



**TECHNICAL AND COMPLIANCE COMMITTEE**

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**HSBI BYCATCH MITIGATION MEASURING GUIDE**

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**Voluntary HSBI Regional Guides**

**TOOLS FOR HIGH SEAS BOARDING AND INSPECTIONS**

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<sup>1</sup> Rev2 incorporates participant feedback during TCC21 plenary. The original was posted on 15 Sept 2025.

# Voluntary HSBI Regional Guides

TOOLS FOR HIGH SEAS BOARDING AND INSPECTIONS

## Bycatch Mitigation Measuring

### Document History

Version	Effective Date	Description of Revision	Prepared by	Reviewed by

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### PURPOSE STATEMENT

1. This document provides guidance to Authorised inspectors conducting WCPFC High Seas Boarding and Inspections (HSBI<sup>2</sup>) on:
  - assessing bycatch mitigation measures that require quantifiable measurements and
  - the minimum standards for taking and recording measurements
2. The development of this Guide aims to support a consistent approach to the monitoring of bycatch mitigation measures on the high seas in such cases where the bycatch mitigation measure requires a quantifiable measurement (e.g., length or weight).
3. The application of this Guide will be voluntary and apply to authorised HSBI activities within the WCPFC Convention Area.

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<sup>2</sup> HSBI, refers to boarding, inspection, and related activities on the high seas within the Convention Area conducted pursuant to CMM 2006-08 Western and Central Pacific Fisheries Commission Boarding and Inspection Procedures or any successor CMM.

4. This guide should be modified in response to future amendments to bycatch mitigation measures for any species and emerging technologies. It is expected that this guide will continue to evolve as the field develops.

## Assessing bycatch mitigation measures in WCPFC HSBI activities.

5. The aim of HSBI is to ensure a vessel is compliant with the WCPFC Convention and all applicable WCPFC Conservation and Management Measure (CMM) obligations.
6. Authorised inspectors conducting HSBI activities should inspect required bycatch-catch mitigation measures (and equipment) that are on board, being used, or are available for use, including to:
  - confirm presence or absence of bycatch mitigation methods
  - confirm application of bycatch mitigation methods by trip
  - verify configuration and construction of bycatch mitigation methods
  - record condition of bycatch mitigation methods
7. Inspecting and recording bycatch mitigation measures (and equipment) during HSBI activities assesses compliance with CMMs for:
  - Seabirds,
  - Shark,
  - Cetaceans,
  - Sea Turtles, and
  - Mobula Rays
8. Authorised inspectors are to be fully familiar with the provisions of the CMMs in force on bycatch mitigation measures, including with respect to any areas of application with obligations. These should be taken into consideration with the vessel's current trip operations.
9. Inspecting and recording bycatch mitigation measures during HSBI activities, can provide the flag CCM with vessel and fishing trip level compliance with bycatch related CMMs.

## Bycatch mitigation measuring Minimum Standards

10. The general principles and procedures for taking measurements of bycatch mitigation measures in HSBI:

### *a) Documentation and records*

11. Authorised inspectors should:
  - document any measurements taken using a recording device, including photographs and videos.
  - Take any measurement with witness' present (Authorised Inspectors, master, crew, boarding party) and prioritise that witnesses from the fishing vessel are present.
  - ideally work in pairs
  - inspect the Vessel Master's notes including fishing vessel operation tracking and the daily catch and effort records.

12. The HSBI report should record bycatch mitigation measure information. The authorised inspector should record as much as possible, including but not limited to the following information:
- Date of the inspection
  - Vessel name
  - Vessel coordinates
  - Bycatch mitigation methods (refer Annex 1):
    - used by vessel
    - measurements (including unit of measurement).
13. The master of the vessel must be provided with an interim copy of the report which includes detail of any bycatch mitigation methods and measurements. The master must also be given to opportunity to include any objection or comment to be included in the final report.

***b) Equipment***

- Tape measure and weighing scales
- Photo and video recorder
- HSBI report / recording information materials

***Collection and analysis of bycatch mitigation measures for Seabirds***

**Weighted branch lines**

14. Branch lines are to be weighted accordingly, based on the distance from the hook. Authorised Inspectors should:
- measure the distance from the weight to the eye (top) of the hook
  - document the packages of weights on board
  - document the weights showing weight amount if readable
  - use scales to weigh individual weights.

**Tori lines**

15. Tori lines specifications are dependent on the total length of the vessel (on the RFV and confirmed via the ships documents) and applicable areas on the high seas of the WCPFC Convention Area (i.e. North of 23 North and South and 25 South). Refer to Annex 1. Example HSBI report template/inspection checklist - seabird mitigation measures.
16. Space is limited when measuring a tori line at-sea, however, an indicative assessment of length can be achieved using mathematical techniques. To measure the tori line, authorised inspectors should:
- choose and clear an area on the vessel deck, running along the vessel is often an open and clear space
  - measure the area on the vessel deck
  - lay the tori line out in sections along this length (back and forth)
  - measure to confirm length of sections
  - count number of lengths
  - measure overage piece of line leftover

- calculate overall length of tori line e.g. 10 sections of line, measuring 15m = 150m tori line length (plus any overage)
- Measure both tori lines if the vessel has two.

#### **Tori line streamers**

17. Authorised inspectors should:

- measure distance between long streamers
- measure distance between short streamers
- measure the first long streamers from the start of the tori line that meets the attachment point
- measure from attachment point to the first long streamer
- measure and record the length of long and short streamers.

#### **Tori pole**

18. The tori pole or attachment point is where the tori line is deployed from. Authorised inspectors should:

- measure from top of tori pole (estimate) or attachments point to the sea surface.

#### **Night Setting**

19. Depending on the area of fishing, night setting may be an approved seabird mitigation measure. Information on mitigation measures may be recorded in the vessels' Daily Catch and Effort Records or the ships log. Where night setting is declared, Authorised inspectors should:

- identify the start time and end time of setting,
- identify the time of nautical dawn and dusk using a nautical almanac
- identify if setting of fishing gear has occurred after nautical dawn or before nautical dusk using vessel records.

#### **Hook-shielding devices**

20. Hook shielding devices may be used as a stand along seabird mitigation measure. Where identified, authorised inspectors should:

- identify if hook shielding devices are used on all gear (full or partial)
- measure and record the weight of the hook shielding device and distance to the eye (top) of the hook.

#### **Management of offal discharge**

21. Management of offal discharge is a permitted as a seabird mitigation measure where fishing occurs north of 23° North. Where management of offal discharge is identified, Authorised inspectors can speak with the master and crew to record fishing practices during setting and/or hauling.

#### **Blue dyed bait**

22. Where blue dyed bait is identified as used, Authorised inspectors should:

- confirm that bait used is fully thawed when dyed

- compare the colour of dye to the vessel placard showing the colour to which bait is to be dyed (provided by the Commission Secretariat).

## Accessibility of bycatch mitigation measuring and multi-language information

23. To assist the bycatch mitigation measuring process during HSBI activities, it may be beneficial for these procedures to be translated into languages that are in use on fishing vessels and/or as pictographs to bridge any language barriers.
24. The following supporting documentation should be considered for translation by CCMs:
- HSBI Multi-language cards
  - Measuring of bycatch mitigation measure procedures translated into flag CCM languages, provided online.
  - Measuring of bycatch mitigation measure procedures given/shown to master of vessel by HSBI Authorised inspectors.
25. In addition, flag CCMs should also consider providing information about measuring bycatch mitigation measure procedures that may be used during HSBI inspections to their fishing vessels in a language(s) used by their vessels.

Annex 1. Example HSBI report template/ inspection checklist - seabird mitigation measures

Tori Line for vessels $\geq 35\text{m}$ total length and below $25^\circ$ South (WCPFC CMM 2018-03, Annex 1,1a)			
<p><b>Image of a tori line</b></p> <p><i>[Schematic needs to fully reflect WCPFC requirement, i.e. clear differentiation between long/short streamers, aerial extent, and total length]</i></p>			
Inspection Theme	Inspection Note	Inspector Comment	
<b>Tori Line General Specifications</b>	Did the vessel have at least one tori line?	Has the vessel been fishing below $25^\circ$ South during the current fishing trip? (Y/N)	
	Long/Short Streamers	Does the vessel have a tori line? (Y/N)  Number of tori lines examined?  Does the tori line have long and short streamers? (Y/N)	

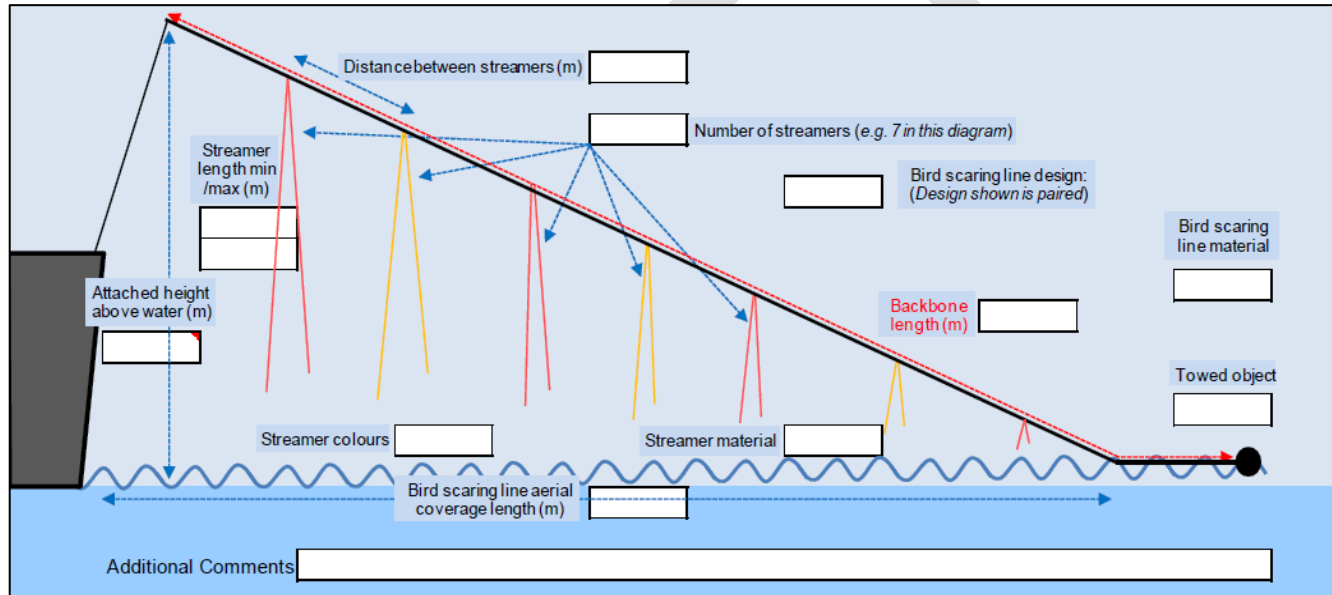
	Streamer Colour	Colour of streamers:	
	Overall tori line length	What is the overall length (m) of the tori line? Is the tori line at least 200m in total length? (Y/N)	
	Aerial Extent	Over what length (m) are streamers included over the total length of the tori line?	
	Tori Pole	Does the vessel have a tori pole? (Y/N)  What is the height (m) at which the tori line is secured?  Is the height greater than 7m from the sea surface? (Y/N)	
<b>Long Streamer Specifications</b>	Streamer Spacing	What is the distance (m) between long streamers? Are streamers spaced no more than 5m apart? (Y/N)	
	Long Streamer Swivels	Are swivels used to secure the long streamers to the tori line (Y/N)	
	Long Streamer Length	What is the length (m) of long streamers used? Are long streamers likely to reach the sea surface when the sea is calm over the length of the aerial extent? (Y/N)	
<b>Short Streamer Specifications</b>	Streamer spacing	What is the distance (m) between short streamers? Are streamers spaced no more than 1m apart? (Y/N)	
	Short Streamer Length	What is the length (m) of short streamers used? Are short streamers greater than 1m in length? (Y/N)	



**Tori Line for vessels <35m total length and below 25° South (WCPFC CMM 2018-03, Annex 1,1b)**

**Image of a tori line**

**[Schematic needs to fully reflect WCPFC requirement, i.e. clear differentiation short streamers, aerial extent, and total length]**



Inspection Theme	Inspection Note	Inspector Comment	
Tori Line General Specifications	Did the vessel have at least one tori line?	Has the vessel been fishing below 25 South? (Y/N)	
		Does the vessel have a tori line? (Y/N)	
		Number of tori lines examined?	
	Long/Short Streamers	Does the tori line have short streamers? (Y/N)	

		and/or Does the tori line have long streamers? (Y/N)	
	Streamer Colour	Colour of streamers:	
	Overall tori line length	What is the overall length (m) of the tori line?	
	Aerial Extent	Over what length (m) are streamers included over the total length of the tori line?  Are streamers included over the at least the first 75m of the tori line? (Y/N)	
	Tori Pole	Does the vessel have a tori pole? (Y/N)  What is the height (m) at which the tori line is secured?  Is the height greater than 6m from the sea surface? (Y/N)	
<b>Long Streamer Specifications</b>	Streamer Spacing	What is the distance (m) between long streamers?  Are streamers spaced no more than 5m apart? (Y/N)	
	Long Streamer Swivels	How are long streamers secured to the tori line?	
	Long Streamer Length	What is the length (m) of long streamers used?  Are long streamers likely to reach the sea surface when the sea is calm over the length of the aerial extent? (Y/N)	
<b>Short Streamer Specifications</b>	Streamer spacing	What is the distance (m) between short streamers?  Are streamers spaced no more than 1m apart? (Y/N)	
	Short Streamer Length	What is the length (m) of short streamers used?  Are short streamers greater than 1m in length? (Y/N)	

Night setting (WCPFC CMM 2018-03, Annex 1, 4)			
Inspection Theme	Inspection Note	Inspector Comment	
Night Setting	Night Setting Applicable	Has the vessel been fishing below 30 South? Y/N  Does the vessel indicate use of night setting? (Y/N)	
	Setting Times <sup>3</sup>	Does the vessel set fishing lines after nautical dawn and before nautical dusk? (Y/N)  Has Daily catch and Effort Records been provided to examine Night Setting? Y/N	
		What is the start time of setting? What is the time of nautical dawn and/or nautical dusk at the operation latitude/longitude)? What is the end time of setting? <i>What is the duration of night-time setting?</i> <i>What duration of setting is after nautical dawn/before nautical dusk?</i> What time did the setting switch to weighted branch-line?	
	Deck Lighting	Is deck lighting kept to a minimum (note lights should not breach minimum standards for safety and inspection) (Y/N)	Annex 1,4(iii)

Weighted Branch Lines (WCPFC CMM 2018-03, Annex 1, 5)		
Inspection Theme	Inspection Note	Inspector Comment

<sup>3</sup> Note however that during a HSBI, obtaining all this information may be impractical for Authorised inspectors. Where times are recorded, specify in UTC.

<b>Weighted branch line</b>	Application <sup>4</sup>	Has the vessel been fishing below 25 South? (Y/N)	
		Does the vessel use of weighted branch lines? (Y/N)	
		Are weighted branch lines used on all fishing gear? (Full, Partial, No)	
	Specification	What is the number of weighted branch lines and what times are they set?	
		What is the number of unweighted branch lines and what times are they set?	
		Do weighted branch lines meet minimum weight and length specifications? (Y/N)	
		At least 40g within 50cm of the hook?	
		At least 45g within 1m of the hook?	
		At least 60g within 3.5m of the hook?	
		At least 98g within 4m of the hook?	

<b>Hook Shielding devices (WCPFC CMM 2018-03, Annex 1, 6)</b>			
<b>Inspection Theme</b>	<b>Inspection Note</b>	<b>Inspector Comment</b>	
<b>Weighted branch line</b>	Application	Has the vessel been fishing below 25 South? (Y/N)	
		Does the vessel use of hook shielding devices? (Y/N)	
		Are hook shielding devices used on all fishing gear? (Full, Partial, No)	
	Specification	What is the weight (g) of the hook shielding device?	

<sup>4</sup> Note however that during a HSBI, obtaining all this information may be impractical for Authorised inspectors. Where times are recorded, specify in UTC.

Tori Lines North of 23° North (WCPFC CMM 2018-03, Annex 1, 2a, b, and c)			
Inspection Theme	Inspection Note	Inspector Comment	
Tori Line General Specifications	Application	Has the vessel been fishing above 23 North? (Y/N)  Does the vessel have a tori line? (Y/N)  Number of tori lines examined?	
	Minimum Length	What is the overall length (m) of the tori line?  Is the tori line at least 100m in total length? (Y/N)	
	Attachment Point	What is the height (m) at which the tori line is secured? Is the height greater than 5m from the sea surface? (Y/N)	
Long Streamers	Streamer Spacing	What is the spacing between long streamers?  Is the interval between long streamers less than 5m? (Y/N)	
	Streamer specifications	How are the long streamers secured to the tori line?  Are long streamers secured using swivels? (Y/N)  Are long streamers as close to the water as possible? (Y/N)	
Short Streamers	Streamer Spacing	What is the spacing between streamers?  Is the interval between short streamers less than 1m? (Y/N)	(Note only encourage where the vessel is <24m total length).
	Streamer specifications	What is the length of short streamers?	(Note only encourage where the vessel is <24m total length).

		Are streamers at least 30cm in length? (Y/N)	
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Side Setting with bird curtain and weighted branch lines (WCPFC CMM 2018-03, Annex 1, 3)			
Inspection Theme	Inspection Note	Inspector Comment	
General Specifications	Application	Has the vessel been fishing above 23 North? (Y/N)	
		Does the vessel side set and use a bird curtain? (Y/N)	
	General Requirements	Is the mainline deployment deployed from port or starboard side as far from the stern as possible? (at least 1m) (Y/N)	
		Is a mainline shooter used? (Y/N) If so, must be mounted at least 1m forward of the stern.	
	Bird Streamers	Is bird curtain: Pole aft of line shooter at least 3m long? (Y/N)  Has a minimum of 3 main streamers attached to upper 2m of pole. (Y/N)  What is the diameter of the streamers? Is the diameter of the main streamers at least 20mm? (Y/N)  What is the diameter of branch streamers? Is the diameter of the branch streamers at least 10mm? (Y/N)	

		Are the branch streamers long enough to drag on water? (Y/N)	
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Management of offal discharge (WCPFC CMM 2018-03, Annex 1, 7)			
Inspection Theme	Inspection Note	Inspector Comment	
General Specifications	Application	Has the vessel been fishing above 23 North? (Y/N)	
	General Requirements	Does the vessel discharge offal during setting or hauling? (Y/N). If Yes, is offal discharged from the opposite side of the boat to setting/hauling?	

Blue-dyed bait (WCPFC CMM 2018-03, Annex 1, 8)			
Inspection Theme	Inspection Note	Inspector Comment	
General Specifications	Application	Has the vessel been fishing above 23 North? (Y/N)	
	General Requirements	Does the vessel use dyed bait? (Y/N)  Does the vessel have a placard showing the standardised colour of bait? (Y/N)	

Deep setting line shooter (WCPFC CMM 2018-03, Annex 1, 9)			
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Inspection Theme	Inspection Note	Inspector Comment	
General Specifications	Application	Has the vessel been fishing above 23 North? (Y/N)	
	General Requirements	Does the vessel use a deep setting line shooter? (Y/N)	
		What is the depth(m) of hooks set by the deep setting line shooter?	
		Is this depth at least 100m? (Y/N)	