



Relevant Tuna RFMO Measures Concerning Incidental Catches of Ecologically Related Species 生態学的関連種の偶発的捕獲に関するまぐろ類 RFMO の措置

Purpose

目的

To provide background information in relation to agenda items 4.1.5, 4.2.5 and 4.3.5 regarding assessment of mitigation measures adopted by other RFMOs.

他の RFMO が採択した緩和措置の評価に関する議題項目 4.1.5、4.2.5 及び 4.3.5 に関連する背景的情報を提供する。

Background

背景

Catch data reported to the CCSBT Secretariat as part of the annual scientific data exchange indicates that all fishing for SBT by Members and Cooperating Non-Members (CNMs) from 2006 has occurred within the Convention Areas of ICCAT, IOTC and WCPFC.

年次科学データ交換の一環として CCSBT 事務局に報告される漁獲データによれば、2006 年以降、メンバー及び協力的非加盟国 (CNM) が行う全ての SBT 漁業が ICCAT、IOTC 及び WCPFC の条約水域内で行われている。

The CCSBT's Recommendation to Mitigate the impact on Ecologically Related Species of Fishing for Southern Bluefin Tuna recommends compliance by CCSBT Members and CNMs with the ERS measures of ICCAT, IOTC and WCPFC when fishing for SBT within those Convention Areas. Furthermore, all CCSBT Members and CNMs are also Members or CNMs of the area based tuna RFMOs for the areas that they currently fish for SBT (except for Taiwan in the Indian Ocean) and are thus bound by the decisions of those RFMOs. For the single exception, Taiwan is nevertheless cooperating with IOTC measures.

CCSBT の「みなみまぐろを対象とする漁業の生態学的関連種への影響を緩和するための勧告」は、CCSBT メンバー及び CNM が、ICCAT、IOTC 及び WCPFC の条約水域において SBT 漁業を行う場合には、これらが採択した ERS 措置を遵守するよう勧告している。さらにいえば、全ての CCSBT メンバー及び協力的非加盟国は、各々が現在 SBT 漁業を行っている海域に対応する海域別まぐろ類 RFMO のメンバー又は CNM でもあり (インド洋における台湾を除く)、ゆえにこれら RFMO の決定に拘束されている。かかる 1 つの例外に関して、台湾は IOTC 措置に協力している。

Table 1 provides a brief summary of the current shark, seabird and sea turtle mitigation measures of CCSBT, ICCAT, IOTC and WCPFC. This summary only covers specific mitigation measures and does not cover higher level recommendations such as to implement IPOAs and FAO guidelines (which these four RFMOs appear to have in common), nor does it include recommendations on research or data collection etc. The full resolutions of the mitigation measures referred to in this summary¹ can be obtained from the Bycatch Mitigation page of the CCSBT web site at: http://www.ccsbt.org/site/bycatch_mitigation.php.

表 1 は、CCSBT、ICCAT、IOTC及びWCPFCにおける現行のサメ、海鳥及び海亀に関する緩和措置の概要を示したものである。この概要は、具体的な緩和措置のみを対象としており、IPOAやFAOガイドラインの実施（4つのRFMOにおいて共通するものと思われる）といった高いレベルの勧告や、調査又はデータ収集等に関する勧告については網羅していない。この概要において参照している緩和措置の決議のフルテキスト¹は、CCSBTのウェブサイト上、混獲問題のページから入手可能である（http://www.ccsbt.org/site/bycatch_mitigation.php）

For easy reference, the full text of the most recent seabird mitigation Resolution/Recommendation/CMM of IOTC/ICCAT/WCPFC are provided at Attachments A, B and C respectively.

簡単に参照できるように、IOTC/ICCAT/WCPFCの海鳥混獲緩和措置に関する決議/勧告/CMMの最新版のフルテキストは、別紙A、B及びCのとおりである。

¹ Except for the measures related to drift nets (because drift nets are not used in fishing for SBT). 流し網に関連する措置（流し網は、SBT漁業に使用されないため）を除く。

Table 1: Shark, Seabird and Sea Turtle mitigation measures of CCSBT, ICCAT, IOTC and WCPFC. Binding measures are highlighted within the table.

Mitigation Measures for			
	Sharks	Seabirds	Sea Turtles
CCSBT	<p><i>Attachment 17 of CCSBT 18 (2011): Recommendation to Mitigate the impact on Ecologically Related Species of Fishing for Southern Bluefin Tuna</i></p> <ul style="list-style-type: none"> Comply with IOTC, ICCAT and WCPFC binding and recommendatory measures in each Convention area. 	<p><i>Attachment U of CCSBT 4 (1997): Recommendation to the Commission Relating to Ecologically Related Species</i></p> <ul style="list-style-type: none"> Use of Tori poles below 30°S. <p><i>Attachment 17 of CCSBT 18 (2011): Recommendation to Mitigate the impact on Ecologically Related Species of Fishing for Southern Bluefin Tuna</i></p> <ul style="list-style-type: none"> Comply with IOTC, ICCAT and WCPFC binding and recommendatory measures in each Convention area. 	<p><i>Attachment 17 of CCSBT 18 (2011): Recommendation to Mitigate the impact on Ecologically Related Species of Fishing for Southern Bluefin Tuna</i></p> <ul style="list-style-type: none"> Comply with IOTC, ICCAT and WCPFC binding and recommendatory measures in each Convention area.

Mitigation Measures for			
	Sharks	Seabirds	Sea Turtles
ICCAT	<p><i>Recommendation 2005-05 to Amend Recommendation 04-10 Concerning the Conservation of Sharks Caught in Association with Fisheries Managed by ICCAT</i></p> <ul style="list-style-type: none"> Full utilisation (retention to the point of first landing) of all parts (except heads, guts, skin). Fin weight no more than 5% of total weight of sharks onboard to the point of first landing. Encourage live shark² release, especially juveniles, for non-shark directed fisheries. <p><i>Supplemental Recommendation 2007-06 Concerning Sharks</i></p> <ul style="list-style-type: none"> Until sustainable harvest levels can be determined, take appropriate measures to reduce fishing mortality in fisheries targeting porbeagle (<i>Lamna nasus</i>) and North Atlantic shortfin mako (<i>Isurus oxyrinchus</i>) sharks. <p><i>Recommendation 2009-07 on the conservation of thresher sharks caught in association with fisheries in the ICCAT convention area</i></p> <ul style="list-style-type: none"> Prohibition on retention, transshipping, landing, storing or selling bigeye thresher sharks³ (<i>Alopias superciliosus</i>) sharks. Release unharmed, to the extent practical, bigeye thresher sharks 	<p><i>Recommendation 2007-07 on Reducing Incidental Bycatch of Seabirds in Longline Fisheries</i></p> <ul style="list-style-type: none"> Seek to achieve reductions in levels of seabird bycatch across all fishing areas, seasons and fisheries through the use of effective mitigation. Carry and use tori poles when fishing south of 20°S⁶. Encourage use of a second tori pole at times of high bird abundance or activity⁶. Guidelines for the design and deployment of tori poles are suggested⁶. Backup tori lines to be carried and ready for immediate use⁶. <p><i>Supplemental Recommendation 2011-09 on Reducing Incidental Bycatch of Seabirds in ICCAT Longline Fisheries</i></p> <ul style="list-style-type: none"> Seek to achieve reductions in levels of seabird bycatch across all fishing areas, seasons and fisheries through the use of effective mitigation measures. 	<p><i>Recommendation 2010-09 on the bycatch of sea turtles in ICCAT fisheries</i></p> <ul style="list-style-type: none"> Purse seine vessels to avoid encircling sea turtles to the extent practicable and to release encircled or entangled sea turtles, including on FADs, when feasible. Pelagic longline vessels to carry on board safe handling, disentanglement and release equipment capable of releasing sea turtles in a manner that maximizes the probability of their survival. Fishermen on pelagic longline vessels use the equipment specified above to maximize the probability of sea turtle survival and are trained in safe handling and release techniques.

² that are caught incidentally and are not used for food and/or subsistence.

³ Mexican small-scale coastal fishery with a catch of less than 110 fish is exempted.

⁶ Longline vessels targeting swordfish using monofilament gear may be exempted from this requirement providing they set their longlines during the night and use a minimum swivel weight of 60g placed not more than 3m from the hook to achieve optimal sing rates.

Mitigation Measures for		
Sharks	Seabirds	Sea Turtles
<p>brought along side.</p> <ul style="list-style-type: none"> • Endeavour to ensure that vessels do not undertake a directed fishery for thresher sharks of the genus <i>Alopias</i>. <p><i>Recommendation 2010-06 on Atlantic shortfin mako sharks caught in association with ICCAT fisheries</i></p> <ul style="list-style-type: none"> • From 2013, CPCs that do not report the required data for Atlantic shortfin mako sharks shall be prohibited from retaining this species until the data are received by the ICCAT Secretariat. <p><i>Recommendation 2010-07 on the conservation of oceanic whitetip shark caught in association with fisheries in the ICCAT convention area</i></p> <ul style="list-style-type: none"> • Prohibition on retention, transshipping, landing, storing or selling oceanic whitetip sharks. <p><i>Recommendation 2010-08 on hammerhead sharks (family sphyrnidae) caught in association with fisheries managed by ICCAT</i></p> <ul style="list-style-type: none"> • Prohibition on retention, transshipping, landing, storing or selling hammerhead sharks of the family Sphyrnidae (except for <i>Sphyrna tiburo</i>)⁴. • Release unharmed, to the extent practical, hammerhead sharks brought along side⁴. <p><i>Recommendation 2011-08 on the conservation of silky sharks caught in association with ICCAT fisheries</i></p> <ul style="list-style-type: none"> • Release all silky sharks, whether dead or alive⁵ (unless domestic law requires all dead fish to be landed and that fishermen cannot draw any commercial profit from such fish). • Prohibition on retention, transshipping, or landing any part or whole carcass of silky shark⁵. • Promptly release silky sharks unharmed and at the latest before putting the catch into holds. • Purse seine vessels shall endeavour to take additional measures to increase the survival rate of incidentally caught silky sharks. 	<ul style="list-style-type: none"> • South of 25°S, use at least 2 mitigation measures from Table 1 of the Recommendation. In the Mediterranean mitigation measures in Table 1 should be implemented on a voluntary basis. • Mitigation measures to conform to the minimum technical standards in Table 1. 	

⁴ Hammerhead catches by developing coastal CPCs for local consumption are exempted from this measure provided they provide the necessary data. Such CPCs should endeavour not to increase their catches of hammerhead sharks and take measures to ensure that hammerheads (except *Sphyrna tiburo*) will not enter international trade.

⁵ Silky sharks caught by developing coastal CPCs are exempted, but shall not increase their catches of silky sharks and shall take measures to ensure that silky sharks will not enter international trade.

Mitigation Measures for			
	Sharks	Seabirds	Sea Turtles
IOTC	<p><i>Resolution 05/05: Concerning the conservation of sharks caught in association with fisheries managed by IOTC</i></p> <ul style="list-style-type: none"> Full utilisation (retention to the point of first landing) of all parts (except heads, guts, skin). Fin weight no more than 5% of total weight of sharks onboard to the point of first landing. Encourage live shark² release, especially juveniles and pregnant sharks, for non-shark directed fisheries. <p><i>Resolution 09/05: To prohibit the use of large-scale driftnets on the high seas in the IOTC area of competence</i></p> <ul style="list-style-type: none"> Prohibit the use of large-scale driftnets on the high seas within the Convention Area. <p><i>Resolution 12/09: On the Conservation of Thresher Sharks (Family Alopiidae) caught in Association with Fisheries in the IOTC area of competence</i></p> <ul style="list-style-type: none"> Prohibition (both commercial and recreational fishing) on retention, transshipping, landing, storing or selling any thresher sharks in the family Alopiidae. Promptly release unharmed, to the extent practical, all thresher sharks brought along side. Recreational and sport fishermen likely to catch thresher sharks to be equipped with instruments suitable to release them alive. <p><i>Resolution 13/06: On a scientific and management framework on the conservation of shark species caught in association with IOTC managed fisheries</i></p> <ul style="list-style-type: none"> Prohibition on authorised vessels (not including artisanal vessels in their EEZ) on retention, transshipping, landing, storing any whitetip sharks. Promptly release unharmed, to the extent practical, all whitetip sharks brought along side. Release whitetip sharks, if recognised on the line, before bringing onboard. 	<p><i>Resolution 09/05: To prohibit the use of large-scale driftnets on the high seas in the IOTC area of competence</i></p> <p>Prohibit the use of large-scale driftnets on the high seas within the Convention Area.</p> <p><i>Resolution 10/06: On reducing the incidental bycatch of seabirds in longline fisheries</i></p> <ul style="list-style-type: none"> Seek to achieve reductions in levels of seabird bycatch across all fishing areas, seasons and fisheries through the use of effective mitigation measures. Hooklines to sink beyond reach of seabirds as soon as possible. South of 25°S, use at least 2 mitigation measures from Table 1 of this Resolution including at least one from Column A⁷, elsewhere use 1 mitigation measure from the table. Mitigation measures to conform to the minimum technical standards in Annex 1 of this Resolution. <p><i>Resolution 12/06: On reducing the incidental bycatch of seabirds in longline fisheries (enters into force on 1 July 2014 and replaces Resolution 10/06 at that time).</i></p> <ul style="list-style-type: none"> Seek to achieve reductions in levels of seabird bycatch across all fishing areas, seasons and fisheries through the use of effective mitigation measures. South of 25°S, use at least 2 of the 3 mitigation measures from Table 1 of this Resolution. These measures should also be considered for implementation in other areas as appropriate. The design and deployment for bird scaring lines should meet the additional specifications in Annex 1 of this Resolution. 	<p><i>Resolution 09/05: To prohibit the use of large-scale driftnets on the high seas in the IOTC area of competence</i></p> <p>Prohibit the use of large-scale driftnets on the high seas within the Convention Area.</p> <p><i>Resolution 12/04: On the conservation of marine turtles</i></p> <ul style="list-style-type: none"> Foster recovery and safe return of hard shelled turtles. Fishermen to be aware of and use proper mitigation and handling techniques. Prompt release of marine turtles. Longliners to: <ul style="list-style-type: none"> Carry line cutters and de-hookers, and follow IOTC's handling guidelines. Use whole finfish bait where appropriate. Purse seiners to: <ul style="list-style-type: none"> Avoid encirclement of marine turtles where practical. Release all turtles where practical and in accordance with IOTC's handling guidelines. Carry and employ dip-nets when appropriate to handle turtles. If a marine turtle is entangled in the net, stop net roll as soon as the turtle comes out of the water, disentangle without injuring before resuming roll and to the extent practicable, assist recovery before returning turtle to water. Use FAD designs which reduce the incidence of entanglement of turtles.

⁷ Vessels shall not use the same measure from Column A and Column B.

Mitigation Measures for		
Sharks	Seabirds	Sea Turtles
<p>WCPFC</p> <p><i>CMM 2008-04 : Conservation and Management measure to Prohibit the Use of Large Sale Driftnets on the High Seas in the Convention Area</i></p> <ul style="list-style-type: none"> Prohibit the use of large-scale driftnets on the high seas within the Convention Area <p><i>Conservation and Management Measure 2010-07: Conservation and Management Measure for Sharks</i></p> <ul style="list-style-type: none"> Full utilisation (retention to the point of first landing or transshipment) of all parts (except heads, guts, skin). Fin weight no more than 5% of total weight of sharks onboard to the point of first landing. Encourage live shark² release in fisheries for tuna and tuna-like species that are not directed at sharks. <p>Conservation and Management Measure 2011-04: Conservation and Management Measure for Oceanic Whitetip Shark</p> <ul style="list-style-type: none"> Prohibition on retention, transshipping, storing on a fishing vessel, or landing oceanic whitetip sharks. Release as soon as possible in a manner to minimise harm. 	<p><i>CMM 2007-04: Conservation and Management measure to Mitigate the Impact of Fishing for Highly Migratory Fish Stocks on Seabirds</i></p> <ul style="list-style-type: none"> South of 30°S, use at least 2 mitigation measures from Table 1 of this Measure including at least one from Column A. In other areas, where necessary, CCMs are encouraged to employ one or more measures from Table 1. Minimum technical specifications for measures in Table 1 are provided in Annex 1 of this Measure. CCMs are encouraged to adopt measures aimed at ensuring that live captures are released alive in as good a condition as possible and that wherever possible hooks are removed without jeopardizing the life of the seabird. <p><i>CMM 2008-04 : Conservation and Management measure to Prohibit the Use of Large Sale Driftnets on the High Seas in the Convention Area</i></p> <ul style="list-style-type: none"> Prohibit the use of large-scale driftnets on the high seas within the Convention Area <p><i>CMM 2012-07 : Conservation and Management measure to Mitigate the Impact of Fishing for Highly Migratory Fish Stocks on Seabirds (must be implemented no later than 1 July 2014 and replaces CMM 2007-04)</i></p> <ul style="list-style-type: none"> South of 30°S, use at least 2 of the three following measures: weighted branch lines, night setting and tori lines (specifications provided in Annex 1 of this CMM) In areas between 30°S and 23°N, where necessary, have longline vessels employ one or more mitigation measures listed in Table 1. CCMs are encouraged to adopt measures aimed at ensuring that live captures are released alive in as good a condition as possible and that wherever possible hooks are removed without jeopardizing the life of the seabird. 	<p><i>Conservation and Management Measure 2008-03 Conservation and Management of Sea Turtles</i></p> <ul style="list-style-type: none"> Foster recovery and safe return of hard shelled turtles. Fishermen to be aware of and use proper mitigation and handling techniques. Prompt release of marine turtles. Longiners to: <ul style="list-style-type: none"> Carry line cutters and de-hookers, and carry and use dip-nets where appropriate. Use whole finfish bait where appropriate. Longiners that fish for swordfish in shallow waters to use one of the following 3 measures⁸: <ul style="list-style-type: none"> Use only large circle hooks and with an offset not exceeding 10 degrees. Use only whole finfish for bait. Use another measure/plan reviewed by the SC and TCC and approved by the Commission. Purse seiners to: <ul style="list-style-type: none"> Avoid encirclement of marine turtles where practical. Carry and employ dip-nets when appropriate to handle turtles. If a marine turtle is entangled in the net, stop net roll as soon as the turtle comes out of the water, disentangle without injuring before resuming roll and to the extent practicable, assist recovery before returning turtle to water. <p><i>CMM 2008-04 : Conservation and Management measure to Prohibit the Use of Large Sale Driftnets on the High Seas in the Convention Area</i></p> <ul style="list-style-type: none"> Prohibit the use of large-scale driftnets on the high seas within the Convention Area.

Prepared by the Secretariat

⁸ Certain fisheries may be exempted if there are minimal observed interaction rates over three years with observer coverage of at least 10% during those three years.

RESOLUTION 12/06
ON REDUCING THE INCIDENTAL BYCATCH OF SEABIRDS IN LONGLINE FISHERIES

The Indian Ocean Tuna Commission (IOTC),

RECALLING Resolution 10/06 *On reducing incidental bycatch of seabirds in longline fisheries*, and in particular, its paragraph 8;

RECOGNISING the need to strengthen mechanisms to protect seabirds in the Indian Ocean, and to harmonize them with ICCAT measures that will enter into force no later than July 2013;

TAKING INTO ACCOUNT the United Nations Food and Agriculture Organization (FAO) International Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries (IPOA-Seabirds);

NOTING the recommendations of the IOTC Scientific Committee, in agreement with the Working Party on Ecosystems and Bycatch (WPEB) on measures to mitigate seabird interactions as outlined in their 2007, 2009 and 2011 Reports;

ACKNOWLEDGING that to date some IOTC Members and Cooperating non-Contracting Parties (hereinafter referred to as "CPCs") have identified the need for, and have either completed or are near finalizing, their National Plan of Action on Seabirds;

RECOGNISING the global concern that some species of seabirds, notably albatrosses and petrels, are threatened with extinction;

NOTING that the Agreement on the Conservation of Albatrosses and Petrels, which opened for signatures at Canberra on 19 June 2001, has entered into force;

NOTING that the ultimate aim of the IOTC and the CPCs is to achieve a zero bycatch of seabirds for fisheries under the purview of the IOTC, especially threatened albatrosses and petrel species in longline fisheries;

BEARING in mind studies undertaken in other longline tuna fisheries, demonstrating the economical benefit of measures to mitigate incidental bycatch of seabirds, by significantly increasing catches of targeted species;

ADOPTS, in accordance with the provisions of Article IX, paragraph 1 of the IOTC Agreement, the following:

1. CPCs shall record data on seabird incidental bycatch by species, notably through scientific observers in accordance with Resolution 11/04 and report these annually. Observers shall to the extent possible take photographs of seabirds caught by fishing vessels and transmit them to national seabird experts or to the IOTC Secretariat, for confirmation of identification.
2. CPCs that have not fully implemented the provisions of the IOTC Regional Observer Scheme outlined in paragraph 2 of Resolution 11/04 shall report seabird incidental bycatch through logbooks, including details of species, if possible.
3. CPCs shall provide to the Commission as part of their annual reports, information on how they are implementing this measure.
4. CPCs shall seek to achieve reductions in levels of seabird bycatch across all fishing areas, seasons, and fisheries through the use of effective mitigation measures, while giving due consideration to the safety of crew members and the practicability of mitigation measures.
5. In the area south of 25 degrees South latitude, CPCs shall ensure that all longline vessels use at least two of the three mitigation measures in **Table 1**. These measures should also be considered for implementation in other areas, as appropriate, consistent with scientific advice.



6. Mitigation measures used pursuant to paragraph 5 shall conform to the minimum technical standards for these measures, as shown in **Table 1**.
7. The design and deployment for bird scaring lines should also meet the additional specifications provided in **Annex 1**.
8. The Scientific Committee, based notably on the work of the WPEB and information from CPCs, will analyse the impact of this Resolution on seabird bycatch no later than for the 2016 meeting of the Commission. It shall advise the Commission on any modifications that are required, based on experience to date of the operation of the Resolution and/or further international studies, research or advice on best practice on the issue, in order to make the Resolution more effective.
9. The Commission should hold a workshop in the intersessional period before the entry into force of this Resolution to facilitate its implementation, particularly focusing on how to address safety and practical concerns. CPCs shall ensure that fishers make a trial of the safety and practicality of these measures for review at the workshops with a view of resolving their concerns and assuring the orderly implementation, including training for and adaptation to these measures. A second workshop should be held, if necessary to explain the science, theory and application of the line weighting measure.
10. This Resolution shall enter into force on 1 July 2014.
11. As of 1 July 2014, the Resolution 10/06 *on reducing incidental bycatch of seabirds in longline fisheries* and the Recommendation 05/09 *on incidental mortality of seabirds* are superseded by this Resolution.



Table 1. Mitigation measures

Mitigation	Description	Specification
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 the entire longline setting to deter birds from approaching the branch line.	<p>For vessels greater than or equal to 35 m:</p> <ul style="list-style-type: none"> • Deploy at least 1 bird-scaring line. Where practical, vessels are encouraged to use a second tori pole and bird scaring line at times 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 5m. <p>For vessels less than 35 m:</p> <ul style="list-style-type: none"> • Deploy at least 1 bird-scaring line. • Aerial extent must be greater than or equal to 75 m. • Long and/or short (but greater than 1 m in length) streamers must be used and placed at intervals as follows: <ul style="list-style-type: none"> ○ Short: intervals of no more than 2 m. ○ Long: intervals of no more than 5 m for the first 55 m of bird scaring line. <p>Additional design and deployment guidelines for bird-scaring lines are provided in Annex 1 of this Resolution.</p>
Line weighting	Line weights to be deployed on the snood prior to setting.	Greater than a total of 45 g attached within 1 m of the hook or; Greater than a total of 60 g attached within 3.5 m of the hook or; Greater than a total of 98 g weight attached within 4 m of the hook.

Annex 1

Supplemental Guidelines for Design and Deployment of Tori Lines

Preamble

Minimum technical standards for deployment of tori lines are found in **Table 1** of this Resolution, and are not repeated here. 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** in the Resolution. The guidelines take into 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 should be undertaken in the future.

Tori line design (see Figure 1)

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 that 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 vessel 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 about 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 lines.
3. Deployment of multiple tori lines is encouraged to provide even greater protection of baits from birds.
4. Because there is the potential for line breakage and tangling, spare tori lines should be carried onboard 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 branchline by hand, fishers should ensure that the baited hooks and coiled branchline 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 lines.



Streamer Line

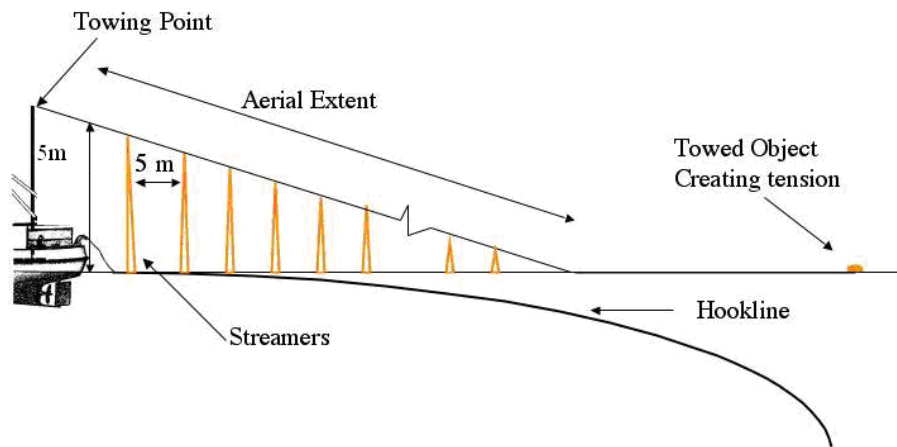


Figure 1. Diagram of Bird Scaring Streamer Line.

11-09

BYC

**SUPPLEMENTAL RECOMMENDATION BY ICCAT ON REDUCING
INCIDENTAL BYCATCH OF SEABIRDS IN ICCAT LONGLINE FISHERIES**

RECALLING the *Recommendation by ICCAT on Reducing Incidental By-catch of Seabirds in Longline Fisheries* [Rec. 07-07];

RECOGNISING the need to strengthen mechanisms to protect endangered seabirds in the Atlantic Ocean;

TAKING INTO ACCOUNT the United Nations Food and Agriculture Organization (FAO) International Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries (IPOA-Seabirds);

ACKNOWLEDGING that to date some Contracting Parties, Cooperating non-Contracting Parties, Entities or Fishing Entities (hereinafter referred to as “CPCs”) have identified the need for, and have either completed or are near finalizing, their National Plan of Action on Seabirds;

RECOGNISING the concern that some species of seabirds, notably some albatrosses and petrels, are threatened with global extinction;

NOTING that the Agreement on the Conservation of Albatrosses and Petrels has entered into force;

NOTING that the General Fisheries Commission for the Mediterranean (GFCM) has adopted Recommendation GFCM/35/2011/13 launching a process, to be carried out in coordination with other RFMOs, with a view to reducing incidental by-catch of seabirds in fisheries in the GFCM Competence Area,

CONSCIOUS that the ICCAT seabird assessment has been completed and has concluded that ICCAT fisheries are having a measurable impact on seabird species;

RECOGNIZING the progress that some CPCs have made in addressing seabird bycatch in their fisheries:

**THE INTERNATIONAL COMMISSION FOR THE CONSERVATION
OF THE ATLANTIC TUNAS (ICCAT) RECOMMENDS THAT:**

1. CPCs shall record data on seabird incidental catch by species through scientific observers in accordance with the Recommendation 10-10 and report these data annually.
2. CPCs shall seek to achieve reductions in levels of seabird by-catch across all fishing areas, seasons, and fisheries through the use of effective mitigation measures, while giving due consideration to the safety of crew members and the practicability of mitigation measures.
3. In the area south of 25 degrees South latitude, CPCs shall ensure that all longline vessels use at least two of the mitigation measures in **Table 1**. These measures should also be considered for implementation in other areas, as appropriate, consistent with scientific advice.
4. In the Mediterranean, mitigation measures in **Table 1** should be implemented on a voluntary basis. The SCRS is encouraged to work in coordination with the GFCM as provided for in GFCM Recommendation 35/2011/13.
5. Mitigation measures used pursuant to paragraph 3 shall conform to the minimum technical standards for the measures as shown in **Table 1**.
6. The design and deployment for bird scaring lines should also meet the additional specifications provided in **Annex 1**.

7. CPCs shall collect and provide to the Secretariat information on how they are implementing these measures and on the status of their National Plans of Action for Reducing Incidental Catches of Seabirds in Longline Fisheries.
8. In 2015, the SCRS shall conduct another fishery impact assessment to evaluate the efficacy of these mitigation measures. Based on this fishery impact assessment, the SCRS shall make appropriate recommendations, if necessary, to the Commission on any modifications.
9. The Commission shall consider adopting additional measures for the mitigation of any incidental catch of seabirds in light of any new scientific information available, if necessary and consistently with the precautionary approach.
10. Notwithstanding Article VIII of the Convention the provisions of this Recommendation shall come into force to the extent possible by January 2013 but not later than July 2013.
11. ICCAT Rec. 07-07 will continue to apply in the area between 20°S to 25°S.

Table 1. Mitigation measures that comply with the following minimum technical standards.

<i>Mitigation measure</i>	<i>Description</i>	<i>Specification</i>
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 longline setting to deter birds from approaching the branch line.	<p>For vessels greater than or equal to 35 m:</p> <ul style="list-style-type: none"> - Deploy at least 1 bird-scaring line. Where practical, vessels are encouraged to use a second tori pole and bird scaring line at times 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 5m. <p>For vessels less than 35m:</p> <ul style="list-style-type: none"> - 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: <ul style="list-style-type: none"> o Short: intervals of no more than 2m. o Long: intervals of no more than 5m for the first 55 m of bird scaring line. <p>Additional design and deployment guidelines for bird-scaring lines are provided in Annex 1 of this Recommendation.</p>
Line weighting	Line weights to be deployed on the snood prior to setting	Greater than a total of 45 g attached within 1 m of the hook or; Greater than a total of 60 g attached within 3.5 m of the hook or; Greater than a total of 98 g weight attached within 4 m of the hook.

Supplemental Guidelines for Design and Deployment of Tori Lines

Preamble

Minimum technical standards for deployment of tori lines are found in **Table 1** of this Recommendation, and are not repeated here. These supplemental guidelines are designed to assist in 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** in the Recommendation. The guidelines take into 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 should 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 that 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 vessel 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 about 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 lines.
3. Deployment of multiple tori lines is encouraged to provide even greater protection of baits from birds.
4. Because there is the potential for line breakage and tangling, spare tori lines should be carried onboard 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 branchline by hand, fishers should ensure that the baited hooks and coiled branchline 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 lines.



**COMMISSION
NINTH REGULAR SESSION
Manila, Philippines
2-6 December 2012**

**CONSERVATION AND MANAGEMENT MEASURE TO MITIGATE THE IMPACT
OF FISHING FOR HIGHLY MIGRATORY FISH STOCKS ON SEABIRDS**

Conservation and Management Measure 2012-07

The Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean

Concerned that some seabird species, notably albatrosses and petrels, are threatened with global extinction.

Noting advice from the Commission for the Conservation of Antarctic Marine Living Resources that together with illegal, unreported and unregulated fishing, the greatest threat to Southern Ocean seabirds is mortality in longline fisheries in waters adjacent to its Convention Area.

Noting scientific research into mitigation of seabird bycatch in surface longline fisheries has showed that the effectiveness of various measures varies greatly depending on the vessel type, season, and seabird species assemblage present.

Noting the advice of the Scientific Committee that combinations of mitigation measures are essential for effective reduction of seabird bycatch.

Resolves as follows:

1. Commission Members, Cooperating Non-members and participating Territories (CCMs) shall, to the greatest extent practical, implement the International Plan of Action for Reducing Incidental Catches of Seabirds in Longline Fisheries (IPOA-Seabirds) if they have not already done so.
2. CCMs shall report to the Commission on their implementation of the IPOA-Seabirds, including, as appropriate, the status of their National Plans of Action for Reducing Incidental Catches of Seabirds in Longline Fisheries.

Adopts, in accordance with Article 5 (e) and 10 (i)(c) of the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean the Commission the following measures to address seabird bycatch:

South of 30° South

1. CCMs shall require their longline vessels fishing south of 30°S, to use at least two of these three measures: weighted branch lines, night setting and tori lines. Table 1 does not apply south of 30° South. See Annex 1 for specifications of these measures.

North of 23° North

2. CCMs shall require their longline vessels fishing north of 23°N, to use at least two of the mitigation measures in Table 1, including at least one from Column A. See Annex 1 for specifications of these measures.

Table 1: Mitigation measures

<i>Column A</i>	<i>Column B</i>
<i>Side setting with a bird curtain and weighted branch lines¹</i>	<i>Tori line²</i>
<i>Night setting with minimum deck lighting</i>	<i>Blue-dyed bait</i>
<i>Tori line</i>	<i>Deep setting line shooter</i>
<i>Weighted branch lines</i>	<i>Management of offal discharge</i>

Other Areas

3. In other areas (between 30°S and 23°N), where necessary, CCMs are encouraged to have their longline vessels employ one or more of the seabird mitigation measures listed in Table 1.

General Principles

4. For research and reporting purposes, each CCM with longline vessels that fish in the Convention Area south of 30°S or north of 23°N shall submit to the Commission in part 2 of its annual report annually information describing which of the mitigation measures they require their vessels to use, as well as the technical specifications for each of those mitigation measures. Each such CCM shall also include in its annual reports for subsequent years any changes it has made to its required mitigation measures or technical specifications for those measures.

5. CCMs are encouraged to undertake research to further develop and refine measures to mitigate seabird bycatch including mitigation measures for use during the setting and hauling process and should submit to the Secretariat for the use by the SC and the TCC any information derived from such efforts. Research should be undertaken in the fisheries and areas to which the measure will be used.

6. The SC and TCC will annually review any new information on new or existing mitigation measures or on seabird interactions from observer or other monitoring programmes. Where necessary, an updated suite of mitigation measures, specifications for mitigation measures, or recommendations for areas of application will then be provided to the Commission for its consideration and review as appropriate.

7. CCMs are encouraged to adopt measures aimed at ensuring that seabirds captured alive during longlining are released alive and in as good condition as possible and that wherever possible hooks are

¹ If using side setting with a bird curtain and weighted branch lines from Column A this will be counted as two mitigation measures.

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

removed without jeopardizing the life of the seabird concerned. Research into the survival of released seabirds is encouraged.

8. The intersessional working group for the regional observer programme (IWG-ROP) will take into account the need to obtain detailed information on seabird interactions to allow analysis of the effects of fisheries on seabirds and evaluation of the effectiveness of bycatch mitigation measures.

9. CCMs shall annually provide to the Commission, in Part 1 of their annual reports, all available information on interactions with seabirds reported or collected by observers, including mitigation used, observed and reported species specific seabird bycatch rates and numbers, to enable the Scientific Committee to estimate seabird mortality in all fisheries to which the WCPFC Convention applies. See Annex 2 for Part 1 reporting template guideline. Alternatively, statistically rigorous estimates of species-specific seabird interaction rates (for longline, interactions per 1,000 hooks) and total numbers should be reported.

10. This Conservation and Management Measure shall be implemented by CCMs in the following manner:

- In areas south of 30 degrees South, no later than 1 July 2014.
- In areas north of 23 degrees North, and in relation to large-scale longline vessels of 24 meters or more in overall length, no later than 1 July 2014.

In 2013 the SC will assess to the extent possible the implications of the North Pacific small-vessel exemption on seabird interaction rates and make any appropriate recommendations, the TCC will evaluate the constraints and opportunities for small vessels to employ seabird mitigation measures in the North Pacific, and the Commission will consider appropriate seabird mitigation requirements for vessels less than 24m in length in the North Pacific.

12. This Conservation and Management measure replaces CMM2007-04, which is hereby repealed.

Annex 1. Specifications

1. Tori lines (South of 30° South)

1a) For vessels \geq 35 m total length

- i. Deploy at least 1 tori line. Where practical, vessels are encouraged to use a second tori line at times of high bird abundance or activity; both tori lines shall be deployed simultaneously, one on each side of the line being set. If two tori lines are used baited hooks shall be deployed within the area bounded by the two tori lines.
- ii. A tori line using long and short streamers shall be used. Streamers shall be: brightly coloured, a mix of long and short streamers.
 - a. Long streamers shall be placed at intervals of no more than 5 m, and long streamers must be attached to the line with swivels that prevent streamers from wrapping around the line. Long streamers of sufficient length to reach the sea surface in calm conditions must be used.
 - b. Short streamers (greater than 1m in length) shall be placed no more than 1m apart.
- iii. Vessels shall deploy the tori line to achieve a desired aerial extent greater than or equal to 100 m. To achieve this aerial extent the tori line shall have a minimum length of 200m, and shall be attached to a tori pole >7 m above the sea surface located as close to the stern as practical.
- iv. If vessels use only one tori line, the tori line shall be deployed windward of sinking baits.

1b) For vessels $<$ 35 m total length

- i. A single tori line using either long and short streamers, or short streamers only shall be used.
- ii. Streamers shall be: brightly coloured long and/or short (but greater than 1m in length) streamers must be used and placed at intervals as follows:
 - a. Long streamers placed at intervals of no more than 5m for the first 55 m of tori line.
 - b. Short streamers placed at intervals of no more than 1m.
- iii. Long streamers shall be attached to the line with swivels that prevent streamers from wrapping around the line. All long streamers shall reach the sea-surface in calm conditions.
- iv. Vessels shall deploy the tori line to achieve a desired aerial extent of 75 m. To achieve this aerial extent the tori line shall have a minimum length of 100m, and shall be attached to a tori pole >6 m above the sea surface located as close to the stern as practical. If the tori line is less than 150 m in length, it must have a towed object attached to the end so that the aerial extent is maintained over the sinking baited hooks.
- v. If two tori lines are used, the two lines must be deployed on opposing sides of the main line.

2. Tori lines (North of 23° North)

2a) Long Streamer

- 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 hookline 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 the water as possible.
- v. If two (i.e. paired) tori lines are used, the two lines must be deployed on opposing sides of the main line.

2b) Short Streamer

- i. 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 hookline enters the water.
- ii. Must be attached so that the aerial extent is maintained over the sinking baited hooks.
- iii. Streamers must be less than 1m apart and be 30 cm minimum length.
- iv. If two (i.e. paired) tori lines are used, the two lines must be deployed on opposing sides of the main line.

3. 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 1m), and if mainline shooter is used, must be mounted at least 1m 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.

4. Night setting

- i. No setting between nautical dawn and before nautical dusk.
- ii. Nautical dusk and nautical dawn are defined as set out in the Nautical Almanac tables for relevant latitude, local time and date.
- iii. Deck lighting to be kept to a minimum. Minimum deck lighting should not breach minimum standards for safety and navigation.

5. Weighted branch lines

- i. Following minimum weight specifications are required:
 - one weight greater than or equal to 40g within 50cm of the hook; or
 - greater than or equal to a total of 45g attached to within 1 m of the hook; or
 - greater than or equal to a total of 60 g attached to within 3.5 m of the hook; or
 - greater than or equal to a total of 98 g weight attached to within 4 m of the hook.

6. Management of offal discharge

- i. Either no offal discharge during setting or hauling;
- ii. Or strategic offal discharge from the opposite side of the boat to setting/hauling to actively encourage birds away from baited hooks.

7. Blue-dyed bait

- i. If using blue-dyed bait it must be fully thawed when dyed.
- ii. The Commission Secretariat shall distribute a standardized colour placard.
- iii. All bait must be dyed to the shade shown in the placard.

8. Deep setting line shooter

- i. Line shooters must be deployed in a manner such that the hooks are set substantially deeper than they would be lacking the use of the line shooter, and such that the majority of hooks reach depths of at least 100 m.

Annex 2. Guidelines for reporting templates for Part 1 report

The following tables should be included in the Part 1 country reports, summarising the most recent five years.

Table x: Effort, observed and estimated seabird captures by fishing year for [CCM] [South of 30°S; North of 23°N; or 23°N - 30°S¹]. For each year, the table gives the total number of hooks; the number of observed hooks; observer coverage (the percentage of hooks that were observed); the number of observed captures (both dead and alive); the capture rate (captures per thousand hooks) and mitigation types used by the fleet.

Year	Fishing effort				Observed seabird captures	
	Number of vessels	Number of hooks	Observed hooks	% hooks observed	Number	Rate ²
2006						
2007						
2008						
2009						
2010						
2011						
2012						

¹ State North of 23°N, South of 30°S or 23°N - 30°S, for CCMs fishing in all areas provide separate tables for each; ² Provide as captures per one thousand hooks.

Table y: Number of observed seabird captures in [CCM] longline fisheries, 2012, by species and area.

Species	South of 30°S	North of 23°N	23°N - 30°S	Total
E.g. Antipodean albatross				
E.g. Gibson's albatross				
E.g. Unidentified albatross				
E.g. Flesh footed shearwater				
E.g. Great winged petrel				
E.g. White chinned petrel				
E.g. Unidentified				
Total				