



Florida Keys Coral Restoration Project

Healthy coral reefs provide benefits to marine life and people alike. Reefs provide essential habitat to commercially and recreationally important fish species as well as thousands of species of invertebrates. They also are frequented by larger marine predators such as sharks, sea turtles and dolphins. Because of their beauty, high diversity and abundant marine life, reefs attract people for fishing, snorkeling and diving. More than 33,000 jobs in Monroe County are supported by ocean recreation and tourism, accounting for more than half of the local economy.

Intact reefs also provide a barrier for ocean waves, causing them to break offshore rather than on the coast. A global study by The Nature Conservancy shows that coral reefs that crest at the surface reduce up to 97 percent of wave energy and are a cost effective option when comparing natural reef enhancements to other options like breakwaters and seawalls. This has important implications for South Florida, which has the longest reef tract in the continental United States.

Coral reefs in the Florida Keys have been in decline since the 1970s due to stresses including coral bleaching, disease outbreaks, hurricanes and cold snaps, as well as acute impacts such as ship groundings. Populations of elkhorn and staghorn coral underwent a region-wide decline with losses of up to 97% in some areas. Measures are being taken in Monroe County to help protect the healthy coral that remains. However, habitat protection and threat reduction may not be enough to stop the decline of reefs. Active restoration of coral populations is now a feasible and cost-effective way to reestablish live coral to reefs.

A collaborative effort funded by NOAA and The Nature Conservancy and implemented by a consortium of project partners is working to restore genetically diverse, breeding populations of threatened staghorn and elkhorn corals to degraded reefs throughout South Florida and the U.S. Virgin Islands.

Tens of thousands of staghorn corals are being grown and propagated in underwater nurseries, and then outplanted to degraded reefs off Monroe County. The project's primary restoration and recovery approach is to take small fragments of live tissue from healthy coral colonies of known genetic stock, grow them in nurseries over time to create multiple colonies of each genetic type, and then outplant genetically distinct individuals in proximity to one another so they spawn and help reseed surrounding reefs. Each outplanting site directly enhances live coral cover, wave-breaking structure, fisheries habitat and tourism value. Nearly 10,000 colonies have been reestablished on reefs since 2004, with first-year survival rates for these corals averaging above 80%.



A coral 'tree' in the Coral Restoration Foundation nursery
©Tim Calver



Healthy wild staghorn coral colony ©Tim Calver

FAST FACTS:

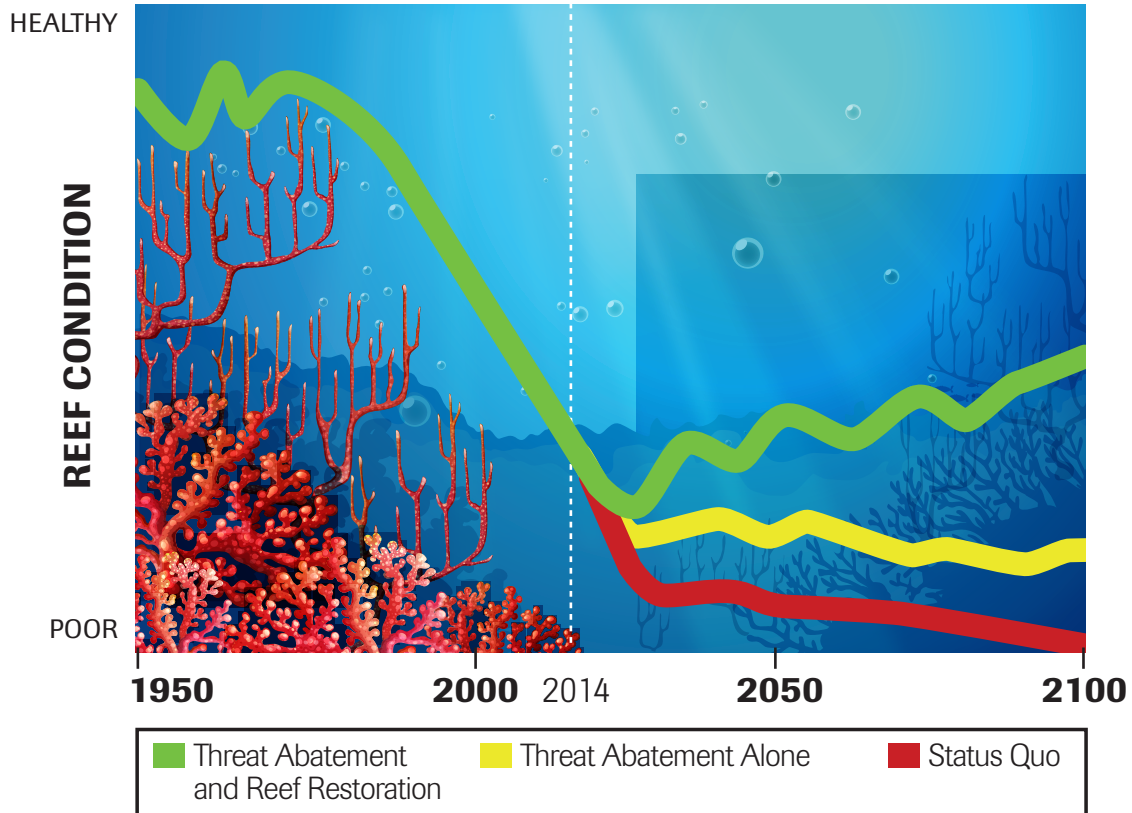
Project cost: \$3.3 million

Project size: Just one acre of staghorn coral restoration spread across 37 reefs has the potential to impact 6,700 acres via subsequent reproduction.

Additional information about Florida Keys Coral Restoration can be found by visiting:
www.frrp.org/coral-restoration
www.nature.org/southeastfloridareport



Conceptual diagram of the state of the Florida Reef System with and without active reef restoration



Restored staghorn corals after one year on the reef
©Erich Bartels, Mote Marine Lab



Coral Restoration Foundation divers check up on staghorn corals restored to a Keys reef
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PARTNERS

