Department of Conservation
Te Papa Atawhai

Fisheries New Zealand
Tini a Tangaroa

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

<28 metre trawl

1. Introduction

To effectively reduce the risk of seabird captures, trawl vessels less than 28 metres in overall length (<28 metre) need to use a combination of mitigation practices that best address the risks of their individual operations. As the <28 metre trawl fleet is highly 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 <28 m trawl 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 mitigation standards are applicable to all <28 metre trawl vessels (excluding those used to target scampi). See Appendix 1 for a characterisation of the <28 metre trawl fleet.

3. Desired outcomes

1. The discharge of fish waste[1] from the vessel is managed so as not to attract seabirds to risk areas.
2. The risk to seabirds from trawl warps is minimised.
3. Seabird attraction towards, and access to, trawl nets is minimised. If seabirds do access nets, the risk of harmful interactions is minimised.
4. The risk of deck landings or impacts against the vessel is minimised.[2]

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

[2] A deck landing (also known as a deck strike) is a situation when a seabird lands on a vessel and is assisted from the vessel by the crew or an observer. An impact with a vessel is a situation when a seabird collides with the superstructure of the vessel.

4. 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.

Mitigation standard 1.1:	Fish waste is not discharged from the vessel immediately before or during shooting or hauling.[3]
Mitigation standard 1.2:	Fish waste discharged whilst the net is being towed must be batch discharged.[4]

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

- Develop and document a fish waste management system that describes how 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 understood by, all crew members.[5]
- Ensure their vessels have the equipment needed to implement their fish waste management system (such as holding/batching tanks or bins). All such equipment should be well maintained with sufficient spare parts kept on board to effect regular maintenance/repairs.
- Develop and document a fish waste contingency plan that describes what actions will be taken to meet mitigation standards 1.1 and 1.2 in the event of an equipment failure. The contingency plan should ensure that any fish waste discharge from the vessel continues to achieve desired outcome 1. Sufficient, well maintained equipment must be kept on board to allow the vessel to enact the fish waste contingency plan at short notice.
- Maintain a secondary system that prevents fish waste lost to the deck or factory floor from being lost overboard. Examples of such secondary systems include equipment to minimise the volume of fish waste lost to the factory floor/deck and the use of gratings or trap systems to reduce the volume of fish waste discharged through scuppers/sump pumps (whilst still allowing the free movement and egress of water).

[3] 'Shooting' is defined as the time between the codend leaving the deck and the time when the doors are below the surface. 'Hauling' is defined as the time between the doors reaching the surface and the codend being on deck.

[4] Batch discharging is defined as holding all fish waste for at least 30 minutes and then discharging it in periods that last no more than five minutes each.

[5] See Appendix 2 for the template of the protected species risk management plan.

Desired outcome 2: The risk to seabirds from trawl warps is minimised

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

Mitigation standard 2.1:	The trawl warp located closest to the side of the vessel from which fish waste is discharged is protected by a visible and physical barrier which deters birds from approaching the warp (unless the vessel is operating at a time and place where there is no risk to seabirds).
Mitigation standard 2.2:	The condition of the trawl warps does not increase the risk of seabirds captures.

To meet mitigation standards 2.1 and 2.2, vessel operators should:

- Deploy a seabird scaring device on the appropriate warp(s), unless the vessel is operating at a time and place that the operator or skipper and liaison officer agree poses no risk to seabirds. The chosen device must be well maintained and deployed in such a way that does not increase the risk to seabirds.[6] Sufficient spares must be carried on board to effect repairs when necessary.
- Ensure the warps are not overly greased; all warp splices are 'wrapped'; any sprags are removed or 'whipped'; and warp splices are not near the water's surface

Desired Outcome 3: Seabird attraction towards, and access to, trawl nets is minimised. If seabirds do access nets, the risk of harmful interactions is minimised

Mitigation standards 3.1, 3.2, 3.3 and 3.4 are necessary to achieve desired outcome 3.

Mitigation standard 3.1	All practicable stickers (fish caught in mesh) are removed from the net before each shot.
Mitigation standard 3.2	The amount of time fishing gear remains at, or near, the surface is minimised.
Mitigation standard 3.3	All gear maintenance/repairs (planned or otherwise) are conducted in a way which minimises the risk to seabirds.
Mitigation standard 3.4	Any seabirds caught in the net and released alive are handled in ways that maximise their chance of survival (whilst managing the risk to the crew)

To meet mitigation standards 3.1, 3.2, 3.3 and 3.4, vessel operators should:

- Ensure the crew clear the net of all practicable stickers prior to shooting.
- Shoot and haul the trawl net as quickly as practicable.

[6] The risk of seabirds becoming entangled in the mitigation device is increased if droppers or streamers trail excessively in the water.

- Inspect and maintain all fishing gear and equipment (such as winches) to reduce the risk of gear or equipment failure.
- Conduct planned gear maintenance whilst the trawl net is on board. If the trawl net must be in the water during repairs, the repairs must happen when there's a low risk of seabirds getting caught (such as at night or during periods of low seabird abundance).
- Conduct all unplanned/emergency maintenance whilst the trawl net is on board. If the trawl net is required to be in the water to effect repairs, all such maintenance should be conducted with as much of the trawl net on board as possible given the circumstances (with particular consideration given to the net mouth).
- Instruct the deck crew in safe seabird-handling procedures and protocols and ensure these procedures and protocols are adhered to.

Desired Outcome 4: The risk of deck landings or impacts against the vessel is minimised

Mitigation standards 4.1, 4.2 and 4.3 are necessary to achieve desired outcome 4.

Mitigation standard 4.1	Deck lighting does not unnecessarily attract or disorientate seabirds.
Mitigation standard 4.2	Seabirds are not induced to land on the deck due to the presence of fish waste.
Mitigation standard 4.3	Any seabirds that land on deck or impact with the vessel and are released alive, are handled in ways that maximise their chance of survival (whilst managing the risk to the crew).

To meet mitigation standards 4.1, 4.2 and 4.3, vessel operators should:

- Minimise all deck lighting (including outward facing lights) that is not necessary for ship or crew safety, especially when the vessel is sheltering or anchored near seabird breeding colonies.
- Clean the deck and fish waste-handling equipment (such as fish bins) regularly, so that excess fish waste is removed.
- Instruct the deck crew in safe seabird-handling procedures and protocols and ensure these procedures and protocols are adhered to.

5. Implementation

The mitigation standards outlined above are implemented through non-regulatory management measures as set out in the Coastal Trawl Operational Procedures and Protected Species Risk Management Plans (PSRMPs). Coastal trawl operational procedures set out the fleet wide management measures to reduce interactions between seabirds and set net vessels whereas PSRMPs set out the vessel specific measures each vessel will follow to reduce the risk to protected species.

Coastal trawl operational procedures are agreed between quota holders, vessel operators and Fisheries New Zealand and are implemented and administered by Fisheries Inshore New Zealand, an organisation which represents quota holders and vessel operators.

Associated with coastal trawl 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's (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.

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[7] and will be included in the seabird annual review report.

6. Verification

Vessel adherence to the mitigation standards is verified through Fisheries New Zealand observer coverage. After each trip, the observer completes a Protected Species Risk Management Plan 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 the 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 each seabird scaring device. Observers record their findings on either the bird baffler, tori line or warp scarer details form (Appendices 4, 5 and 6).

The level of observer coverage on board the <28 metre trawl fleet is relatively low with approximately 5% of tows observed between the 2013/14 and 2017/18 fishing years. The level of observer coverage has increased in recent years although coverage is highly skewed towards northern waters and seasonal hoki fisheries.

[7] https://www.doc.govt.nz/our-work/conservation-services-programme/csp-reports/2017-18/protected-species-liaison-project/

Appendix 1: Characteristics of the <28 metre trawl fleet (February 2019)

The < 28 metre trawl fleet is active around the entire coast of New Zealand. Areas of particularly fishing activity include:

- Northland;
- Bay of Plenty;
- Hawkes Bay;
- Cook Strait;
- Golden Bay;
- Hokitika Canyon; and
- East and south coasts of the South Island.

The <28 metre trawl fleet targets a variety of species including flatfish, snapper, ling, hoki, stargazer, tarakihi, gurnard, john dory and red cod.

The <28 metre trawl fleet consists of approximately 140 vessels. Around 46 vessels are less than 14 metres in length; 68 vessels are between 14 and 20 metres in length and 26 vessels are greater than 20 metres in length. The smallest vessel is 10 metres long, while the largest is 27 metres long.

Many of the species caught by the <28 metre trawl fleet are retained whole (green), although some target and key bycatch species (such as ling, school shark and stargazer) are processed at sea. All fish caught are stored on ice. No <28 metre trawl vessels operate meal plants and any fish waste is discharged at sea.

Appendix 2: Protected species risk management plan template

Trawl - Protected Species Risk Management Plan

FV	Home Port	Call sign
Owner-Operator	Skipper	Date

Vessel photo	Mitigation photo	Mitigation photo

Purpose of this RMP

This RMP documents the required and agreed procedures and actions to be followed on this vessel to reduce risk of protected species captures. Skipper(s) and crew must also read and understand the 10 Golden Rules and the Coastal Trawl Operational Procedures which support this RMP.

Regulated measures for protected species reporting

It is a legal requirement to report all protected species captures using the Non-Fish Protected Species Catch Return or electronically.

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
Report Protected Species Captures (NFPSC return/electronically)		
Other Practices		

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

DOC CSP Coastal Trawl Risk Mitigation Programme. 2018.19

Appendix 3: Protected species risk management plan: observer review form

<28 m Trawl Protected Species Risk Management Plan: Observer Review Form

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Trip Number	Observer Code	Vessel Name	Trip start date	Trip end date
	.		/ /	/ /

Target species		FMAs fished		Number of tows observed	

Record Yes (Y), No (N), Not Applicable (N/A) or Unknown (U) in the boxes provided. If you answer N or U to any questions, or Y for items 4, 5, 6 and 13 then please make detailed comments on the reverse.

Item 1. Did the vessel carry a copy of the South Island/North Island Coastal Trawler Operational Procedures (as relevant) document on board that was made available on request?

Item 2. Were copies of the 10 Golden Rules and the Protected Species Risk Management Plan readily available in a place accessible to all crew?

Item 3. Were the skipper and crew familiar with the contents of the:

(a) Operational Procedures?

(b) 10 Golden Rules?

(c) Protected Species Risk Management Plan?

Item 4. Were any protected species capture trigger points reached during the trip? *(If yes, please describe in the comments.)*

Item 5. Did a gear or equipment failure contribute to the risk of protected species captures during the trip? *(If yes, please describe in the comments).*

Item 6. After a trigger point was reached, did the crew: *(If yes, please describe in the comments).*

(a) Change their behaviour?

(b) Make changes to fishing operations?

(c) Change the mitigation measures they implemented?

Fish waste management

Item 7. Was the discharge of fish waste from the vessel managed as per the Protected Species Risk Management Plan?

Item 8. Were there any periods of continuous fish waste discharge during the tow?

Item 9. Was all fish waste held on board during shooting and hauling?

Item 10. Was the net cleared, as practicable, of all stickers prior to shooting?

Warp Strike Mitigation

Item 11. Was the primary warp strike mitigation device used in accordance with the Protected Species Risk Management Plan?

Item 12. Were any other mitigation devices used either instead of, or in conjunction with, the primary mitigation device?

General Procedures

Item 13. Was the amount of time the net spent at the surface minimised as much as practicable?

Item 14. Was deck lighting at night reduced to minimum safe operational levels?

Item 15. Were all protected species captures reported on the Non-Fish Protected Species Catch Return, or electronically, as required by fisheries reporting regulations?

Item 16. Were all protected species caught and released alive handled with due care?

Item 17 Were all plastics retained on-board for onshore disposal?

Appendix 4: Bird baffler details form

Bird Baffler Details Form (Version 1 - Sept 2007)

1. Trip Information

Trip Number	Observer(s)
.	and .

2. Measurement Summary

Equipment Code	Date measured dd/mm/yy	Reason for measuring	Type of record (full or partial)
B	/ /		Full / Partial based on B

3. Measure and record details for each of the 4 possible booms.

	Method A/C/E	1. PORT, SIDE	2. PORT, AFT	3. STARBOARD, SIDE	4. STARBOARD, AFT
Attachment Location		Present / Absent	Present / Absent	Present / Absent	Present / Absent
Angle from Dead Astern (degrees)	E	Distance from stern . m	Distance from side . m	Distance from stern . m	Distance from side . m
Distance to Innermost Dropper (m)		°	°	°	°
Distance to Outermost Dropper (m)		. m	. m	. m	. m
Number of Droppers and Webbing Type (R,F,N)		. m	. m	. m	. m
Maximum Dropper Spacing (m)		Number Type	Number Type	Number Type	Number Type
Dropper line length (m)		. m	. m	. m	. m
Dropper object length (m)		. m	. m	. m	. m
Distance between sea surface and bottom of dropper object (m)	E	. m	. m	. m	. m
Dropper material types (list all)					
Dropper material colours (list all)					

4. Additional Comments

This form is number [ ] for this trip. Is this form the last page? ⟶ Yes [ ] No [X]

Appendix 5: Tori line details form

Tori line details form

(v3 August 2018)

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Page___of___

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

Tori mainline

Line length	Line diameter	Aerial extent	Recovery rope (Y/N)
m	mm	m	

Attachment point** Tension release (Y/N)

Height above water	Distance (laterally) from centre of the stern	Distance from stern to attachment point	Adjustable (Y/N)
m	. m to port (P) or starboard (S)	. m	

Dual attachment point (if applicable) Tension release (Y/N)

Height above water (m)	Distance (laterally) from centre of the stern
	. m to port (P) or starboard (S)

Distance from join (if present) to			Streamers between second attachment point and join (Y/N)
Stern	m	Attachment point m	

Long streamers Y/N Material*

Max dist between long streamers	Paired or single	Number of long streamers/pairs	Max length	Min length	Diameter	Colour code*
m	(P/S)		. m	. m	mm	

Distance to first long streamer that reaches water	Long streamers cover aerial extent (Y/N)	Number of long streamers that touch water
m		

Light streamers Y/N Material*

Distance between light streamers	Paired or single	Number of light streamers/pairs	Max length	Min length	Diameter	Colour code*
m	(P/S)		. m	. m	mm	

Towed object (used to induce drag)

Towed object Y/N	Towed object code*	Size of towed object*
		.

*** Refer to instructions on reverse.**

Comments

Appendix 6: Warp scarer details form

Warp Scarer Details Form (Version 1 - Sept 2007)

1. Write the trip number ____

2. Describe one warp scarer in each column and assign it a unique code. If a warp scarer is changed during the trip, record it in a new column.

Warp scarer equipment code	W .	W .	W .
Observer(s)	and	and	and
Date Measured (dd/mm/yy)	/ /	/ /	/ /
Reason for measuring			
Type of record (full or partial)	Full Partial based on W	Full Partial based on W	Full Partial based on W
Attachment Location (Port / Starboard/Central)			
Main line diameter (mm)	mm	mm	mm
Towed object and weight (kg)	Object Weight . kg	Object Weight . kg	Object Weight . kg
Type and number of connectors	Type Number	Type Number	Type Number
Streamer Details (if present) — Number of branched streamers and maximum gap (m)	Number Max Gap .	Number Max Gap .	Number Max Gap .
Number of branches per streamer	Min Max	Min Max	Min Max
Streamer length (m)	Min . Max .	Min . Max .	Min . Max .
Streamer diameter (mm)	Min mm Max mm	Min mm Max mm	Min mm Max mm
Extent (m) of scarer and maximum gap (mm) of main line visible material	Extent . Max Gap	Extent . Max Gap	Extent . Max Gap
Length of main line visible material (mm)	Min Max	Min Max	Min Max
Colours (list all)			
Materials (list all)			

Comments:

Comments:

Comments:

3. This form is page number ____ for this trip. Is this form the last page for this trip? ⟶ Yes ☐ No ☐