



Assessing the Utility of Lionfish Traps for Preserving Biodiversity by Managing Invasive Populations

Targeted territory: Bermuda

Total project budget: 99,961 Euros

BEST 2.0 grant awarded: 99,961 Euros

Duration: February 2018 – January 2019 (12 months)

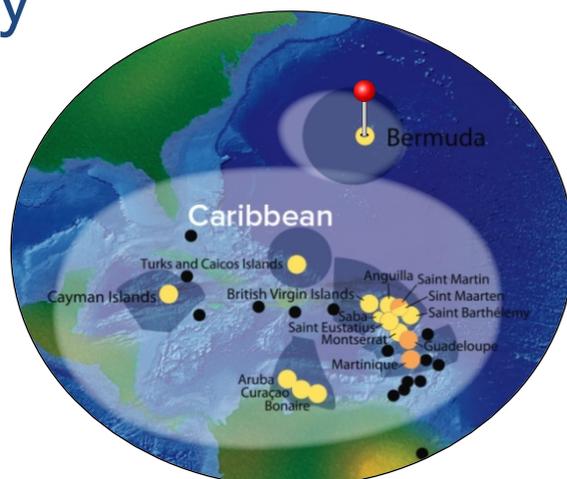
Lead organisation: Bermuda Institute of Ocean Sciences (BIOS)



Background:

Invasive alien species are recognised as a major threat to global marine biodiversity. In Bermuda the invasive lionfish specifically represents the key threat.

Lionfish have been shown to negatively affect recruitment of native fishes to reef systems. They have also been linked to indirect effects through phase shifts from reef dominated mesophotic reef communities to algal dominated communities. Whilst biotic resistance through the presence of native predators does not appear to influence lionfish distribution, recent studies have suggested that active and direct management in the form of sustained culling is essential for reducing lionfish abundance. Further studies have shown that suppressing lionfish populations prevents the declines in native prey fish and ultimately leads to a recovery of the native fish community, thereby preserving biodiversity.





Description of the Project:

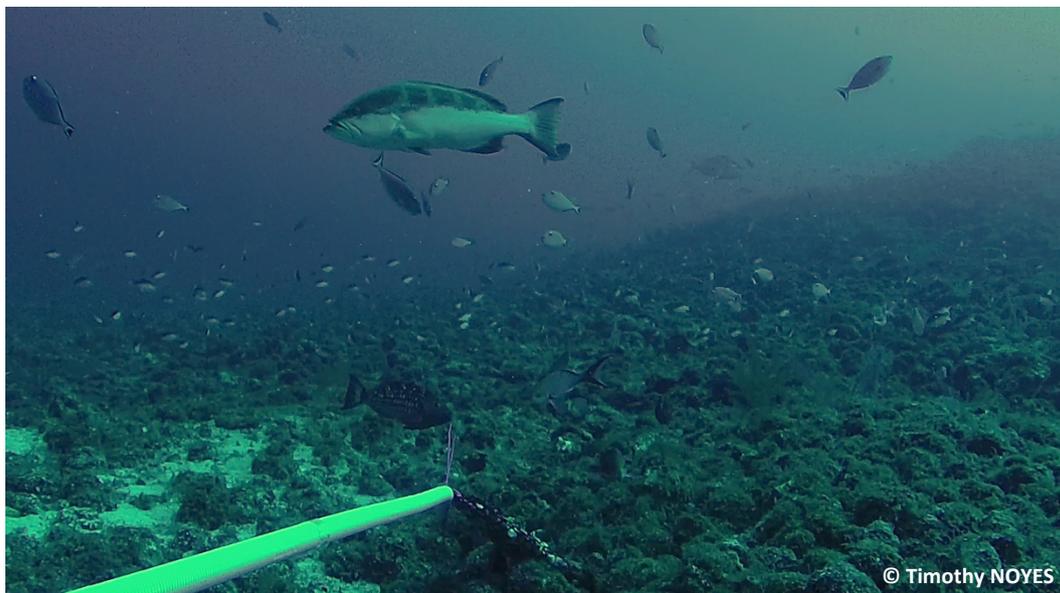
The project will determine the utility of a lionfish specific trap, developed by the U.S. National Oceanographic and Atmospheric Association (NOAA), at known lionfish hotspots in Bermuda. Surveys of the fish community composition and lionfish density will be undertaken at the test sites prior to, during and after the deployment of the traps. The findings will be directly comparable to removal efforts led by technical divers - being undertaken by the BEST 2.0 project N°1634 funded in 2016 - and

will therefore provide resource managers with tangible results for determining the most efficient method for preserving biodiversity and ecosystem services. Secondly, the project will provide lionfish to the commercial market and assist in the promotion of this sustainable food source. The project will provide invaluable information for an adaptable management strategy at both the local and regional scales. The results will be shared with territorial stakeholders and other OCTs through a variety of outreach activities, including stakeholder events, international conference attendance, and social media.

Intended results:

The project aims to conserve and enhance fish biodiversity and contribute to Bermuda's long-term lionfish management strategy by:

- Determining the effectiveness of lionfish removal for preserving biodiversity.
- Determining the efficiency of the lionfish trap and the optimum soak time for maximising the lionfish catch.
- Disseminating the results to key stakeholders.



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