

Bahamas Lobster Fishery

Harvest Strategy

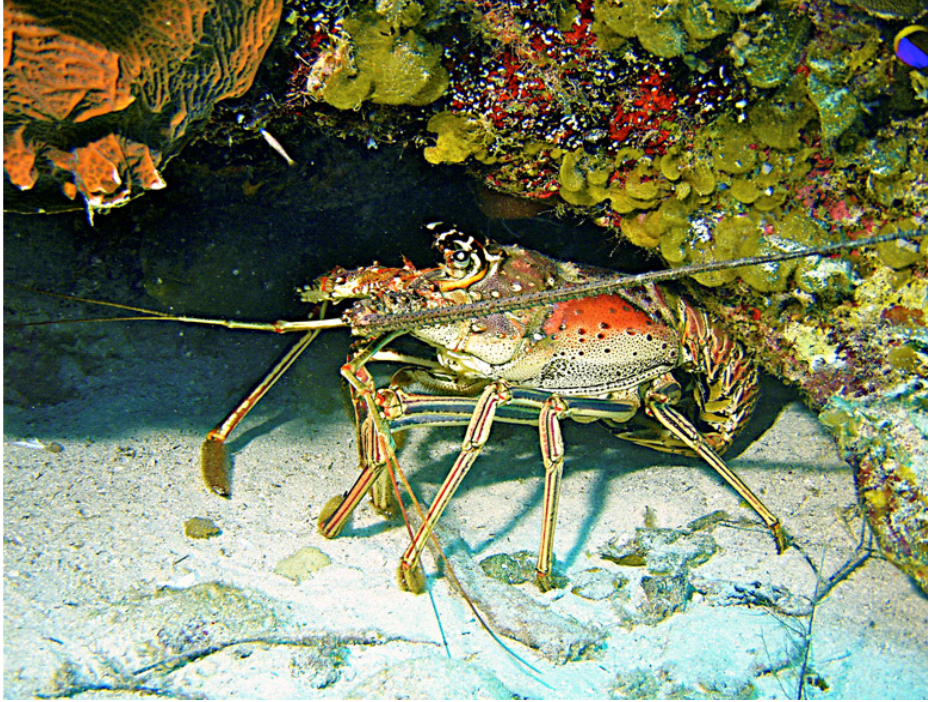


Photo: Tropic Seafood

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Abbreviations

ACP	African-Caribbean-Pacific countries
BMEA	Bahamas Marine Exporters Association
DMR	Department of Marine Resources
EEZ	Exclusive Economic Zone
FMP	Fishery Management Plan
HCR	Harvest control rules
MLS	Minimum landing size
BSLWG	The Bahamas Spiny Lobster Working Group
TAC	Total allowable catch

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1 Introduction

This Harvest Strategy document does not intend to replace a fishery management plan (FMP), but rather serves to provide a simple guide to the management activities undertaken by the Department of Marine Resources (DMR) within the Ministry of Agriculture and Marine Resources with support from other agencies and organizations in respect to the Bahamas spiny lobster fishery.

The Bahamas has a large exclusive economic area, totaling 654,715 km². Within this region, a large number of shallow banks provide ideal habitat for spiny lobster throughout the Bahamas archipelago¹.



This extensive fishing area gives rise to a number of challenges to fisheries management, particularly where financial and human resources are limited. DMR is responsible for management and development of the fisheries as governed by Chapter 224, Fisheries Resources (Jurisdiction and Conservation) Act 1977.

A recent ACP FISH 2 study² to support the update of the Fisheries Act was completed in November 2013, although no formal revisions have been made to date.

¹Map: http://en.wikipedia.org/wiki/File:Bahamas_2009.jpg

²ACP FISH II programme is funded under the 9th EDF. The programme provided technical assistance and training between 2009 and 2013. <http://acpfish2-eu.org/index.php?mact=Projects,cntnt01,detail,0&cntnt01articleid=142&cntnt01origid=112&cntnt01returnid=236&hl=en>

2 Fishery Goals and Objectives

Mission Statement

There is no current mission statement that has been approved at the Ministerial level. However, there is an operational mission statement used at the Departmental level:

“Our mission has been the development of the fisheries sector through sustainable use and integrated management of the fishery resources, coastal zone, and marine environment for the well-being of Bahamians.”

Vision Statement

There is no current vision statement that has been approved at the Ministerial level. However, there is an operational vision statement used at the Departmental level:

“Our vision has been to optimize sustainable utilization of the fishery resources, in particular, for the maximum benefit of the Bahamian people.”

2.1 Long-term Objectives

The Department of Marine Resources is responsible for the management and development of fisheries in The Bahamas, for the administration of the fishing industry and for the implementation of fisheries policies and development of long-term objectives identified in the 5-year Strategic Sector Plan³:

- Sustainable resource use.
- Provide safe food for consumption (local & export).
- Meet treaty and international agreement responsibilities.
- Maximize employment of Bahamians while also recognizing the need to match the number of commercial fishermen and recreational guides to the available resources.
- Protect the marine environment (including mangroves) necessary for continued growth and development of the fisheries sector.
- Develop a sustainable aquaculture sector that does not negatively impact on habitat/environment.

2.2 Fishery-specific Objectives

The Bahamas Spiny Lobster Working Group (BSLWG) has reviewed these objectives and thus far has identified a number of fishery-specific objectives which includes, but is not limited to:

- a. High quality local and international product
- b. Maximize job availability now and in the long-term
- c. Maximize commercial production currently and long-term
- d. Create value added product
- e. Ensure long-term sustainability

³Department of Marine Resources (DMR) 2010 Five Year Sector Strategic Plan, 2010-2014. Department of Marine Resources, Ministry of Agriculture and Marine Resources, The Government of the Bahamas. 58pp.

- f. Minimize by-catch
- g. Regulate condos/casitas
- h. Improve fisheries enforcement

3 Management Activities

To date, given limited financial and human resources a series of precautionary management measures have been adopted within the lobster fishery based on various input rather than output controls (i.e. TACs), that might otherwise be difficult to enforce fully.

The following sections provide a summary of various fisheries management measures relevant to The Bahamas spiny lobster fishery. They include a short description of the purpose of each measure, under what article(s) it is defined in national fisheries legislation and how it is currently being implemented. Finally, a brief summary of the evidence that links the management measure to the desired outcome is provided.

3.1 Fishing Gear

3.1.1 Purpose

Restrictions on the use of certain gear types help prevent excessive fishing effort or destructive fishing practices within the fishery.

3.1.2 Relevant legislation

The fisheries legislation that supports this can be found in Chapter 244, Fisheries Resources (Jurisdiction and Conservation) Regulations, Regulations 2, 3, 4, 5, 6, 7, 8, 19, 20 and 21.

3.1.3 Implementation

A number of management controls are in place to control different types of fishing gear. It is illegal to use:

- SCUBA gear
- spears within one mile of the coast of New Providence and the southern coast of Grand Bahama, and 200 yards off the coast of all other family islands;
- fish with nets with a minimum mesh gauge of less than 2 inches;
- a scalefish trap which does not have a self destruct panel and minimum mesh sizes less than 1 x 2in for rectangular wire mesh traps and 1.5 in for hexagonal wire mesh trap;
- Spear guns

3.1.4 Evidence

The verification system that forms a part of the EU catch certificate program is evidence of compliance.

3.2 Fishing Capacity

3.2.1 Purpose

Monitoring and control of fishing capacity is essential to prevent overfishing occurring within the lobster fishery, which would otherwise increase the risk of reducing the stock below the point where recruitment would be impaired.

3.2.2 Relevant legislation

Legislation supporting this can be found in the Chapter 244, Fisheries Resources (Jurisdiction and Conservation) Regulations, Regulations 8, 19, 20, 22, 46 to 48.

3.2.3 Implementation

To date, there is no monitoring or restrictions placed on the number of gear or vessels employed within the lobster fishery. This includes the number and distribution of lobster condominiums and wooden traps.

Instead, measures are in place to control the type and size of lobster traps, which should be wooden slat traps not more than 3 ft. in length, 2 ft. in width and 2 ft. in height with slats not less than 1 inch apart.

All Bahamian commercial fishing vessels 20 ft. in length or greater must obtain a valid fishing permit, which provides limited information on the level of fishing effort.

Within the foreign sports fishery sector, ten (10) tails per vessel are permitted during the lobster season that may be exported from the Bahamas. All sports vessels must obtain a permit to fish and pay the appropriate fee to do so.

3.2.4 Evidence

The verification system that forms a part of the EU catch certificate program is evidence of compliance. In addition arrest and prosecutions take place and records are publically available.

3.3 Spatial controls

3.3.1 Closed Areas

3.3.1.1 Purpose

Restricting access to defined spatial areas, such as Marine Protected Areas (MPAs) can be used to protect vulnerable life-history stages of lobster and also reduce the level of fishing effort within a localized area. Restrictions to fishing areas often result in relocation of fishing effort to other areas, which may or may not be more or less susceptible to fishing pressure.

3.3.1.2 Relevant legislation

The Fisheries Resources (Jurisdiction and Conservation) Act, Section 13, the Fisheries Resources (Jurisdiction and Conservation) Regulations, Regulations 16 and 17.

3.3.1.3 Implementation

To date there are no MPAs that are specifically designed protecting and enhancing the lobster fishery. However, all species within MPAs and Marine Reserves are protected from fishing.

3.3.2 Evidence

Studies conducted inside and outside a protected area in The Bahamas (the Exuma Cays Land and Sea Park) have shown that the area is effective in protecting stocks of spiny lobster with the park. ⁴The abundance of lobsters inside the park being found to be significantly higher than adjacent areas outside the park. In addition, it has been shown that the reproductive output of the lobster stock within the park contributes positively to fisheries outside the park. It is expected that other protected areas make a similar contribution.

3.3.3 Closed Seasons

3.3.3.1 Purpose

Closing the lobster fishery to coincide with the peak mating season is a precautionary management measure that will reduce the level of disturbance on spawning individuals and prevent capture of highly aggregated animals during this time, when they are particularly vulnerable to excessive fishing mortality.

3.3.3.2 Relevant legislation

Chapter 244, Fisheries Resources (Jurisdiction and Conservation) Regulations, Regulations 16 and 17.

3.3.3.3 Implementation

An annual closed season for lobster is potentially a relatively easy management measure to communicate to fishers and enforce. In The Bahamas, the lobster fishery is closed between 1 April and 31 July. Fisheries Inspectors are required to enforce the regulation which may be supported by members of the Bahamas Marine Exporters Association (BMEA) that do not process fresh lobster tails during this time.

3.3.4 Evidence

There are public records of detentions and prosecution for out of season fishing.

3.4 Minimum Landing Size

3.4.1 Purpose

By defining a minimum landing size (MLS), it acts to protect juvenile animals from capture and thus enables them to reproduce at least once before they enter the fishery. This precautionary management measure helps to prevent recruitment overfishing and maintains the population at levels above the point where recruitment would be impaired.

⁴ Sobel, Jack, and Craig Dahlgren. *Marine reserves: a guide to science, design, and use*. Island Press, 2004.

3.4.2 Relevant legislation

Chapter 244, Fisheries Resources (Jurisdiction and Conservation) Regulations, Regulation 18

3.4.3 Implementation

Management measures have been adopted to set a minimum landing size for all lobster retained as 3 ¼" carapace length from the base of the horns to the end of the jacket or 5.5" tail length. Fisheries Inspectors are required to enforce the regulation at various points of landing. In addition to government controls, members of the Bahamas Marine Exporters Association (BMEA) have introduced a zero tolerance policy on undersized lobster tails at their main processing plants, which is coupled with an annual education and outreach programme at the start of the season

3.4.4 Evidence

There are public records for those individuals that have been arrested and prosecuted for out of season fishing. Processing plants report a reduction in the landing of undersized tails.

3.5 Protection of Egg-bearing Females

3.5.1 Purpose

Protection of egg-bearing female lobster is a precautionary management measure that prevents loss of eggs that may otherwise contribute to successful recruitment to the fishery. Were all captured berried female lobsters to be retained, there would be an increased risk that recruitment would be impaired. Where female lobsters are returned at the point of capture, it is more likely that they will encounter a suitable habitat for spawning.

3.5.2 Relevant legislation

Chapter 244, Fisheries Resources (Jurisdiction and Conservation) Regulations, Regulation 24

3.5.3 Implementation

Management measures have been adopted to prevent berried female lobster from being caught and retained. Fisheries Inspectors are required to enforce the regulation at various points of landing.

3.5.4 Evidence

There are public records for those individuals that have been arrested and prosecuted for being in possession of egg bearing female lobsters.

3.6 Protection of Marine Habitats

3.6.1 Purpose

Control and monitoring of the temporal and spatial distribution of fishing activity is essential to prevent damage to vulnerable marine benthic habitats, in particular essential habitats for different life-stages of the lobster population.

3.6.2 Relevant legislation

Chapter 244, Fisheries Resources (Jurisdiction and Conservation) Regulations, Regulation 3, 5, 12 and 14

3.6.3 Implementation

A number of management controls are in place to protect the marine environment and maintain healthy benthic habitats for lobster production. It is illegal to use:

- Bleach or other noxious or poisonous substances for fishing or have such substances on a fishing vessel without written approval from the Minister;
- Use firearms or explosives;
- Take corals;
- Build artificial reefs without permission from the Minister;

3.6.4 Evidence

There is an application procedure before permits are granted for building artificial reefs and the possession of noxious substances on fishing vessels.

3.7 Harvest Control Rule (HCR)

3.7.1 Purpose

A harvest control rule is a pre-defined and agreed set of management rules between all relevant stakeholders that determine the appropriate level of fishing effort (mortality) or a proxy to produce a similar outcome, which aims to maintain the stock biomass at sustainable levels.

3.7.2 Relevant legislation

To date the HCR is not mandated under Bahamian Law. However, it has been adopted as a policy and with effect from the 2015-2016 lobster season.

3.7.3 Implementation

A harvest control rule has been developed in close association between DMR, and BSLWG has recently been adopted at Cabinet level. The HCR determines the total allowable export (TAE, lbs) according to the standardized fisher catch rate (lbs/day) in the month of August.

To implement the HCR correctly, in-season data is required on the level of exports and the current status of the lobster stock to estimate monthly catch rates.

The status of the lobster population has been determined through a recent stock assessment (2014). The results indicate the population is at or around the target reference point. To date, total exports are currently limited to a maximum of 7 million pounds of lobster (tail weight) per annum. This is monitored by BMEA and DMR.

3.7.4 Evidence

The fishery is being monitored against HCR trigger reference points.