

Natural Resources at Dry Tortugas

National Park Service
U.S. Department of the Interior

South Florida Natural Resources Center
Everglades and Dry Tortugas National Park



Renowned for its cultural and natural resources, Dry Tortugas National Park lies at the western end of the Florida Keys along the Straits of Florida. First established as Fort Jefferson Monument in 1935, the site was reauthorized in 1992 as Dry Tortugas National Park. Congress established the park to “preserve and protect for the education, inspiration, and enjoyment of present and future generations nationally significant natural, historic, scenic, marine, and scientific values in south Florida.” The enabling legislation specifically stipulates that the park must be managed so as to protect, among other values, “a pristine subtropical marine ecosystem, including an intact coral reef community.”

The seven islands of the Dry Tortugas are composed of sand, limestone, and coral reef fragments and are surrounded by shoals and water to depths of 25 m (82 ft). A significant characteristic of the park is its ratio of land to water; 99.8% of the park consists of marine ecosystems. Scientists with the South Florida Natural Resources Center (SFNRC) are responsible for stewardship of the natural resources and science activities in the park. These activities are of particular importance for the newly-established Research Natural Area (RNA), a 46-square mile no-take preserve in Dry Tortugas National Park. The purpose of the RNA is to preserve and protect ecological habitats, communities, and processes. The RNA offers outstanding opportunities for research, education, and non-consumptive recreational activities.

Natural Resources

Marine Resources. The coral reefs in the park are some of the most species-diverse in the Caribbean, containing more than 75 species of hard and soft corals. Over 330 species of reef-associated fishes have been identified, including recreationally important gamefishes such as snappers, groupers and grunts, and non-gamefishes such as butterflyfishes and damselfishes. Spiny lobsters and pink shrimp contribute both ecological and economic value to the region. Because of its location, the Tortugas area plays an important ecological role in the larger Florida subtropical seascape. Currents flowing through the Gulf of Mexico, the Caribbean Sea, and the Atlantic Ocean

interact to disperse larval and juvenile fish spawned in the Tortugas as far as Cape Canaveral on the Atlantic coast and Tampa Bay on the Gulf coast.

Terrestrial Resources. Human development in the Florida Keys has contributed to a significant regional loss of natural habitat, increasing the ecological importance of the largely undeveloped Dry Tortugas. A small group of maritime shore species makes up the native vegetative cover of the park keys, providing refuge and forage opportunities for a number of migratory neo-tropical birds. The park keys also provide important habitat for the non-migratory Sooty and Noddy Terns and Frigatebirds. The beaches of the Dry Tortugas, where loggerhead and green sea turtles nest, are some of the few remaining beaches in Florida without artificial light sources that can disorient adults and hatchlings as they navigate to the sea.

Issues and Threats. The park experienced a four-fold increase in visitation between 1994 and 2000. While the impacts of this visitation are not fully known, increased boat groundings, anchor damage, water quality degradation, and invasions of exotic plants and animals are all of concern. However, the most serious issues confronting park stewards are the ecological effects of over-fishing and significant reductions in live coral. Technological advances such as sonar fish finders and faster, more reliable boats have made the fishery within the park more vulnerable to over-fishing. Corals in the Dry Tortugas region are threatened by disease and bleaching, a phenomenon that has been linked to warmer ocean temperatures.

Hawksbill sea turtle (*Eretmochelys imbricata*)
photo by William Perry, Everglades National Park

Dry Tortugas Research Natural Area (RNA)

Over 200 marine reserves have been established worldwide to protect and restore ecological resources. The RNA of Dry Tortugas National Park was the first fully-protected marine reserve proposed within the NPS. Designed to restore ecological integrity and capacity for self-renewal by minimizing human disturbance, the reserve covers about 46 square miles of the 100-square mile park. The RNA contains a variety of fragile habitats, such as island, seagrass bed, and coral reef, which makes it an excellent location for studying the effects of human activities on marine and coastal ecosystems.

Appropriate activities within the reserve include boating, swimming, snorkeling, scuba diving, hiking, research, and education. Anchoring and fishing are prohibited, however, mooring buoys will be provided for day use by snorkelers and scuba divers. No manipulation of resources is allowed, except as needed to accomplish restoration.

The RNA complements the nearby Tortugas Ecological Reserve of the Florida Keys National Marine Sanctuary established by the

National Oceanic and Atmospheric Administration and thereby contributes to a region-wide effort to strengthen resource protection. Together, the two areas provide a rare opportunity to conduct scientific studies and marine resource management in collaboration with other federal and state agencies, nongovernmental organizations, and the academic community.

By helping to ensure the productivity of spawning fish stocks, the diversity of fish species, and the health of seagrass beds and coral reefs within the reserve's boundaries, the RNA contributes to the health of marine resources throughout the region. As a result, recreational and commercial fishing enterprises outside the park will benefit. Ongoing monitoring and scientific studies, focused on how marine resources respond to protection, will help to answer important questions about the structure and function of the ecosystem. The results of this research will allow the NPS and other institutions to assess the effectiveness of the Dry Tortugas RNA in restoring the full suite of natural habitats and communities and help guide successful management of Dry Tortugas National Park.



Dry Tortugas National Park lies 70 miles west of Key West, Florida. The islands and waters of the Dry Tortugas are recognized for their seagrass beds, fisheries, tropical coral reefs, and sea turtle and bird nesting habitat, as well as for Fort Jefferson. Built in the nineteenth century, Fort Jefferson is the largest masonry coastal fort in the country.