

PUBLICATION

The Fading Color of Coral: Anthropogenic Threats to Our Native Reefs

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"The Fading Color of Coral: Anthropogenic Threats to Our Native Reefs"*

At one time, the Florida Keys Reef Tract was bursting with color and teeming with marine life. As a result of human activities over the decades, this has changed dramatically. The fading of coral and the decline of fish populations is palpable. Even without an understanding of the legal and scientific causes of this decline, there is a sense of dread among those who have even casually observed up close the adverse impacts of man-made threats to Florida's coral reefs. For example, instead of reliving a boat trip to observe a coral reef bursting with color and teeming with marine life, as was experienced a few years ago, a recent trip to the Florida Keys revealed only bits and pieces of colorless brain coral, a handful of spiny lobsters, and a few fish that still remain hopeful for abundant life to return to their marine home. This phenomenon is not unique to Florida. Florida is the only state in the continental United States with extensive shallow coral reef formations near its coasts. The Florida Keys Reef Tract is the third longest in the world. Corals are living, breathing, sessile animals that are currently facing mass extinction. Human activity endangers biodiversity in the Florida Keys Reef Tract in at least four main ways: overfishing, pollution, sedimentation, and climate change.

The State of Florida regulates the Florida Keys and surrounding waters including the coral reefs through statute and administrative rules of the Florida Department of Environmental Protection (FDEP). The Florida Keys are an "Outstanding Florida Water" (OFW). The FDEP OFW rule states "[t]hat the level of protection afforded by the designation as Outstanding National Resource Waters is clearly necessary to preserve the exceptional ecological or recreational significance of the waters." This OFW designation is the highest protection in Florida for waters, as further stated: "The waters are of such exceptional recreational or ecological significance that water quality should and can be maintained and protected under all circumstances other than temporary degradation and the lowering allowed by section 316 of the Federal Clean Water Act (CWA)." The state of Florida also designated the Florida Keys an "area of critical state concern," affording the Florida Keys the highest level of environmental protection. A key stated purpose of this designation is to protect and improve the Florida Keys near shore water quality through construction and operation of wastewater facilities that meet the requirements of the Florida statutes. Additionally, the State of Florida has enacted regulations which address the discharge of domestic wastewater in the Florida Keys. The statute addresses the discharge of inadequately treated and managed domestic wastewater. From small wastewater facilities and septic tanks, to other onsite systems in the Florida Keys, the statute recognizes that this discharge compromises the coastal environment and states that it must be regulated.

Additionally, statutory protection is in place to regulate boating incidents that contribute to the degradation of Florida's coral reefs. The Florida Coral Reef Protection Act declares that "it is in the best interest of the state to clarify the department's powers and authority to protect coral reefs through timely and efficient recovery of monetary damages resulting from vessel groundings and anchoring-related injuries." The statute was originally enacted in 2009 to make it illegal to anchor on or otherwise damage coral reefs in Florida. Remarkably, 500 ship groundings a year occur in the Florida Keys National Marine Sanctuary, causing damage to the reefs.

There also are several federal laws that purport to provide protection for Florida's coral reefs. The Endangered Species Act of 1973 (ESA) includes some limited protection for a few Florida coral species. Of the 45 species of stony coral found along the Florida Keys Reef Tract, two are currently listed as "threatened" under the ESA: staghorn coral and elkhorn coral. This listing means that the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service must issue critical habitat protection. Several more species are currently the subject of petitions requesting a listing by NOAA. Endangered and threatened species that have critical habitat protection are twice as likely to be recovering as those without it. The state of Florida also has listed five additional coral species as threatened and protects all stony corals within state waters.

The CWA also sets out, in part, to prohibit the "discharge of toxic pollutants in toxic amounts." The CWA regulates "the effect of disposal of pollutants on human health or welfare, including...shorelines, and beaches...." establishing guidelines and environmental standards to be used by the Environmental Protection Agency (EPA) and the Army Corps of Engineers (Corps) in the review of permit applications "to discharge dredged or fill material in the nation's waters, including marine waters that are home to coral reefs." Because of the limited reach of the CWA, waste and other harmful pollutants "are only minimally regulated near coastal waters of the United States and can be discharged untreated offshore."¹ Environmental advocates have pointed out that these pollutants "contaminate our coastal waters resulting...[in] risk to public health for people swimming in our oceans and damage to coral reefs..." *Id.*

One additional federal protection is the Marine Protection, Research, and Sanctuaries Act (MPRSA). Also known as the Ocean Dumping Act, the MPRSA prohibits "the dumping of material into the ocean that would unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities." The MPRSA requires the EPA, in consultation with the Corps, to develop environmental criteria that must be met before any proposed ocean disposal activity can proceed to avoid adverse impacts on coral reefs.

While the above federal laws are vital to the protection of Florida's coral reefs, the primary responsibility falls upon the state of Florida, and to a certain extent local governments, to ensure that these vital natural resources are protected from human activity and preserved for future generations.

The health and condition of coral reefs continues to worsen in Florida and throughout the waters of the world. However, those who appreciate the beauty, the biological diversity, and the vital functioning of coral reefs in the marine ecosystem, have succeeded in recent years in drawing attention to this ecological crisis and have passed laws and established programs to attempt to reverse the damage. The world's third-largest barrier reef along the Florida Keys is struggling and on the verge of collapse, with less than a tenth of the reef system now covered in living coral. While there is little that communities living near coral reefs can do to stop global warming, there is a lot they can do to reduce nitrogen runoff.

Addressing smaller scale issues, like agricultural and toxic pollution, is critical to protecting the dying coral reef systems in the Florida Keys. From properly disposing of household waste and chemicals to choosing sustainable sunscreens, tourists and Florida residents alike can help reduce local threats to reef health. Implementing proper waste treatments and agricultural pollutant reduction programs also can slow coral death rates, especially with proper funding and oversight. Time is running short to protect and preserve our shared vital resource of Florida's unique coral reefs, but it is not too late, if people act immediately, responsibly, and forcibly. For more information, see [The Fading Color of Coral: Anthropogenic Threats to Our Native Reefs](#).

¹ Constantine G. Papavizas & Lawrence I. Kiern, 2013-2014 U.S. Maritime Legislative Developments, 46 J. Mar. L. & Com. 261, 266-67 (2015).

