

Voracious lionfish wreaks havoc in Florida Keys

February 11 2010, By Cammy Clark

At French Reef, 30 feet below the ocean's surface, Sea Dwellers dive instructor Dave Jefferiss was on a mission to find and capture one of the gorgeous but dreaded new invaders of the Florida Keys: a lionfish.

Jefferiss searched the reef's numerous nooks and crannies where an underwater photographer had spotted the territorial lionfish a few days earlier. But after an hour, he surfaced with empty nets.

"There are so many places for a lionfish to hide," he said. "Somebody will try again. It's too important not to try."

There have been 68 marine-invading species in Florida, the Caribbean and the [Gulf of Mexico](#) over the last century, according to the U.S. Geological Survey, but none has wreaked as much havoc to the [marine environment](#) as the voracious red lionfish that devours native fish populations wherever it invades.

The Nature Conservancy said the lionfish, with its floating, striped headdress, looks like a Las Vegas showgirl. Its beauty is the reason it was once a top-10 imported [tropical fish](#) for aquariums in the United States.

But the lionfish, native to the Pacific and Indian oceans, is a menace to humans and marine life. It has venomous fins, and no known marine predators in the territory it is invading.

Pete Kehoe, who collects and sells marine life for aquariums, said he has

captured three lionfish in different habitats in the Keys.

He gave one to the Florida Keys Eco-Discovery Center in Key West for an educational display. He kept the other two, which are in tanks at his business in the Lower Keys.

"I think a lot of people underestimate what the problem can be," Kehoe said. "I'm amazed. They are like the perfect eating machine. They eat until they are about to explode."

The lionfish reached the Florida Keys a year ago. Its arrival was expected, with scientists calling it the completion of a circle that began a generation earlier when the first lionfish was spotted off the coast of Miami in 1985 and more were reported there in 1992 after Hurricane Andrew. Most believe the original invaders came from aquariums.

Since then, the prolific breeder has conquered most of the U.S. Eastern Seaboard, Bermuda, the Bahamas, Cuba and the Turks and Caicos. Its path has followed that of the Gulf Stream and other currents, which carry their eggs and larvae.

During the past year, the lionfish has slowly but surely spread throughout the Keys, as scientists expected and feared, with more than 80 of the intruders documented from Key Largo to the Dry Tortugas. So far, all have been juveniles, with the biggest about 10 inches long. They can grow to 18 inches or more.

Probably no one has found more in the Keys than commercial lobster fisherman Gary Nichols, who said that over the past year he has pulled 22 from his deep-water traps, some at 200 feet and baited with fish heads and cowhides.

"Those little suckers are hard to kill," he said. "I put a really pretty one in

a coffee cup and little bit of saltwater. Three hours later it was still breathing."

He said he later popped a hole in the lionfish's bladder because it had been pulled to the surface from a deep depth. A week later it was still living, so he gave it to Rib Daddy's Steak and Seafood in Key Largo, where it is on display in an aquarium.

The lionfish's assault of the Keys is expected to increase dramatically over the next couple of years.

Lad Akins, special projects manager of the Key Largo-based Reef Environmental Education Foundation, has worked with several countries on the issue. He said that even at this early stage the likelihood of eradicating lionfish in the Keys is "almost nil" because the marine world is dynamic.

"But I don't want to throw up my hands and say there is nothing we can do," Akins said. "Control is possible in the Keys, especially if we pick important areas because they are utilized as tourist destinations or are ecologically important because of the diversity of fish."

Lionfish not only eat juvenile fish of other species at an unsustainable rate, they also take away the food source from such important species such as grouper and snapper. They also eat reef-cleaning fish such as parrot fish, which could bring further stress to the fragile corals.

Akins said the Keys are fighting back with the lionfish's only known predator: humans.

Divers, researchers, government marine experts, fishermen and marine-life collectors are working together to limit the lionfish's foothold in the Keys.

A rapid response team was organized by REEF and government agencies in anticipation of the lionfish invasion of the Florida Keys National Marine Sanctuary, which is protected because it is home to the world's third-largest barrier reef system.

The goal is to educate anyone who works or plays in the water in the Keys about how to identify and report lionfish. A few months ago, about 100 volunteers were trained in the tricky removal of the venomous lionfish using needle-proof gloves and aquarium nets.

"There's been no reported deaths, but some people who have been stung said they wish they were dead," said Akins, who has been stung a few times while helping to collect about 4,000 lionfish over the years.

In a rare move, the National Oceanic Atmospheric Administration (NOAA), which oversees the sanctuary, is issuing permits to some of those trained people to remove lionfish from the sanctuary's 18 no-take zones.

The sanctuary has allowed only one other marine invader to be removed from its preservation areas -- the orbicular batfish native to the Pacific Ocean and probably dumped into Keys waters by an aquarium owner. Four were removed, with two of them given to the New England Aquarium as "poster fish" for the dangers of exotics species in coral reef environments.

About 40 lionfish have been captured in the Keys and sent frozen to NOAA's laboratory in Beaufort, N.C., where marine ecologist James Morris is studying many things about them.

"It's good to know where the lionfish are coming from," Akins said. "Let's say it's the Yucatan in Mexico. That may give us strong incentives to provide funding for control efforts in the Yucatan, to selfishly help

protect our reef systems."

NOAA also is studying the use of traps after several lionfish in the Keys were found in lobster traps at depths far deeper than the limits of most recreational divers.

Morris said the development of traps that target lionfish has not been successful, "but we're still hopeful."

Akins said fishing derbies have worked well in places where the lionfish already is established. Last year, 1,408 lionfish were collected on 19 boats in six hours at Green Turtle Key in the Bahamas. Afterward, the fish were cooked and eaten at a banquet.

In preparation for the increase in the Keys' lionfish population, Akins has ordered a bigger freezer for REEF's office -- and is helping to compile a lionfish cookbook. While the fins are venomous, the rest of the lionfish is mighty good eating, almost like hogfish, Akins said.

"I like it as cerviche," he said. "But lionfish in a blanket also is good. Take [lionfish](#) bites, wrap them in bacon and bake. Mmmm. Delicious."

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Citation: Voracious lionfish wreaks havoc in Florida Keys (2010, February 11) retrieved 24 April 2024 from <https://phys.org/news/2010-02-voracious-lionfish-wreaks-havoc-florida.html>

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