



U.S. Fish & Wildlife Service

The Coastal Program

Success in South Florida



Caring for Our Coastal Habitats

Islands of Habitat... in a Sea of Development

Islands of habitat along Florida's east coast are being enhanced for shorebird nesting through an innovative partnership that includes the Fish and Wildlife Service's Coastal Program, Florida Game and Fresh Water Fish Commission, Florida Division of Forestry, Florida Department of Environmental Protection, Jonathon Dickinson State Park, Savannahs State Reserve, Florida Inland Navigation District, Treasure Coast Regional Planning Council, St. Lucie County Audubon Society, and St. Lucie County Conservation Alliance.

Located where temperate and tropical climates converge, the Indian River Lagoon is an estuary of national significance. Its 156-mile length harbors the greatest biodiversity of any estuary in North America.

In addition, to attracting a wide variety of birds, the lagoon is also a popular area for human development and tourism. Unfortunately disturbances such as increased building and beach usage (by both humans and their pets), along with increased encroachment of exotic non-native plants have forced many birds to find new, and not necessarily natural nesting locations. Today almost 95% of South Florida's least terns, a federally

threatened species nest on gravel roof tops rather than on beaches.

Re-creating habitat ~ It's for the birds

As exotic, non-native plants such as Brazilian pepper and melaleuca replaced much of the native habitat in and around the Indian River Lagoon, it also encroached on areas that were typically not vegetated such as mud, sand flats and spoil piles. To create some "natural" nesting habitat volunteers removed exotic vegetation from four spoil islands that had suitable topography and substrate for shorebird nesting. These volunteers, 20 or more at a time, made quick work of the exotic vegetation removal, eradicating a decade's worth of growth, covering about five acres, in just two days. This work alone was estimated to be worth \$45,000. State forestry experts then assisted with burning the slash piles of invasive vegetation.

After the burn, the newly re-exposed mudflats were then prepared for nesting shorebirds by providing a layer of fresh beach sand. Another critical aspect of the project was improvement of other neighboring islands for human use in order to give people alternative recreational places away from the shorebird use area. As a finishing touch, least tern decoys were added to entice this threatened species to quit nesting on the rooftops of local businesses and return to more natural nesting sites.

"For very little money, and a lot of camaraderie, we transformed some ecologically unimportant, manmade spoil islands into worthwhile shorebird habitat."

Trish Adams, Florida Department of Environmental Protection



Wood stork.

Photo: Barron Crawford, USFWS

Measure of Success

Today, shorebirds such as brown pelicans, cormorants, sanderlings, Wilson's plovers, royal terns, and Forster's terns now use the areas as well as least tern pairs. Exotic vegetation continues to be a challenge, although the partners keep up with monthly volunteer site visits. This project served as a catalyst for the formation of a spoil island work group with additional partners joining in to support spoil island enhancements in the Indian River Lagoon.

Lower Florida Keys: Restoring Native Vegetation

Thanks to a private-public collaboration, dwindling native hardwood hammock vegetation and scarce freshwater wetland habitats are being reestablished in the Lower Florida Keys at the Key West Botanical Garden. The non-profit Garden, the Florida Audubon, Florida Keys Environmental Restoration Trust Fund, the Florida Keys Invasive Exotics Task Force, the City of Key West, Florida Game and Fresh Water Fish Commission, and the U.S. Fish and Wildlife Service Coastal Program have become partners in managing a 10-acre area to exclude pest plants and animals and re-establish freshwater wetlands. The restored habitat will support the threatened stock island tree snail, neotropical migratory birds, and wading birds.

Hammocks: Paradise Lost

Tropical hardwood hammocks are found in seven counties in South Florida. These closed canopy forests are dominated by evergreen and semi-deciduous trees and shrubs such as the gumbo-limbo tree, paradise tree, pigeon plum, ironwood, marlberry and wild mastic. There are potentially 140 or more species of trees and shrubs, many of West Indian origin, at the northernmost edge of their range growing in these hammocks.

Hammocks in the Florida Keys are significantly threatened by development. Impacts include, destruction and conversion, invasion by exotic plant and animal species, and alterations of hydrology. Hammocks on Key West were completely destroyed with the exception of one tiny patch at Little Hamaca Park. At least 162 species of exotic plants are known to invade tropical hardwood hammocks in South Florida and in cases on the Miami ridge, more than half of the flora is now exotic. In addition, exotic animals such as black rats and fire ants prey on native animals.

The hammocks provide habitat for many species of wildlife, including seven federally listed species. The native Stock Island tree snail is a tree resident in the hardwood hammocks of the Florida Keys, moving to the forest floor only to nest or travel. This snail has mostly been eliminated from its historic range by collectors and habitat destruction. The



The threatened Stock Island tree snail. USFWS photo

snails appear to survive best on smooth-barked native trees covered with lichens and algae. The recovery plan for the snail calls for allowing the species to repropagate in the wild.

Recovery Found

A private-public collaboration is working to restore 10 acres of hammock on Key West. Reestablishing the native hammock vegetation by removing invasive exotic species and reconnecting wetland hydrology has had direct and immediate benefits to neotropical migrant bird species such as the mangrove cuckoo, thick-billed vireo, and scissor-tailed flycatcher. This effort also greatly increases the chances for survival of the Stock Island tree snail that occurs on Key West. The only other known populations for this species were artificially established in Key Largo and the southernmost part of mainland Florida.

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Removal of exotic vegetation in South Florida.

USFWS photo