

The Introduction and Dispersal of the Indo-Pacific Lionfish (*Pterois volitans*) Along the Atlantic Coast of North America

Paula Whitfield^{1*}
Todd Gardner²
Stephen P. Vives³
Matthew R. Gilligan⁴
Walter R. Courtney Jr.⁵
G. Carleton Ray⁶
Jonathan A. Hare¹

¹National Oceanographic and Atmospheric Administration
101 Pivers Island Rd.
Beaufort, NC 28516
*Paula.Whitfield@NOAA.gov

²Biology Department
130 Gittleson Hall
Hofstra University
Hempstead, NY 11549-1140

³Department of Biology
Georgia Southern University
Stateboro, GA 30460

⁴Marine Science Programs
Savannah State University
P.O. Box 20467

⁵Florida Caribbean Science Center
U.S. Geological Survey
7920 NW 71st St.
Gainesville, FL 32653

⁶Department of Environmental Sciences
University of Virginia
Charlottesville, VA 22904

Abstract

Pterois volitans is the first Pacific marine fish to become established in Atlantic waters. For the past 2.5 years, the Indo-Pacific species of lionfish have been collected, photographed and observed from southern Florida to Cape Hatteras, NC and juvenile lionfish have been collected from Long Island, NY and Bermuda. The large scale

distribution of this invasive species over such a short time period (2000-2002), along with the presence of juveniles, suggests that lionfish are reproducing. Along the North Carolina coast both the number and spatial distribution of lionfish have increased. In August 2000, there were 3 lionfish reported in 3 locations. By October 2002, 49 lionfish were reported in 15 different locations. Dispersal of lionfish in 2002 appears to be both inshore and offshore of the lionfish locations in 2001. Lionfish have also been sighted in waters deeper than originally anticipated. The initial introduction was probably through aquarium releases off the Florida coast with dispersal of eggs and larvae through Gulf Stream transport. It is unknown what the ecosystem effects of this marine invasive fish will be along the Atlantic coast of the United States. There is cause for concern as they are predators and appear to be permanent residents.