

THE BAHAMAS' RESPONSE TO THE LIONFISH INVASION

The Department of Marine Resources

Nassau, Bahamas

31 May 2011

Introduction

The Bahamas and the rest of the Wider-Caribbean have been faced with the challenge of combating the Indo-Pacific lionfish (*Pterois volitans*). The lionfish has become a major cause for concern for a number of reasons:

1. Threat to human health;
2. Ability to out-compete native species due to their ambush style of predation;
3. Preys on a wide variety of species including several that are commercially important; and
4. Few known predators in the region.

In 2009, the Department of Marine Resources in collaboration with The College of The Bahamas Marine and Environmental Studies Institute (COB-MESI) initiated a long-term National Lionfish Response Plan (NLRP). The NLRP was formalized in response to the growing threat posed by the invasion of lionfish in the waters of The Bahamas.

The existence of the NLRP is due in part to the mandates set-forth in the National Invasive Species Strategy for The Bahamas (NISS). The National Invasive Species Strategy is essential to this discussion because it laid the framework for proposed amendments to fisheries regulations. Since the drafting of the NISS and subsequently the NLRP, recommendations to amend several regulations in Chapter 244 of the Fisheries Resources (Conservation and Jurisdiction) Regulations have been proposed by The Department of Marine Resources.

National Invasive Species Strategy

The National Invasive Species Strategy (NISS) was published in 2003 with the intent of assessing *current mechanisms existing in the Bahamas to address the invasive species issue*. The NISS outlines an overview of invasive species; identifies mechanisms for the management and control of invasives; and provides recommendations for action. Of particular interest to this discussion are **Recommendations 5, 7, & 8**. These recommendations laid the groundwork for the NLRP that would come six (6) years later.

Recommendation 5

*Existing Legislation related to management and control of alien species should be enforced and where deficient, be amended. There will also be a need to **draft and amend new legislation specific to management and control of invasive alien species.***

Recommendation 7

Priority species should be listed for eradication and control. These lists therefore would not include all known invasives for The Bahamas... species on the eradication and control lists would be reviewed on a regular basis with the result that... new species added.

Recommendation 8

The Government accept and implement an Invasive Species Policy...

The NISS also includes a *Draft National Invasive Species Policy* to be adopted by the Government of the Commonwealth of The Bahamas. The Draft Policy set-forth specific action items for the Government of The Bahamas to carry out. Several of which echo the sentiments of Recommendations 5, 7 & 8:

- Enact legislation to prevent the introduction of, to control, and to eradicate those alien invasive species which threaten the ecosystems, habitats, endemic species and the human health and welfare of The Bahamas, in support of the Convention on Biological Diversity;
- Prepare a National Invasive Species Strategy for The Bahamas, which lists and prioritizes in order of significant impact those invasive species present in the Bahamas;
- *Prepare Strategic Management Plans for individual species of high priority as identified under the NISS;*
- Conduct and facilitate research into the best management and control practices for individual species, including plants, animals and micro-organisms, using chemical, physical and biological methods that are environmentally sound;
- Mandate cooperation between Government Ministries, Departments and other Agencies including Non-Governmental Organizations and the Private Sector, as necessary, to implement this policy and to carry out the Strategy.

In addition, the NISS outlines codes of conduct for The Government to follow. In particular, The Government is asked to *enforce existing invasive species legislation at all levels, and enact new legislation where deficiencies occur in existing legislation.* This mandate paved the way for the development of the National Lionfish Response Plan and amendments to the Fisheries Resources (Jurisdiction and Conservation) Regulations Chapter 244.

However, when the NISS was first developed, lionfish were not identified as a species recommended for eradication or control, and for good reason. It was not until 2004 that the first sighting of lionfish in The Bahamas was recorded. Currently, the NISS is being updated to incorporate the management of lionfish under the *Mitigating the Threats of Invasive Alien Species in the Insular Caribbean (MTIASIC) Project.*

The National Lionfish Response Plan

The National Lionfish Response Plan (NLRP) was designed to be a *Strategic Management Plan*. It was determined that the NLRP would function to maintain the distinctiveness and diversity of Bahamian marine communities, protect commercially important fisheries, and safeguard public health by controlling and reducing the growth and spread of lionfish populations.

The main objectives of the NLRP are to build research; build outreach and educational initiatives; identify sources of financing and other resources; and *develop appropriate invasion policies and regulations via collaborative efforts among local and regional partners in the public and private sector*. These objectives are in accord with recommendations outlined in the NISS. Collectively, they function to ensure the implementation of an efficient lionfish management plan.

Within the response plan, several management goals and strategies have been identified. These goals were selected with the intention of mitigating the threats of the invasive lionfish. They are prioritized in the NLRP by importance: high, medium, and low.

- **High Priority** (immediate action- implementation within 1-2 years)
 1. Amend existing fisheries regulations:
 - i. Allow spear fishing for lionfish within the 1 mile (New Providence) and 200 yard (Family Islands) limit.
 - ii. Allow an unlimited bag limit per vessel for persons granted a permit to spear lionfish.
 - iii. Allow the use of SCUBA, spears, and nets to remove lionfish during authorized fishing tournaments.
 2. Encourage the capture and sale of lionfish (for consumption) as a commercial fisheries resource.
 3. Expand and improve the network of National Parks and Marine Reserves.
- **Medium** (implementation within 3-5 years)
 1. Require the removal of marine debris and artificial structures from near-shore areas
 2. Improve coastal zone management
- **Low** (implementation within 6-10 years)
 1. Ban lionfish as aquarium pets and restrict possession or transport of live lionfish.

The proposed management strategies to amend fisheries regulations are consistent with the code of conduct for the Government of the Bahamas and recommendations in the NISS.

Despite strong support to implement and execute the response plan, the NLRP has not been fully implemented. A cost estimate for the implementation of the plan has not

been completed. Aside from the work the Department of Marine Resources is implementing with respect to the NLRP, partner organizations are also contributing the achievement of management goals set out in the plan. The MTIASIC project also seeks to promote the implementation of the NLRP and to essentially formalize the plan after completion of the lionfish control experiments.

Proposed Amendments to Fisheries Resources (Conservation and Jurisdiction) Regulations

In response to recommendations in the NLRP and mandates within the NISS, the Department of Marine Resources proposed amending several regulations in the Fisheries Resources (Conservation and Jurisdiction) Regulations. The main points of the proposed amendments are set out below.

- a) **Empower the Minister to grant permission for persons to use “prohibited apparatus” for fishing subject to special conditions. This would include SCUBA, hooka and related breathing devices.**
- b) **Allow fishing for lionfish in areas normally protected from general spearfishing, areas close to coastlines, within harbours**
- c) **Allow the use of small mesh nets to fish for lionfish,**
- d) **Allow spearfishing tournaments for lionfish,**
- e) **Allow visitors fishing under the terms of a sportsfishing permit, to collect and take out of the country an unlimited amounts of lionfish**

Conclusion

The Bahamas’ response to the lionfish invasion has spanned the development of the National Invasive Species Strategy, the National Lionfish Response Plan, and proposed amendments to the Fisheries Resources (Conservation and Jurisdiction) Regulations. The Bahamas has made some progress in its attempts to address the lionfish invasion and the problem of invasive alien species in general. Considerable progress has been made in respect of building capacity and strengthening relationships between the various partners that have been engaged in this effort. In an effort to continue to move forward, response will be focused in areas such as education, public awareness, and outreach.

Despite these successes, the Bahamas is still faced with various administrative and legal challenges that prohibit it from being able to fully respond to the threat posed by lionfish.