

National Plan of Action of Belize for Reducing Incidental Catch of Seabirds in Long-Line High Seas Fisheries



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**NATIONAL PLAN OF ACTION OF BELIZE FOR REDUCING INCIDENTAL CATCH OF SEABIRDS
IN LONG-LINE HIGH SEAS FISHERIES**

PREAMBLE

The impact of incidental catch of seabirds in longline and other targeted fisheries has been an international conservation concern for many years. Over the years, many measures have been taken, both regionally and globally, to reduce the problem; however, seabird bycatch in fisheries still remains a challenge. In an attempt to reduce the incidental catch of seabirds in longline fisheries, the International Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries (IPOA – Seabirds) was adopted in 1999 by the Food and Agriculture Organization (FAO). While voluntary, States were urged to implement their own National Plans of Actions to reduce incidental catches of seabirds in their fisheries.

Belize's High Seas fishing industry is an important part of our economy and as such we must ensure the ongoing sustainability of this industry, and at the same time, ensuring that seabird mitigation is paramount to ensure that seabirds are adequately protected from any risks associated with fishing. Seabirds are one of the world's most threatened bird groupings, and the main threat to seabirds is incidental capture and mortality through fishing operations.

This NPOA-Seabird sets out Belize's approach for the next three years on this issue. It outlines our objectives for the prevention, monitoring and management of incidental seabird capture. It describes how these objectives are to be addressed and implemented by Belize, and provides for regular review and reporting on the progress of meeting the set goals. It also highlights the methods adopted by Belize in accordance with those measures set by regional bodies to reduce fishing-related seabird deaths; it focuses also on raising awareness of the problem and encouraging the research of new measures and methods. Belize will also co-operate on seabird protection measures with other States in whose areas our vessels operate and where there is interaction with seabirds.

Belize is encouraged by the development of our NPOA-Seabirds, which represents a significant step forward in protecting seabirds as well as meeting and exceeding our international obligations.

**NATIONAL PLAN OF ACTION OF BELIZE FOR REDUCING INCIDENTAL CATCH OF SEABIRDS
IN LONG-LINE HIGH SEAS FISHERIES**

CONTENTS

EXECUTIVE SUMMARY

1. Profile of Belize's High Seas Fisheries

1. INTRODUCTION

- 1.1 Purpose
- 1.2 Origin and Purpose of the IPOA Seabirds
- 1.3 Incidental Catch of Seabirds by Long Line Fisheries
- 1.4 Legislative and Regulatory Framework
- 1.5 International Commitments

2. CURRENT MITIGATION OF INCIDENTAL CATCH

- 2.1 Fisheries in Belize Subject to the NPOA for Seabirds
- 2.2 Prescription of Mitigation Measures

3. RESEARCH AND DEVELOPMENT

4. EDUCATION, TRAINING AND PUBLICITY

5. DATC COLLECTION

6. ENFORCEMENT

7. REVIEW AND REPORTING

8. CONCLUSION

**NATIONAL PLAN OF ACTION OF BELIZE FOR REDUCING INCIDENTAL CATCH OF SEABIRDS
IN LONG-LINE HIGH SEAS FISHERIES**

EXECUTIVE SUMMARY

Profile of Belize's High Seas Fisheries

The high seas fisheries industry, as part of the international financial service industry in Belize, contributes significantly to the foreign exchange earnings, general revenue and employment for the country. Direct revenues collected from this sector includes, license fees and quota fees with charge rates per tonne set on a species specific basis. Subsequently, its sustainability has become a principal concern in the economic development of the country.

Belize's high seas fishing fleet currently comprises only foreign owned vessels that are licensed to operate under the Belize flag in areas beyond national jurisdiction. Our current high seas fishery sector in 2016 can be divided into the following main fisheries:

- Long line tuna fishery: a fleet of 11 vessels utilizing long line gear are licensed to target albacore, bigeye tuna, yellowfin and swordfish and shark species caught in association with tuna fisheries are also taken. Belize is an active member of the International Commission for the Conservation of Atlantic Tuna (ICCAT), the Inter-American Tropical Tuna Commission (IATTC)
- Purse seine tuna fishery: a fleet of 6 vessels utilizing the purse seine gear are licensed to target bigeye tuna, yellowfin and skipjack in the ICCAT Convention Area.
- Trawlers: a fleet of 12 mid water trawlers are licensed to fish for horse mackerel, sardines and sardinella mostly within the exclusive economic zones of Coastal States.
- Other: the remaining fleet utilizes other fishing methods or provide support to fishing vessels and are also regulated under the applicable fishing regulations of Belize.

The capacity for development of each respective fishery or type of operation shall be guided by Belize's National High Seas Fleet Policy which is subject to change as Belize's National capacity changes.

**NATIONAL PLAN OF ACTION OF BELIZE FOR REDUCING INCIDENTAL CATCH OF SEABIRDS
IN LONG-LINE HIGH SEAS FISHERIES**

1. INTRODUCTION

1.1 Purpose

The purpose of this document is to present Belize's national plan for reducing the incidental catch of seabirds within Belize's longline fisheries. Generally, the impact of Belize's longline fisheries on the incidental catch of seabirds tends to be minimal. However, measures have been and continue to be implemented to reduce seabird bycatch in our longline fisheries. Belize's National Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries is developed in accordance with the provisions of the International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries (IPOA-Seabirds), as developed by United Nations Food and Agriculture Organization (FAO).

The goal of this Plan is to implement full mitigation measures in an effort to reduce incidental catch of seabirds by its high seas fishing fleet. Its aim is to also promptly adopt any new mitigation measures that have been introduced by regional fisheries management organizations. Currently, all mitigation measures that have been introduced by these RFMOs have been adopted by Belize.

Belize will endeavour to ensure through the implementation of its NPOA-Seabirds to develop more effective mitigation measures in order to ensure further reduction of the incidental bycatch of seabirds.

1.2 Origin and Purpose of IPOA-Seabirds

The International Plan of Action for Seabirds IPOA-Seabirds was established by the Food and Agriculture Organization (FAO) in accordance with its 1995 Code of Conduct for Responsible Fisheries. The purpose of the IPOA-Seabirds is to reduce the incidental catch of seabirds in longline fisheries wherever it occurs. The IPOA-Seabirds applies to States which operate longline fisheries, locally, on the high seas and in the exclusive economic zones (EEZ) of other States. The IPOA-Seabirds basically provides a structure for the development of voluntary National Plans of Action for Reducing the Incidental Catch of Seabirds. The IPOA-Seabirds specifies that "*States with longline fisheries should conduct an assessment of these fisheries to determine if a problem exists with respect to incidental catch of seabirds.*" Where a problem does exist or there are grounds to believe that problems will occur, then States should adopt, implement and maintain NPOA-Seabirds.

1.3 Incidental Catch of Seabirds by Longline Fishing

Increasing international concerns about the incidental catch of seabirds has allowed for a number of regional and international measures to be implemented in order to reduce the problem. During the positioning and recovery of longline gear, scavenging seabirds may feed on deployed bait that are used on hooks and become attached either by

**NATIONAL PLAN OF ACTION OF BELIZE FOR REDUCING INCIDENTAL CATCH OF SEABIRDS
IN LONG-LINE HIGH SEAS FISHERIES**

the body or bill which could ultimately cause drowning when the gear goes underwater. The different gears and configuration and operation affect the rate of incidental catch, including the time and positioning of and when the gear is set, the use of bird scaring lines and strategic discharge of offal. A longline fishing vessel can operate with up to 30,000 hooks per day. Although the arrangements of these long line hooks may vary depending on the directed fishery, it should be underscored that there is no direct connection between the numbers of hooks deployed and the rate of incidental capture. There are many factors that affect the sea bird catch rate such as the type of gear used, the time of date of setting and the season and area where fishing takes place. As a result, the efficiency of any mitigation measures to reduce incidental by-catch of seabirds may vary depending on the circumstance. Accurate data on the incidental catch and mortality of seabirds are not currently available or documented, but it is public knowledge that species that are most commonly taken are the albatrosses, petrels, shearwaters, gulls and skuas to name a few. Incidental capture of seabirds by longline vessels remains a vital element that contributes to the decline of these species.

1.4 Legislative and Regulatory Framework

Recently there have been a number of legislative measures enacted by the Government of Belize that are relevant to reducing the incidental capture of seabirds. Belize's approach to managing its high seas fisheries and the oceans resources is based on a commitment to conservation sustainability, and utilizes the precautionary approach and an ecosystems approach, which allows for cohesiveness in fisheries management. Belize's legislative instruments directly related to fisheries management include:

- High Seas Fishing Act 2013;
- High Seas Fishing (Licensing) Regulations
- High Sea Fishing (Monitoring, Control and Surveillance) Regulations, 2014
- High Seas Fishing Sanctions Regulations
- National Plan of Action to Prevent, Deter and Eliminate IUU Fishing

These regulations, formulated in accordance with the United Nations Fish Stocks Agreement and the FAO Compliance Agreement and Code of Conduct for Responsible Fisheries, are used generally and collectively with their supporting guidelines and instructions to manage Belize's high seas fisheries. Similarly, this NPOA was developed utilizing the principles outlined in the FAO's IPOA for Reducing the Incidental Catch of Seabirds in Longline Fisheries whilst utilizing the same precautionary approach and an ecosystems approach to fisheries management. .

High Seas Fishing Act 2013

The High Seas Fishing Act in addition to its subsidiary regulations is the foundation of Belize's fisheries management, which gives mandate to the Registrar of Ships, and by extension, the Director for High Seas Fisheries, for the

**NATIONAL PLAN OF ACTION OF BELIZE FOR REDUCING INCIDENTAL CATCH OF SEABIRDS
IN LONG-LINE HIGH SEAS FISHERIES**

management, conservation, and protection of fisheries resources on the high seas. This Act only governs the management of high seas and fisheries which extends to fisheries that are conducted in the Exclusive Economic Zones of other States. Domestic fisheries are governed independently by separate legislations.

1.5 International Commitments

The Government of Belize recognizes that achieving sustainable fisheries is a national as well as international challenge; and as a coastal developing state, we have a responsibility to fulfil those requirements stipulated in the International Instruments which affords us the rights to participate in high seas fisheries. Accordingly, Belize has adopted the necessary national legislations required to fulfil its international commitments to promote the sustainable management of fisheries resources, related fisheries and ecosystems. Belize has also ratified and implemented the following international agreements which also play an important role in the management of its high seas fisheries and by extension the measures we have implemented for reducing the incidental catch of seabirds:

- 1982 United Nations Convention on the Law of the Sea;
- 1995 United Nations Fish Stocks Agreement;
- FAO Code of Conduct for Responsible Fisheries;
- Convention for the International Commission for the Conservation of Atlantic Tunas,
- Convention for the Inter-American Tropical Tuna Commission

Furthermore, Belize has developed NPOAs in accordance with guidelines provided in the FAOs IPOAs for the following:

- International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing;
and
- International Plan Of Action for the Conservation and Management of Sharks.

2. CURRENT MITIGATION OF INCIDENTAL CATCH

2.1 Fisheries in Belize subject to the NPOA for Seabirds

Belize's current fisheries include a small fleet of long line vessels operating in the Eastern Pacific (IATTC) consisting of 8 vessels and a fleet operating in the Atlantic ocean (ICCAT) consisting of 3 long liners.

2.2 Prescription of Mitigation Measures

The basic and foremost principle of this NPOA is that each Belize flagged longline vessel implements a set of agreed mitigation measures intended at reducing seabird mortality. These measures shall be reviewed regularly in terms of their efficiency and in regards to the development and/or introduction of more recent mitigation methods on a global

**NATIONAL PLAN OF ACTION OF BELIZE FOR REDUCING INCIDENTAL CATCH OF SEABIRDS
IN LONG-LINE HIGH SEAS FISHERIES**

scale. Mitigation measures should at a minimum be incorporated in a vessel's license and form a part of the license condition where the method is clearly and concisely described. This would facilitate a more accurate implementation and enforcement. While this would be an ideal solution to ensure compliance with mitigation measures, Belize does not currently employ this process and is a measure that is currently being considered for implementation.

Appropriate mitigation measures shall be developed to minimize incidental catch of seabirds and considering that our fleet operates exclusively in an RFMO area, mitigation measures shall be implemented pursuant to the resolutions and recommendations of these RFMOs. While it is not applicable at this time, for future reference, efforts shall be made to encourage the implementation of mitigation measures on a voluntary basis for fishing which occurs outside the jurisdiction of RFMOs. Where a vessel operates within the EEZ of another State, the seabird mitigation measures as adopted by the vessel's Flag State shall be observed and cooperation with those States shall be encouraged.

- **Eastern Pacific (IATTC area) -**

When long line fishing occurs in the IATTC convention area north of 23 degrees north and south of 30 degree south, plus the area bounded by the coastline at 2 degrees north, west to 20 degree north – 95 degree west, south to 15 degree south – 995 degree west, east to 15 degree south – 85 degree west, and south to 30 degree south, to use at least two of the mitigation measures set out in the below table. See Annex 1 regarding specifications.

Table.1

Column A	Column B
Side setting with bird curtains and weighted ¹ branch lines	Tori line ²
Night setting with minimum deck lighting	Weighted branch lines
Tori line	Blue-dyed bait
Weighted branch lines	Deep setting line shooter
	Underwater setting chute
	Management of offal discharge

¹This measure can only be applied in the area north of 23 degree north until research establishes the utility of this measure in waters south of 30 degree south. If using side setting with a bird curtain and weighted branch lines from Column A this will be counted as two mitigation measures.

²If tori line is selected from both column A and B this equates to simultaneously using two (i.e paired) tori lines

- **Atlantic Ocean (ICCAT Area)**

When fishing using long line occurs in the ICCAT Convention area south of 25 degrees south latitude two mitigation measures from the table below shall be utilized. For vessels which operate in the Mediterranean, mitigation measures in the below table should be implemented on a voluntary basis.

**NATIONAL PLAN OF ACTION OF BELIZE FOR REDUCING INCIDENTAL CATCH OF SEABIRDS
IN LONG-LINE HIGH SEAS FISHERIES**

Table. 2

Mitigation Measures	Description	Specifications
Night setting with minimum deck lighting	No setting between nautical dawn and before nautical dusk. Deck lighting to be kept to a minimum	Nautical dusk and nautical dawn are defined as set out in the Nautical Almanac Tables for relevant latitude, local time and date. Minimum deck lighting should not breach minimum standards for safety and navigation.
Bird scaring lines (tori lines)	Bird scaring lines shall be deployed during long line setting to deter birds from approaching branch line.	For vessels greater than or equal to 35m: - Deploy at least 1 bird scaring line. Where practical, vessels are encouraged to use a second tori pole and bird scaring line at time of high bird abundance or activity; both tori lines should be deployed simultaneously, one on each side of the line being set. - Aerial extent of bird-scaring lines must be greater than or equal to 100 m - Long streamers of sufficient length to reach the sea surface in calm conditions must be used. - Long streamers must be at intervals of no more than 5 m For vessels less than 35 m: - Deploy at least 1 bird scaring line - Aerial extent must be greater than or equal to 75m - Long and/or short (but greater than 1m in length) streamers must be used and placed at intervals as follows: - Short: intervals or no more than 2m - Long: intervals of no more than 5m for the first 55 m of bird scaring line. Additional design and deployment guidelines for bird scaring lines are provided in Annex 2.
Line weighting	Line weights to be deployed on the snood prior to setting	Greater than a total of 45g attached within 1m of the hook or; Greater than a total of 60g attached within 3.5 m of the hook or; Greater than a total of 98g weight attached within 4m of the hook.

Note: Belize does not permit vessels to operate in the Mediterranean Sea

3. RESEARCH AND DEVELOPMENT

Subsequent to the FAO's IPOA-Seabirds, Belize will undertake research and development on the issue of seabird mortality in longline fishery to:

- (i) evaluate the effectiveness of mitigation measures;
- (ii) develop and implement practical and efficient deterrent measures;
- (iii) Keep up-to-date with new measures that are being developed and those that are being adopted and recommended by the RFMOs.

**NATIONAL PLAN OF ACTION OF BELIZE FOR REDUCING INCIDENTAL CATCH OF SEABIRDS
IN LONG-LINE HIGH SEAS FISHERIES**

4. EDUCATION, TRAINING AND PUBLICITY

Outreach programs will be implemented to further inform vessel owners and operators of the importance of the impact of fisheries on seabirds and some of the simple and feasible measures that they may utilize to voluntarily reduce their impact on seabird populations. This would include at a minimum the use of tori lines, and mechanisms to remove bait from the surface more quickly such as using thawed bait and weighted hooks.

Booklets and water proof pamphlets as well as CDs on the utilization of proper mitigation measures will be distributed to vessel operators as a means of disseminating information on seabird mitigation measures and the impact of fisheries on seabirds. These booklets and pamphlets will also provide detailed specifications as indicated by the respective RFMOs in order to promote proper implementation of the mitigation measures in each area.

Fisheries observers will be trained in seabird identification and the use of mitigation measures; and Administrative personnel shall also be trained in seabird identification, mitigation measures and enforcement.

5. DATA COLLECTION

In an effort to properly evaluate the levels of seabird mortality and to determine the levels of compliance with recommended mitigation measures, it is important to adopt an on-board observer program in the longline fisheries which are known to cause seabird mortality. Belize has implemented its observer program and coverage is in accordance with those recommended by the relevant RFMOs. Observers will be properly trained in seabird identification and mitigation measures. The observer program is our primary source for data collection and in order to facilitate the collection of data as stipulated above, the following steps will be taken:

1. Observers are to report specifically on any interaction with seabirds as well as the mitigation measures utilized on board the vessel;
2. Where appropriate, provide demonstration and training to vessel crew on the proper utilization of seabird mitigation measures during their observer at sea period.
3. Collection of data from vessel operators regarding the incidental catch of seabirds as reported in manual logbooks and/or electronic log books.
4. General safety inspections will be used to confirm that mitigation measures are available on board the vessel before they depart port.

**NATIONAL PLAN OF ACTION OF BELIZE FOR REDUCING INCIDENTAL CATCH OF SEABIRDS
IN LONG-LINE HIGH SEAS FISHERIES**

6. ENFORCEMENT

It is important that a deterrent system is in place so incidents of non-compliance are appropriately sanctioned so as to deter such activities. Belize's Sanction Regulation fulfils the criteria above and the measures as contained therein can be applied and are deterrent enough to ensure compliance with these conservation and management measures. Penalties as contained in our Regulations are in-line with the commercial interests of the fishery to act as a disincentive. This alone is motivation to facilitate the implementation of mitigation measures.

7. REVIEW AND REPORTING

Belize shall review the implementation of this Plan every three years, taking into consideration all strategies to increase its effectiveness. Any changes in the implementation of this Plan shall be reported to the FAO. Notwithstanding the above, any important developments regarding seabird mitigation occurring before the three year review period will be cause for an early review where subsequent amendments to the plan may take place.

8. CONCLUSION

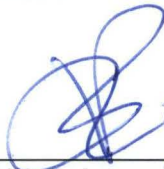
The principal challenge that is being encountered in the fishing industry as it relates to this topic is the low voluntary compliance to standard acceptable mitigation measures. Regardless of the efforts being made by some Flag states, seabirds continue to be killed and their populations continue to decline. A more proactive approach needs to be taken by all fishing Nations in order to educate and sensitise vessel operators of the problem and seek their guidance in finding more cost-effective and practical solutions in reducing seabird mortality. Their understanding of this problem and inclusion in the decision making process which ultimately affects their daily operations, will undoubtedly foster greater compliance with these management measures as we work together to protect these vulnerable species.

NATIONAL PLAN OF ACTION OF BELIZE FOR REDUCING INCIDENTAL CATCH OF SEABIRDS
IN LONG-LINE HIGH SEAS FISHERIES

ADOPTED this 30 day of March 2016

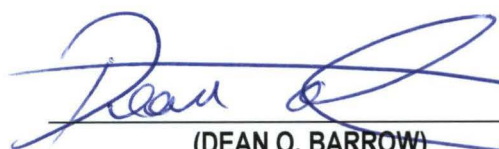

Mrs. Neri Matus
Registrar of Merchant Shipping
Ministry of Finance
Government of Belize

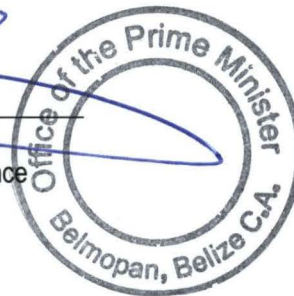



Mrs. Valarie Lanza
Director of High Seas Fishing
Belize High Seas Fisheries Unit
Ministry of Finance
Government of Belize



APPROVED this 30 day of March 2016


(DEAN O. BARROW)
Prime Minister and Minister of Finance



**NATIONAL PLAN OF ACTION OF BELIZE FOR REDUCING INCIDENTAL CATCH OF SEABIRDS
IN LONG-LINE HIGH SEAS FISHERIES**

ANNEX 1

Specifications for Column A Mitigation Measures

1.a. Tori Lines

- i. Minimum length: 100 m
- ii. Must be attached to the vessel such that it is suspended from a point a minimum of 5 m above the water at the stern on the windward side of the point where the hook-line enters the water.
- iii. Must be attached so that the aerial extent is maintained over the sinking baited hooks.
- iv. Streamers must be less than 5m apart, be using swivels and long enough so that they are as close to water as possible.
- v. If the tori line is less than 150m in length, must have a towed object attached to the end so that the aerial extent is maintained over the sinking baited hooks.
- vi. If two (i.e. paired) tori lines are used, the two lines must be deployed on opposing sides of the main line.

1.b. Tori Line (light streamer)

- i. Minimum length of tori line: 100m or three times the total length of the vessel.
- ii. Must be attached to the vessel such that it is suspended from a point a minimum of 5 m above the water at the stern on the windward side of a point where the hook-line enters the water.
- iii. Must be attached so that the aerial extent is maintained over the sinking baited hooks.
- iv. Streamers must be less than 1 m apart and be 30 cm in minimum length.
- v. If two (i.e. paired) tori lines are used, the two lines must be deployed on opposing sides of the main line.

2. Side Setting with Bird Curtain and Weighted Branch Lines

- i. Mainline deployed from port or starboard side as far from stern as practicable (at least 1 m), and if mainline shooter is used, must be mounted at least 1 m forward of the stern.
- ii. When seabirds are present the gear must ensure mainline is deployed slack so that baited hooks remain submerged.
- iii. Bird curtain must be employed:
 - Pole aft of line shooter at least 3 m long;
 - Minimum of 3 main streamers attached to upper 2 m of pole;
 - Main streamer diameter minimum 20 mm;
 - Branch streamers attached to end of each main streamer long enough to drag on water (no wind) – minimum diameter 10 mm.

3. Night Setting

- i. No setting between local sunrise and one hour after local sunset.
- ii. Deck lighting to keep to a minimum, noting requirements for safety and navigation

**NATIONAL PLAN OF ACTION OF BELIZE FOR REDUCING INCIDENTAL CATCH OF SEABIRDS
IN LONG-LINE HIGH SEAS FISHERIES**

4. Weighted Branch Lines

- i. Following minimum weight specifications are required;
- ii. Minimum weights attached to all branch lines is 45 g, with the following options:
 - Less than 60 g weight attached to within 1 m of the hook; or
 - Greater than 60 g and less than 98 g weight attached to within 3.5 ms of the hooks; or
 - Greater than 98 g weight attached to within 4 m of the hook.

Specifications for Column B Mitigation Measures

1. Weighted Branch Lines

- i. Following minimum weight specifications are required:
- ii. Minimum weights attached to all branch lines is 45 g with the following option:
 - Less than 60 g weight attached to within 1 m of the hook; or
 - Greater than 60 g and less than 98 g weight attached to within 3.5 m of the hook; or
 - Greater than 98 g weight attached to within 4 m of the hook.

2. Blue Dyed Bait

- i. The IATTC Secretariat shall distribute standardized colour placard
- ii. All bait must be dyed to the shade shown in the placard.

3. Management of Offal Discharge

- i. Either:
 - No offal discharge during setting or hauling; or
 - Strategic offal discharge from the opposite side of the boat to setting/hauling to actively encourage birds away from baited hooks.

**NATIONAL PLAN OF ACTION OF BELIZE FOR REDUCING INCIDENTAL CATCH OF SEABIRDS
IN LONG-LINE HIGH SEAS FISHERIES**

ANNEX 2

Supplemental Guidelines for Design and Deployment of Tori Lines

Preamble

These supplemental guidelines are designed to assist in the preparation and implementation of tori line regulations for longline vessels. While these guidelines are relatively explicit, improvement in tori line effectiveness through experimentation is encouraged, within the requirements of Table 1 of this document. The guidelines take in account environmental and operational variables such as weather conditions, setting speed and ship size, all of which influence tori line performance and design in protecting baits from birds. Tori line design and use may change to take account of these variables provided that line performance is not compromised. On-going improvement in tori line design is envisaged and consequently review of these guidelines will be undertaken in the future.

Tori Line Design

1. An appropriate towed device on the section of the tori line in the water can improve the aerial extension.
2. The above water section of the line should be sufficiently light and its movement is unpredictable to avoid habituation by birds and sufficiently heavy to avoid deflection of the line by wind.
3. The line is best attached to the vessels with a robust barrel swivel to reduce tangling of the line.
4. The streamers should be made of material that is conspicuous and produces an unpredictable lively action (e.g. strong fine line sheathed in red polyurethane tubing) suspended from a robust three-way swivel (that again reduces tangles) attached to the tori line.
5. Each streamer should consist of two or more strands.
6. Each streamer pair should be detachable by means of a clip so that line stowage is more efficient.

Deployment of Tori Lines

1. The line should be suspended from a pole affixed to the vessel. The tori pole should be set as high as possible so that the line protects bait a good distance astern of the vessel and will not tangle with fishing gear. Greater pole height provides greater bait protection. For example, a height of around 7 m above the water line can give above 100 m of bait protection.
2. If vessels use only one tori line it should be set to windward of sinking baits. If baited hooks are set outboard of the wake, the streamer line attachment point to the vessel should be positioned several meters outboard of the side of the vessel that baits are deployed. If vessels use two tori lines, baited hooks should be deployed within the area bounded by the two tori line.
3. Deployment of multiple tori lines is encouraged to provide even greater protection of baits from birds.

**NATIONAL PLAN OF ACTION OF BELIZE FOR REDUCING INCIDENTAL CATCH OF SEABIRDS
IN LONG-LINE HIGH SEAS FISHERIES**

4. Because there is the potential for line breakage and tangling, spare tori lines should be carried on-board to replace damaged lines and to ensure fishing operations can continue uninterrupted. Breakaways can be incorporated into the tori line to minimize safety and operational problems should a longline float foul or tangle with the in-water extent of a streamer line.
5. When fishers use a bait casting machine (BCM), they must ensure coordination of tori line and machine by:
 - i. Ensuring the BCM throws directly under the tori line protection, and
 - ii. When using a BCM (or multiple BCMs) that allows throwing to both port and starboard, two tori lines should be used.
6. When casting branch line by hand, fishers should ensure that the baited hooks and coiled branch line sections are cast under the tori line protection, avoiding the propeller turbulence which may slow the sink rate.
7. Fishers are encouraged to install manual, electric or hydraulic winches to improve ease of deployment and retrieval of tori line.

**NATIONAL PLAN OF ACTION OF BELIZE FOR REDUCING INCIDENTAL CATCH OF SEABIRDS
IN LONG-LINE HIGH SEAS FISHERIES**

REFERENCES

FAO's Code of Conduct for Responsible Fishing – FAO Code of Conduct for Responsible Fisheries, Rome, FAO. 1995

FAO's International Plan of Action for reducing incidental catch of seabirds in longline fisheries (IPOA-SEABIRDS) has been developed through the meeting of a Technical Working Group in Tokyo 25-27 March 1998 and the Consultation on the Management of Fishing Capacity, Shark Fisheries and Incidental Catch of Seabirds in Longline Fisheries held 26-30 October 1998 and its preparatory meeting held in Rome 22-24 July 1998.

Recommendation 2007-07 on Reducing Incidental Bycatch of Seabirds in Long Line Fisheries adopted by the International Commission for the Conservation of Atlantic Tunas (ICCAT)

Resolution C-11-02 – To Mitigate the Impact on Seabirds of Fishing for Species covered by the IATTC adopted by Inter-American Tropical Tuna Commission (IATTC).