability to survive.

Grooved brain coral (Diploria labrynthiformis) with white grunt (Haemulon plumierii) on a southeast Florida coral reef.

Photo: Joe Marino

Current Status of Florida's Coral Reefs

Florida's coral reefs extend more than 350 miles from the Dry Tortugas along the Florida Keys and up the southeast coast of Florida to the St. Lucie Inlet in Martin County. There are more than 45 species of stony corals found along this Florida Reef Tract, along with 37 species of soft corals. Of the stony coral species, two are currently listed as Threatened under the U.S. Endangered Species Act: staghorn coral (*Acropora cervicornis*) and elkhorn coral (*Acropora palmata*). Several more are currently being petitioned for listing. The State of Florida also listed pillar coral (*Dendrogyra cylindrus*) as Endangered and protects all stony corals within state waters.

Although there are more species of stony coral, the soft corals cover more of the sea floor. Live stony corals cover on average 2-3% of the reef but can be as high as 20%.[1] However, coral reefs throughout Florida and the Caribbean have shown significant decline over the last few decades.[2] Region-wide monitoring in southeast Florida has shown that since 2003, stony coral populations at our sites are low but relatively stable.[3]

What You Can Do

Our daily actions play a huge role in helping protect and restore our coral reefs. From properly disposing of household chemicals and paints to choosing sustainable seafood – you can help reduce local threats to reef health. Reef users also have a responsibility to protect these fragile resources by following existing protection laws, such as the Florida Coral Reef Protection Act.

While these actions do help, a collaborative, long-term plan for the future of our reefs is needed. Effective coral reef management options do exist, and everyone has a role in the management success and stewardship of Florida's ocean resources. Join ***OUR FLORIDA REEFS*** to help identify management actions to ensure healthy coral reefs in Miami-Dade, Broward, Palm Beach, and Martin counties.

For more information and to provide your input on the future of southeast Florida's reefs, please visit: www.OurFloridaReefs.org

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OUR FLORIDA REEFS *is a community planning process of the Southeast Florida Coral Reef Initiative (SEFCRI), a collaborative, local effort started in 2004 to understand and protect our coral reefs for the benefit of all. SEFCRI is coordinated by the Florida Department of Environmental Protection's Coral Reef Conservation Program.*

1 Gilliam, D.S. 2010. Southeast Florida Coral Reef Evaluation and Monitoring Project 2009 Year 7 Final Report. Florida DEP report #RM085. Miami Beach, FL. Pp. 42.

2 Burke, L. et al. 2011. Reefs At Risk Revisited. World Resources Institute.

3 Gilliam, D.S. 2012. Southeast Florida Coral Reef Evaluation and Monitoring Project 2011 Year 9 Final Report. FDEP Report.

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Southeast Florida Coral Reef Initiative

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