

POLICY AND MANAGEMENT OPTIONS FOR INVASIVE INDO-PACIFIC LIONFISH IN
U.S. WATERS

by

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Abstract

The Indo-Pacific lionfish (*Pterois miles* and *P. volitans*) is now one of the most notorious marine finfish invasions in history. With established populations ranging from North Carolina, U.S., to the Atlantic coast of South America and the Gulf of Mexico, invasive lionfish have the potential of seriously hampering rebuilding efforts for domestic and international fisheries, negatively impact marine ecotourism, and adversely affect human health. Considering that many current invasive lionfish management practices are limited and untested at best, outlining and analyzing potential lionfish management options for U.S. waters may help alleviate the ecological and socioeconomic challenges posed by this invasive marine fish.

The following Master's Project describes the current status of the lionfish invasion, and identifies the roles and responsibilities of managerial authorities and legislation behind current lionfish management practices. Policy and management options for invasive lionfish at the state, territorial, and federal levels are described, and potential harvesting and fishery options for future lionfish management are reviewed.

This policy analysis indicates that although current lionfish management within U.S. state and federal waters is limited, several management options are available for possible future implementation. State and territorial level options for lionfish management include creating an Aquatic Nuisance Species (ANS) Task Force approved lionfish management plan, or model state removal efforts after independent plans such as those seen in Florida and U.S. Caribbean territories. Federal management might be improved upon through identifying policy gaps and jurisdictional overlap among leading lionfish management authorities and laws. Incentive-based control strategies such as a lionfish fishery is another option most likely to succeed in bearing short-term management results; however taking such action may illicit undesirable economic dependency on an environmentally harmful species. Sustainable versus unsustainable lionfish harvesting efforts are considered, and the challenges between each method are ascertained. This analysis reveals the inherent complexity for addressing management of invasive species, which in the case of lionfish spans local, state, territorial, federal, and international jurisdictions. Nevertheless, thoroughly understanding the scope of the lionfish issue, along with the potential lionfish management options applicable to U.S. waters can only benefit scientists and policy makers as the invasion's environmental and socioeconomic implications become more apparent.

Keywords: *Lionfish, invasive species, management options, U.S. marine policy, fisheries.*

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