

April 2023

# Mitigation Standards to Reduce the Incidental Captures of Seabirds in New Zealand Commercial Fisheries

## Surface longline

### 1. Introduction

To effectively reduce the risk of seabird captures, surface longline vessels need to use a combination of mitigation practices that best address the risks of their individual operations. As the surface longline fleet is diverse with respect to vessel size, gear set-up and on board equipment, the particulars of the mitigation practices employed may differ between vessels.

To ensure consistency in the mitigation practices employed by the surface longline fleet, these mitigation standards document what is expected of effective mitigation practices. Mitigation standards are grouped by what the mitigation practices aim to achieve (desired outcomes).

This document also details how the mitigation standards will be implemented and how adherence to the mitigation standards will be monitored and reported.

### 2. Scope

These standards are applicable to all surface longline vessels. See Appendix 1 for a characterisation of the surface longline fleet. Mitigation Standards to Reduce Light-induced Vessel Strikes of Seabirds with New Zealand Commercial Fishing Vessels are published separately and are applicable to surface longline vessels.

### 3. Desired outcomes

1. The discharge of fish waste<sup>1</sup> from the vessel is managed so as not to attract seabirds to risk areas.
2. Seabirds are not able to access baited hooks during setting.
3. Seabird access to hooks during hauling is minimised.

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<sup>1</sup> Fish waste is defined as all processing offal and all dead or damaged fish that are returned to the sea (or parts thereof).

## 4. Mandatory measures

Fisheries (Seabird Mitigation Measures—Surface Longlines) Circular 2018<sup>2</sup> is the legislative instrument used to mitigate against seabird captures on surface longline vessels. In summary, the Circular requires all fishers using the method of surface longlining to;

- Deploy a tori (streamer) line for the duration of all setting events. The tori line must be configured in accordance with the specifications prescribed in the Circular; and
- Either set lines at night, or weight lines in accordance with the specifications prescribed in the Circular.

## 5. Mitigation standards

This section details the mitigation standards necessary to achieve each desired outcome and the equipment and/or operational practices currently needed to meet each mitigation standard.

Each mitigation standard will be updated as alternate technologies or operational practices are demonstrated to be effective in achieving the desired outcomes.

*These mitigation standards do not replace or override any fisheries regulations, or legislation on workplace health and safety, maritime safety or other relevant subject.*

**Desired outcome 1: The discharge of fish waste from the vessel is managed so as not to attract seabirds to risk areas**

Mitigation standards 1.1 and 1.2 are necessary to achieve desired outcome 1.

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Mitigation standard 1.1:	Fish waste is not discharged from the vessel immediately before or during setting. <sup>3</sup>
Mitigation standard 1.2:	Fish waste is held on board for the duration of hauling <sup>4</sup> (when possible) with any discharge occurring in a way which minimises the risk to seabirds.

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To meet mitigation standards 1.1 and 1.2, vessel operators should:

- Develop and document a fish waste management system that describes how mitigation standards 1.1 and 1.2 will be met. A copy of this document must be carried on board the vessel at all times and be accessible to, and fully understood by, all crew members.
- Ensure their vessels are suitably equipped and configured (i.e. the strategic location of fish bins or discharge chutes) to allow the management of fish waste in accordance with mitigation standards 1.1 and 1.2.
- Retain all fish waste on board during setting.

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<sup>2</sup> New Zealand Ministry for Primary Industries. (2018). Fisheries (Seabird Mitigation Measures—Surface Longlines) Circular 2018. Retrieved from <http://legislation.govt.nz/regulation/public/2018/0213/latest/LMS95828.html?src=qs>

<sup>3</sup> 'Setting' is defined as the act of releasing the bottom longline into the water.

<sup>4</sup> 'Hauling' is defined as the period from when line retrieval commences to then all of the hooks are on board.

- Retain all used bait on board until hauling has finished.
- Retain any processing offal on board for as long as practicable during hauling. Any discharge that does occur must be done at intervals of no less than 30 minutes.
- Return live fish to the sea as soon as practicable after they were taken.
- Maintain a secondary system that prevents fish waste lost to the deck from being lost overboard. Examples of such secondary systems include equipment to minimise the volume of fish waste lost to the deck and the use of gratings or trap systems to reduce the volume of fish waste discharged through scupper (whilst still allowing the free movement and egress of water).

## Desired outcome 2: Seabirds are not able to access baited hooks during setting

Mitigation standards 2.1, 2.2 and 2.3 are necessary to achieve desired outcome 2.

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Mitigation standard 2.1:	A tori line effective at deterring birds from accessing baited hooks is deployed throughout setting unless a hook shielding device is used.
Mitigation standard 2.2:	Hooks are either protected by a hook shielding device or are set at night and are weighted in accordance with ACAP minimum standards. <sup>5</sup>
Mitigation standard 2.3:	Bait state (such as whether it is frozen) does not reduce the sink rate.

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To meet mitigation standard 2.1 vessel operators should:

### *If not using hook shielding devices:*

- Deploy a tori line throughout setting. The specifications of the tori line must meet the mandatory requirements. The tori line should be fixed to the vessel at the highest practicable point and have streamers<sup>6</sup> spaced along the entire aerial extent of the line. The tori line must be well maintained with sufficient materials carried on board to effect repairs when necessary.
- Carry a second tori line on board and use it immediately following the loss of the primary tori line. The specifications of the second tori line must meet the mandatory requirements.
- Ensure the tori line can be adjusted or repositioned so that the streamers can be positioned over the hook bearing to suit varying conditions.

### *If using hook shielding devices*

- Ensure hook shielding devices are used for all hooks. Hook shielding devices must encase the point and barb of the baited hook until it is 10 meters below the water surface or has been immersed for at least 10 minutes.

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<sup>5</sup> <https://acap.aq/en/resources/bycatch-mitigation/mitigation-advice/3242-acap-2017-review-and-best-practice-advice-for-reducing-the-impact-of-pelagic-longline-fisheries-on-seabirds/file>

<sup>6</sup> Streamers should be brightly coloured and long enough to deter seabirds.

To meet mitigation standard 2.2 vessel operators should:

*If not using hook shielding devices:*

- Conduct all setting between nautical dusk and nautical dawn and use one of the following weighting configurations:
  - 40 grams or more with 0.5 metres of the hook
  - 60 grams or greater within 1 metre of the hook
  - 80 grams or greater within 2 metres of the hook

*If using hook shielding devices*

- Ensure hook shielding devices are used for all hooks. Hook shielding devices must encase the point and barb of the baited hook until it is 10 meters below the water surface or has been immersed for at least 10 minutes.

To meet mitigation standard 2.3 vessel operators should:

- Use bait that is sufficiently thawed (i.e. not fully frozen).

**Desired outcome 3: Seabirds access to hooks during hauling is minimised.**

Mitigation standards 3.1, 3.2 and 3.3 are necessary to achieve desired outcome 3.

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Mitigation standard 3.1	Hooks stay at, or near, the sea surface for the least time possible.
Mitigation standard 3.2	Seabirds are actively deterred from approaching hooks during hauling.
Mitigation standard 3.3	Any seabirds caught and released alive are handled in ways that maximise their chance of survival (whilst managing the risk to the crew)

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To meet mitigation standards 3.1, 3.2 and 3.3, vessel operators should:

- Haul as quickly as practicable. If breaks are taken during hauling, all hooks must remain below 10 metres
- Hauling mitigation devices should be used<sup>7</sup> to actively deter seabirds from approaching hauled hooks. Depending on the vessel and the situation, additional measures may include using low pressure water sprayers<sup>8</sup>, sound (such as banging a gaff against the superstructure), and/or vessel manoeuvres.
- Instruct the deck crew in safe seabird-handling procedures and protocols and ensure these procedures and protocols are adhered to.

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<sup>7</sup> Simple, effective and practical devices have been developed and tested, as reported here.

<sup>8</sup> Deck hoses must be used carefully, as they may harm seabirds.

## 6. Implementation

The mitigation standards outlined above are implemented through Fisheries (Seabird Mitigation Measures—Surface Longlines) Circular 2018 and non-regulatory management measures as set out in the Surface Longline Operational Procedures and Protected Species Risk Management Plans (PSRMPs). Surface longline operational procedures set out the fleet wide management measures to reduce interactions between seabirds and surface longline vessels whereas PSRMPs set out the vessel specific measures each vessel will follow to reduce the risk to seabirds.

Surface longline operational procedures apply to all surface longline vessels and are agreed between quota holders, vessel operators and Fisheries New Zealand. Surface longline operational procedures are implemented and administered by Fisheries Inshore New Zealand, an organisation which represents quota holders and vessel operators.<sup>9</sup>

Associated with surface longline operational procedures, each vessel is required to have, and follow, a PSRMP which sets out the mitigation measures agreed by the vessel owner/operator that will be used on that vessel. See Appendix 2 for an example PSRMP.

Fishers are assisted with the development of PSRMPs through the Department of Conservation (DOC) Protected Species Liaison Project. As part of the Liaison Project, liaison officers contact fishers to support them in the development and implementation of PSRMPs. Liaison officers regularly visit fishers to audit and review plans and assist operators with changes as necessary. Liaison officers also provide skippers and crew with advice regarding tori line construction and development tailored to the specifics of individual vessels.

The progress of liaison officers is reported back to DOC monthly by the liaison officer project coordinator. The number of PSRMPs in place, and the number of vessels visited is reported annually by DOC<sup>10</sup>, Fisheries New Zealand<sup>11</sup> and will be included in the seabird annual review report.

## 7. Verification

Vessel adherence to the mitigation standards is verified through Fisheries New Zealand observer coverage. After each trip, the observer completes a surface longline operational procedures observer review form (Appendix 3). Fisheries New Zealand discuss the review form with the observer and then sends it to the liaison officer coordinator to follow up on any issues with the vessel operator. The outcome of any follow-up actions are reported to DOC and Fisheries New Zealand quarterly and will be reported annually in the seabird annual review report.

During their trips, Fisheries New Zealand observers also inspect and measure tori lines and the configuration of fishing gear. They record their findings on a tori line details form (Appendix 4) or the surface longline gear form (Appendix 5).

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<sup>9</sup> <https://www.inshore.co.nz>

<sup>10</sup> <https://www.doc.govt.nz/our-work/conservation-services-programme/csp-reports/2017-18/protected-species-liaison-project/>

<sup>11</sup> <https://www.mpi.govt.nz/dmsdocument/29672-annual-review-report-201718>

In recent years the level of observer coverage in the surface longline fleet has varied between 5% and 20%. Observer coverage varies between areas and target species and is typically highest for sets targeting southern bluefin tuna.<sup>12</sup>

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<sup>12</sup> Under an international obligation, New Zealand has a 10% observer coverage target for the southern bluefin tuna surface longline fishery.

## Appendix 1: Characteristics of the surface-longline fleet

Surface longline vessels are typically between 12 and 25 meters in length with each vessel spending up to ten days at sea. Thirty three surface longline vessels were active during the 2017/18 fishing year. Approximately 2,500 fishing events (sets) are annually conducted by the surface longline fleet. The number of hooks deployed per set varies between 100 and 1,800. Collectively, the surface longline fleet set approximately 2.3 million hooks during the 2017/18 fishing year.

Surface longline vessels target pelagic species such as tuna and swordfish. The major fisheries for southern bluefin tuna are the west coast of the South Island and the east coast of the North Island. The main fisheries for bigeye tuna and swordfish are on the east and west coast of the North Island.

Gear set-up varies between target species and operators. For example, operators may prefer to set lines at night when targeting southern bluefin tuna. All vessels discharge their fish waste at sea.

## Appendix 2: Protected species risk management plan template

### SLL - Protected Species Risk Management Plan

FV	Home Port	Reg No
Owner-Operator	Skipper	Date

#### Purpose of this RMP

This RMP documents the required and agreed procedures and actions to be followed by this vessel to reduce risk of Non-Fish Protected Species capture. Skipper and crew must also read and understand the '10 Golden Rules' and the SLL Operational Procedures provided.

#### Regulated measures for seabird risk reduction

Many seabird risk reduction measures are required by law (*Seabird Mitigation Measures - Surface longlines Circular 2018*). You are required to report all protected species captures.

#### This vessel's measures used to manage the risk of non-fish protected species capture

As required by Law	In use?	What, When, Where or How
Line/Snood - Weighting (weight-device near hook)		
Tori line - (design & materials)		
Spare parts onboard		
Attachment height		
Night setting		
Reporting (NFPSC return/electronically)		
<b>Other Practices</b>		
Use of thawed bait		
Use of blue dyed bait		
Managed discharge of offal and bait		
Setting & Hauling		
Used Bait		
Use of line shooter		
Managed Aft spot lights		
Increase setting gear sink rate		
Use of other mitigation device (during haul)		

Contact your Liaison Officer when a trigger point is reached. Triggers more likely in your area are highlighted:

- Any great albatross, penguin, dolphin, sea lion, leopard seal, basking shark, turtle, black petrel or flesh-footed shearwater
- In any 24 hr period - 3 large (e.g. albatross/mollymawk, giant petrel, gannet) or 5 small (e.g. petrel/shearwater) seabirds, or 2 fur seals
- In any 7-day period - 10 seabirds of any type, or 5 fur seals.

Contact

Ph

Email



## Appendix 3: Surface longline operational procedures observer review form

### Surface Longline Operational Procedures – Observer Review Form

Trip Number	Observer code	Vessel Name	Trip start date	Trip end date	Sets Observed
<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/>	<input type="text"/> / <input type="text"/> / <input type="text"/>	<input type="text"/> / <input type="text"/> / <input type="text"/>	<input type="text"/> <input type="text"/>

Record Yes (Y), No (N), Unknown (U) or Not Applicable (N/A) in the box provided. If you answer N or U to any questions in Items 6 to 22, then please make detailed comments on the reverse.

- Item 1. Did the vessel carry a copy of the SLL Operational Procedures (OP) on board that was made available upon request? ☐
- Item 2. Were the crew familiar with the contents of the SLL OP? ☐
- Item 3. Were any protected species 'trigger points' activated during the trip? (If Y detail the event and the action taken by the vessel) ☐
- Item 4. Did a gear or equipment failure event occur that increased the risk of protected species captures? (If Y detail the event and the action taken by the vessel) ☐
- Item 5. Were there any changes in crew behaviour, fishing activity, mitigation devices deployed and/or gear used following a 'trigger point' or during 'high risk' periods (i.e. over a full moon)? ☐

#### Mitigation device

- Item 6. Was a tori line deployed for the entirety of all sets? ☐
- Item 7. When deployed, was the aerial extent of the tori line adequate to reduce seabird access to the baited hook line? ☐
- Item 8. Were 'fit and proper'\* streamers spaced at a maximum distance of 5 m apart along the entire aerial extent of the tori line? ☐
- Item 9. Did the vessel carry a spare tori line or parts to construct a second tori line if required? ☐
- Item 10. Was the tori line attachment point higher than 6 m above the water? ☐
- Item 11. Could the tori line be adjusted or repositioned over the setting line to suit varying conditions? ☐
- Item 12. Other than the tori line, were any other mitigation measures or devices used (If Y record details in comments) ☐

#### Fish waste and bait management

- Item 13. During hauling, were used baits and fish waste/offal held or batch-discarded at intervals (no ad-hoc continuous discharge)? ☐
- Item 14. During setting, was all fish waste/offal held? ☐
- Item 15. Was all discharge from the vessel managed as per SLL Protected Species Risk Management Plan (RMP)? ☐
- Item 16. Was the use of totally frozen bait avoided? ☐

#### General procedures

- Item 17. Was all plastic and line (including fishing plastics such as snoods, carton strapping etc.) retained on board? ☐

- Item 18. Did the vessel only set at night\* ☐
- Item 19. When day setting, were weighting devices placed on the snoods within 4 m of the hook as per the SLL Protected Species RMP? *(record N/A if the vessel set exclusively at night)* ☐
- Item 20. During night\*\* setting, were spot lights shining directly astern controlled or dimmed? ☐
- Item 21. Were all protected species captures recorded on the MPI Non-fish Protected Species Catch Return logbook? ☐
- Item 22. If there were live protected species captures, were they handled with due care? ☐
- Item 23. Do you have any further comments? ☐

\* 'Fit and proper' streamers should be brightly coloured and of a sufficient length to provide a suitable deterrent to seabirds.  
 \*\* 'Night' is defined as between 0.5 hours after nautical dusk until 0.5 hours before nautical dawn.

Please make a detailed comment for each item when required.


Item No:

Item No:

Item No:

Item No:

## Appendix 4: Tori line details form

Tori line details form (v3 August 2018)				<b>Fisheries New Zealand</b> Tini a Tangaroa		
Trip number	Observer code	Vessel name	Date measured (dd/mm/yy)			
If multiple tori lines were used, complete a separate form for each tori line. Give each tori line a gear code starting with "T1".			Tori line gear code	Reason for measuring*	Type of record*	
			T		based on T	
<b>Tori mainline</b>						
Line length	Line diameter	Aerial extent	Recovery rope (Y/N)			
<b>Attachment point**</b> Tension release (Y/N)						
Height above water	Distance (laterally) from centre of the stern		Distance from stern to attachment point		Adjustable (Y/N)	
<b>Dual attachment point (if applicable)</b> Tension release (Y/N)						
Height above water (m)	Distance (laterally) from centre of the stern					
Distance from join (if present) to			Streamers between second attachment point and join (Y/N)			
Stern	Attachment point					
<b>Long streamers</b> Y/N Material*						
Max dist between long streamers	Paired or single	Number of long streamers/pairs	Max length	Min length	Diameter	Colour code*
Distance to first long streamer that reaches water		Long streamers cover aerial extent (Y/N)		Number of long streamers that touch water		
<b>Light streamers</b> Y/N Material*						
Distance between light streamers	Paired or single	Number of light streamers/pairs	Max length	Min length	Diameter	Colour code*
<b>Towed object</b> (used to induce drag)						
Towed object Y/N	Towed object code*	Size of towed object*				
* Refer to instructions on reverse.						
<b>Comments</b>						

## Appendix 5: Surface longline gear form

### Surface longline gear form

(v3 August 2018)



**Fisheries New Zealand**

Tini a Tangaroa

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Trip number	Observer code	Gear code	Vessel name
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Surface longline gear is typically configured in a pattern of baskets repeated along the entire length of the line with each basket varying in snood length, number of snoods, line weighting and the number (if any) of floats attached. For example, the vessel may deploy a repeating pattern consisting of two consecutive eight snood baskets followed by a twelve snood basket with a money maker (small surface float) attached. As it is impractical to describe in detail the entire gear set up, and gear set up will often vary slightly between baskets, the table below is designed to capture the repeating pattern of baskets the vessel intends to deploy.

If each basket is intended to be identical, then you will only have to fill out the first column. If the vessel utilises an alternating basket pattern then you will need to fill out two columns. If the vessel uses a repeating pattern of three baskets (i.e. eight snood, eight snood, twelve snood) then fill out three columns etc. If the vessel uses the same basket pattern for each set of the trip you will only be required to fill out this form once. However, if the basket pattern changes between sets you will have to fill out a second form.

Basket number	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Number of snoods in the basket	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Snood length (m)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Hook type & size (as referred to by retailers)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Number of money makers <sup>A</sup> attached	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Money maker diameter (cm)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Number of weighted snoods	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Weighting type <sup>B</sup>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Distance between weight and the hook <sup>C</sup> (cm)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Weight (g) <sup>D</sup>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

#### Main line

Mainline material	Mainline diameter (mm)	Float/drop line length (m)	Float/drop line diameter (mm)	Surface float diameter (cm)
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

#### Comments

<input type="text"/>
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<sup>A</sup> A money maker is a small sub-surface float attached to the mainline within a basket to increase the height of the basket within the water column.

<sup>B</sup> Please use the following codes to indicate which weighting type was used:

H = Hook pods; S = Sliding weight; W = Weighted swivel; F = Fixed weights; C = Shark Clip; O = Other (describe in comments).

<sup>C</sup> If multiple weight types are used (e.g. sliding weight & weighted swivels) measure the distance between the hook and the weight closest to the hook.

<sup>D</sup> If multiple weight types are used record the mass of the weight closest to the hook.