

Marine Invaders: The Lionfish



Lionfish are voracious predators armed with extensive venomous spines on their dorsal, ventral, and anal fins. Well camouflaged, they are a nocturnal species that are associated with reefs where they primarily feed on small fishes and crustaceans. They are a non-native species from the Indo-Pacific and their numbers have rapidly increased in recent years along Florida's Atlantic and Caribbean coasts. This rapid expansion has raised concerns over the impacts this invasive species has on native reef fish populations.

Where are lionfish found?

Although the first reported sighting in the Florida Keys occurred in January 2009, the lionfish's current range extends from Cape Hatteras, North Carolina south to Florida on the Atlantic Coast and throughout most of the Caribbean. Sightings have also been reported off Mexico, Columbia, and Belize. Despite being intolerant of colder water temperatures, juvenile lionfish have also been found as far north as New York and Rhode Island. Most sightings have occurred between five and 300 feet and have occurred on natural hard bottom, coral reefs, and artificial reef substrates.



How did lionfish get here?

The lionfish invasion in the North Western Atlantic and Caribbean represents one of the most rapid marine finfish invasions in history. Their initial introduction is thought to have occurred during Hurricane Andrew in 1992 when at least six lionfish escaped from a broken beachside aquarium near Biscayne Bay. However, continued release of unwanted lionfish by hobbyists is thought to be the most probable cause of their expansion. (*Lionfish are a popular and beautiful aquarium fish and approximately 8,000 are imported each year o the Tampa Bay area alone!*)



Rich Carey



What is the problem with lionfish?

In their native range, natural checks and balances, such as predators, competition for resources, and/or diseases help keep lionfish populations in check. However, as with other invasive species, lionfish have few natural predators in their new range. They are capable of reproducing year-round, are relatively resistant to parasites, and outgrow most natives with whom they compete for food and space. A recent study found a tenfold increase in their abundance from 2004 to 2008 in parts of the Atlantic and Caribbean, and some researchers now estimate lionfish are as abundant

as some native grouper species.

Lionfish have become a real threat to many native reef fish populations. Researchers have found that within a short period after lionfish recruited to a new area, survival of native reef fishes declined by about eighty percent. Field observations and stomach content analysis showed declines were a direct result of lionfish's aggressive feeding behavior. Lionfish prey included parrotfish, cardinalfish, damselfish, and other ecologically important reef species. Other studies have reported lionfish feeding on juvenile grouper, spiny lobster and other economically important species.

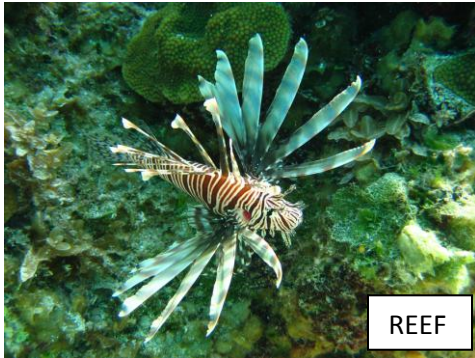
What is being done about lionfish?

Although it is highly unlikely that lionfish will be completely eradicated, efforts are in place to control lionfish abundance. The Reef Environmental Education Network (REEF) has been working with federal, state and local partners as well as divers and dive operators, public aquaria and foreign fisheries departments to document lionfish sightings and remove the fish when possible. Divers are encouraged to report all lionfish sightings by visiting <http://www.reef.org/lionfish> and completing the exotic species report form. As of 2007 over 400 lionfish have been reported by volunteer divers.



Fishermen are also helping to curb lionfish numbers. Lionfish are reported to be excellent table fare and their consumption is being promoted throughout the Caribbean as a subsistence fishery. The venom is only found in the spines and not the flesh, and cooking destroys any residing toxins. Local fishermen who catch a lionfish are encouraged to report their catch by contacting NOAA at (252) 728-8714 or reportlionfish@noaa.gov. Extreme caution is urged when handling these fish as their spines can inflict a powerful wound. Thick PVC gloves or a gaff should be used.

Are lionfish a threat to Southwest Florida?



Fortunately, to date, there have not been any confirmed lionfish sightings off the coast of Southwest Florida. Gulf currents have provided some security in preventing their natural expansion to our coast, but the careless release of just a few of these fish could quickly change this. A lionfish was found near the Sunshine Skyway Bridge in Tampa in 2006 but researchers believe this was an isolated release incident, and not part of the natural expansion. However, the explosion of lionfish on the other nearby coasts should serve as a staunch reminder

that lionfish, or any non-native plant or animal should never be released into the wild. In fact such release is illegal in the state of Florida and can be punishable by up to a year in jail and a \$1,000 fine. To report any illegal dumping of non-native species call **1-800-FWC-ALERT**.

To learn more about lionfish:

<http://coastalscience.noaa.gov/education/lionfish.html>
http://www.caribbeanfmc.com/LIONFISH/lionfish_fishing_flyer.pdf
<http://nas.er.usgs.gov/queries/FactSheet.asp?speciesID=963>
<http://home.eisf.org/node/1082>

Solutions for your Life

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