TEN GOLDEN RULES FOR BOTTOM LONGLINERS TO SAVE PROTECTED SPECIES

1. Ensure your vessel has onboard the vessel's Protected Species Risk Management Plan (PSRMP), the Bottom Longline Operational Procedures, and a copy of the current bottom longline seabird regulations.

2. For the duration of all setting events you must use a tori line that meets the legal requirements. Additionally, you must either set at night, or use line weighting in accordance with regulations.

3. The tori line must achieve minimum aerial extent of 50m from the stern and be attached at least 5m above vessel's waterline as close to the stern as practicably possible. Hooks should be protected by aerial extent until they reach a depth of either 10m during high-risk periods or 5m outside of high-risk periods.

4. Streamers must be durable and brightly coloured. They must be spaced no more than 5m apart starting 5m behind the stern and extend the full aerial extent of the line. Streamers must reach the water's surface in the absence of wind and swell.

5. Know the line weighting legal requirements (for daytime setting):
   - If backbones is over 3.5 mm diameter, add minimum 4 kg metal weight (or 5kg non-metal weight) every 60 m of hook bearing line. Confirm your weight-to-float ratio complies with legal requirements
   - For backbone under 3.5mm diameter, place 0.7kg of weight spread over every 60m
   - No more than 3 floats every 60m, unless using 1kg more weight per additional float.

6. If not line weighting in accordance with legal requirements (above) you must set only at night. Minimise unnecessary deck lighting.

7. While hauling, hold fish waste (when possible) or discharge fish waste from the vessel's **opposite side** to the hauling station as legally required. Haul as quickly as practicable to reduce the amount of time hooks are at/near the sea surface.

8. No offal/fish waste discharge immediately before or during setting and 'hold & or batch discharge' when hauling (no continuous discharge). Use thawed bait for setting hooks.

9. Report all protected species captures by ERS or in the Nonfish Protected Species Catch Return (NFPSCR) logbook and send to FishServe. All crew should be familiar with and follow safe seabird handling procedures and protocols. Record bird band numbers and report. **It is illegal not to report NFPS captures.**

10. Report protected species trigger level captures to Liaison Officer. A trigger level is a capture level that actions a skipper in real time to try and increase mitigation to reduce ongoing risk of further captures. Please consult your Protected Species Vessel Risk Management Plan for relevant trigger levels.

For support phone your local Liaison officer.

deepwater group

FISHERIES INSHORE NEW ZEALAND

TEN GOLDEN RULES

NON-FISH OR PROTECTED FISH SPECIES (NFPS) CATCH REPORTS

1. The Fisheries (Reporting) Regulations 2017 require reporting of **all** NFPS captures (dead or alive). It is an offence to fail to report.

2. All permit holders and skippers must know the law and be able to file an NFPS catch report using their vessel's Electronic Reporting system.

3. Fisheries New Zealand observers file their own NFPS catch reports, but this does NOT mean the vessel's obligation to report has been removed.

4. *Captures* means that the NFPS has become fixed, entangled, or trapped in such a way that it cannot move freely or free itself from any part of the fishing gear. (includes for example tori lines and paravanes)

5. *Deck strikes* means seabirds injured or dead from colliding with the vessel, or any that need crew assistance to leave the vessel because they are disoriented.

6. Treat all animals with respect and care (dead or alive).

7. Return all NFPS to the sea promptly and carefully unless required to be kept on board by a Fisheries New Zealand observer.

8. Unauthorised retention or any further interference with protected species is an offence under the Wildlife Act 1953.

9. If unsure of the species name (NFPS code) use the generic codes provided.

10. E-logbook Users Instructions and Codes can be found here: https://www.fisheries.govt.nz/dmsdocument/37982-Fisheries-E-logbook-Users-Instructions-and-Codes-Circular-2019

Non-Fish or Protected Fish Species Catch Report - Summary Information

(from Fisheries New Zealand Electronic Catch and Position Reporting Guide July 2019)

You must complete an NFPS Catch Report if there is an interaction with the following by the vessel or gear during a trip:

- Birds;
- Marine mammals (e.g. New Zealand fur seal);
- Marine reptiles (e.g. turtles);
- Protect fish species (e.g. basking shark, great white shark, manta ray, black spotted grouper);
- Selected benthic organisms (corals, sponges, and bryozoans).

You will be prompted for more information about how the capture happened if a seabird is taken during trawling or surface or bottom longlining.

You must take care when choosing codes where there is a group option and a specific option so that you do not accidentally report an organism twice.

If there is more than one NFPS capture during an event, they will all be recorded on the same NFPS Catch Report.

The NFPS Report must be completed and provided at the same time as the Fish Catch Report, if it occurs as part of a fish catch event.

If the capture happens while you were not actually fishing (e.g. while steaming), the NFPS Catch Report will be a standalone report, i.e. it will not be linked to a Fish Catch Report and must be completed and provided to FishServe before the end of the day on which you became aware of the capture.

Online resources to assist you with NFPS identification

- The DOC website has material on coastal and deep water seabird species. Guides include MPI reporting codes and are available in multiple languages: doc.govt.nz/ our-work/conservation-services-programme/csp-resources-for-fishers/a-fishers-guide-to-new-zealand-seabirds/
- A fuller set of invertebrate NFPS material is available at: fs.fish.govt.nz/Doc/23020/AEBR_86.pdf.ashx
- A coral guide is available at doc.govt.nz/Documents/conservation/marine-and-coastal/fishing/coral-id-guide-updated.pdf

Bottle Test Guidelines

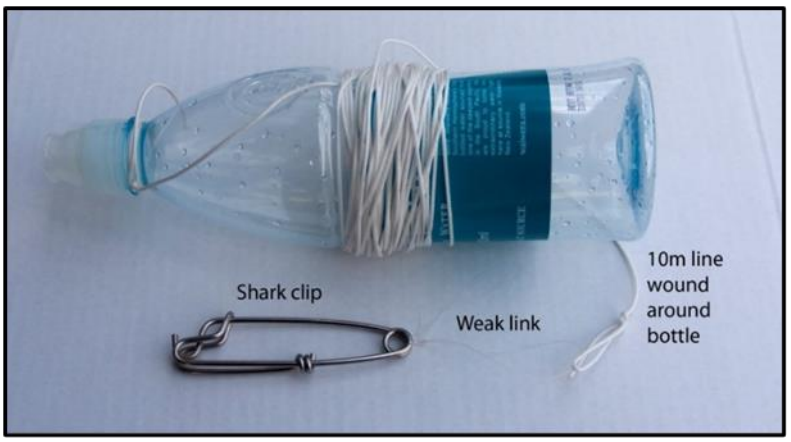
Are you meeting the Mitigation Standards?

Mitigation Standards call for bottom longline hooks to be at **5m depth** at the end of your tori line aerial section or **10m depth** for lines set during high-risk periods. The bottle test is a simple way to immediately measure if this is met.

The idea is to clip a bottle onto the backbone with a 10 m length of line between the bottle and the clip. The line is wound around the bottle, to unwind as the line sinks. **If the bottle gets pulled underwater in front of the where the tori line first touches the water then you are meeting the standard**.

To make up a bottle all you need to do is:

1. Get hold of a small drink bottle (500ml or 750ml water 'pump-bottle' etc)
2. Take the cap off the end, or if it is a screw cap drill at least a 10 mm hole in the cap. This will let the water in. Drill some more holes in the base to let the air out.
3. Tie a light line round the neck of the bottle and mark it at 1 m intervals, out to 10 m.
4. Tie a weak link to the end of this line – for example some light mono, in case the bottle catches on the tori line Then tie a clip onto the weak link
5. Wind the line around the bottle



To perform a test

- Try to pick a good weather day to help with visibility. If it is dark, put a lightstick in the bottle.
- Set the length of the bottle-line by tying it off around the neck of the bottle at 5m or 10m (or whatever test depth)
- During setting, clip the bottle-line onto the mainline at the slowest sinking part of the line. This is usually just after halfway between weights – the angle of the mainline coming off the back of the boat will give you a good idea, but you will need to find this out by trying different positions.
- See if the bottle sinks in front of the aerial section of the tori line.
- If the bottle sinks behind the aerial section of the tori line repeat the test with a progressively shorter rope on the bottle. Trial and error will give a good idea of your mainline depth at the end of the tori line aerial section.
- If you record the time taken for the bottle to sink you can use the table (on the back) to lookup the distance astern the backbone reaches the set depth.
- Making up several bottles will allow you to try different length ropes and test different weighting setups in the same set.

Not sinking fast enough? - There are only really three options:

1. Sink the gear faster with larger weights, closer weight spacing, or less floatation.
2. Have a longer tori aerial section by lengthening the tori line and adding more drag or running it from a higher pole.
3. Slow down, and your gear will sink closer to the boat, but you need to maintain the aerial extent of your tori line.

In practice you'll probably need to do all of the above, and possibly avoid 'high-risk periods'.

September 2020

Bottle test lookup table to find distance travelled from speed and time taken

Lookup time taken along the top row and follow that column down until it matches speed (through the water) on the left-hand column. The figure in the box gives the distance travelled.

Speed (knots)	Speed (m/s)	Time (seconds) 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
3	1.54	0	2	3	5	6	8	9	11	12	14	15	17	19	20	22	23	25	26	28	29	31	32	34	35	37	39	40	42	43	45	46
3.5	1.80	0	2	4	5	7	9	11	13	14	16	18	20	22	23	25	27	29	31	32	34	36	38	40	41	43	45	47	49	50	52	54
4	2.06	0	2	4	6	8	10	12	14	16	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	54	56	58	60	62
4.5	2.32	0	2	5	7	9	12	14	16	19	21	23	25	28	30	32	35	37	39	42	44	46	49	51	53	56	58	60	63	65	67	69
5	2.57	0	3	5	8	10	13	15	18	21	23	26	28	31	33	36	39	41	44	46	49	51	54	57	59	62	64	67	69	72	75	77
5.5	2.83	0	3	6	8	11	14	17	20	23	25	28	31	34	37	40	42	45	48	51	54	57	59	62	65	68	71	74	76	79	82	85
6	3.09	0	3	6	9	12	15	19	22	25	28	31	34	37	40	43	46	49	52	56	59	62	65	68	71	74	77	80	83	86	90	93
6.5	3.34	0	3	7	10	13	17	20	23	27	30	33	37	40	43	47	50	54	57	60	64	67	70	74	77	80	84	87	90	94	97	100
7	3.60	0	4	7	11	14	18	22	25	29	32	36	40	43	47	50	54	58	61	65	68	72	76	79	83	86	90	94	97	101	104	108

Speed (knots)	Speed (m/s)	Time (seconds) 30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
3	1.54	46	48	49	51	52	54	56	57	59	60	62	63	65	66	68	69	71	73	74	76	77	79	80	82	83	85	86	88	90	91	93
3.5	1.80	54	56	58	59	61	63	65	67	68	70	72	74	76	77	79	81	83	85	86	88	90	92	94	95	97	99	101	103	104	106	108
4	2.06	62	64	66	68	70	72	74	76	78	80	82	84	86	88	91	93	95	97	99	101	103	105	107	109	111	113	115	117	119	121	123
4.5	2.32	69	72	74	76	79	81	83	86	88	90	93	95	97	100	102	104	106	109	111	113	116	118	120	123	125	127	130	132	134	137	139
5	2.57	77	80	82	85	87	90	93	95	98	100	103	105	108	111	113	116	118	121	123	126	129	131	134	136	139	141	144	147	149	152	154
5.5	2.83	85	88	91	93	96	99	102	105	108	110	113	116	119	122	124	127	130	133	136	139	141	144	147	150	153	156	158	161	164	167	170
6	3.09	93	96	99	102	105	108	111	114	117	120	123	127	130	133	136	139	142	145	148	151	154	157	161	164	167	170	173	176	179	182	185
6.5	3.34	100	104	107	110	114	117	120	124	127	130	134	137	140	144	147	150	154	157	161	164	167	171	174	177	181	184	187	191	194	197	201
7	3.60	108	112	115	119	122	126	130	133	137	140	144	148	151	155	158	162	166	169	173	176	180	184	187	191	194	198	202	205	209	212	216

Bottle Test Record Sheet

Conduct testing <u>at least</u> once per fishing month for each general gear type/configuraton in use

VESSEL NAME:

Notes:
-Bottle testing is part of the BLL Mitigation Standards for fishermen to demonstrate baited hooks have an adequate sink-rate-depth during and outside of high risk periods
-Refer to the **Bottle Test Guidelines** sheet on how to conduct testing for hook depth while setting gear
-Alternatively, Time Depth Recorders (TDRs) can be used instead of the Bottle Test to achieve this same information.
-There should be one sink test record per month for each gear type (in use) listed in the vessel PSRMP. Please note of any new gear configurations
-It is important to observe sink test results across a range of weather/sea/tide conditions to form an accurate picture over time of how fast the gear sinks.
-Contact your LO if you have and problems or questions regarding this form or gear sink depth testing
-NB: Daytime tests will be more accurate than night time tests, in low/no light it can be difficult to tell when the bottle sinks below surface
-Please keep an accurate record of these test results for at least 1 year

DATE	TIME	5m or 10m TEST (*Depth of slowest sinking hook)	ESTIMATED DISTANCE FROM STERN (Metres)	DAY or NIGHT TEST	BOAT SPEED AT TIME OF TEST (Ave. kn)	TORI LINE AERIAL EXTENT (Ave. distance from stern in metres)	DID BOTTLE SINK WITHIN AERIAL EXTENT OF TORI LINE (Y/N)	GEAR CODE	AVERAGE LINE WEIGHTING CONFIG. (kg / metre)	FLOATS IN USE? (Dia.)	BACKBONE DIAMETER & DESCRIPTION	Comments
example: 3/11/2020	*1300*	*5 m*	*50 m*	*Day*	*4.5 knots*	*50 m*	*Y*	*LIN1*	*5kg per 60m*	*150mm*	*3.0mm monofilament*	*bad weather*

Bottle Test Record Sheet *(continued)*

Conduct testing <u>at least</u> once per fishing month for each general gear type/configuraton in use

DATE	TIME	(*Depth of slowest sinking hook)	DISTANCE FROM STERN (Metres)	DAY or NIGHT TEST	BOAT SPEED AT TIME OF TEST (Ave. kn)	EXTENT (Ave. distance from stern in metres)	WITHIN AERIAL EXTENT OF TORI LINE (Y/N)	GEAR CODE	WEIGHTING CONFIG. (kg / metre)	FLOATS IN USE? (Dia.)	BACKBONE DIAMETER & DESCRIPTION	Comments
example: 3/11/2020	*1300*	*5 m*	*50 m*	*Day*	*4.5 knots*	*50 m*	*Y*	*LIN1*	*5kg per 60m*	*150mm*	*3.0mm monofilament*	*bad weather*

North Island Bottom Longline

Operational Procedures - Protected Species Risk Management

Version 1.2 October 2018

Contents

Background, Rationale and Purpose

Background and Rationale – Seabirds and Marine Mammals

Bottom longline coastal vessels have observed captures and risk assessments of seabirds that require a structured approach to mitigation of that risk.

The characteristics of bottom longline fishing which can increase the risk of incidental captures are:

Setting large numbers of hooks (24.5 million per annum)

Well known attraction of birds to baited hooks or other attractant near hooks

Fishing grounds and seasons in some areas well-known for high seabird numbers and foraging activity.

The seabird species caught by the BLL fleet are of significant importance to the community and some are rare (i.e. have very small and / or threatened populations). The Government will be responsive in ensuring that undue impacts are not occurring on these species. It is in the best interests of the coastal bottom longline fleet as users of the coastal space to take all reasonable steps to understand, acknowledge and mitigate impacts on protected wildlife encountered.

Seabirds

National Plan of Action (NPOA) and Risk Assessment

The NPOA - Seabirds is part of an internationally visible management framework for the reduction of seabird captures. The NPOA sets out objectives for the next five years to guide management of risk to seabirds in New Zealand fisheries. This management comes mostly from Fisheries New Zealand (FNZ) (used to be MPI) with support from DOC and industry bodies such as Fisheries Inshore NZ (FINZ), Southern Inshore Fisheries Management Co. (SIFMC) and the DeepWater Group.

The Risk Assessment referred to in the NPOA is a useful guide to assess the impact of potential fisheries mortalities on 70 of the seabird species that breed in the New Zealand region. A risk 'factor' for each seabird species estimated as the ratio between the estimated annual potential fatalities due to fisheries and the number that the population can withstand and stay healthy or grow. The risk ratios are assessed on a fishery by fishery basis where data is sufficient to allow this.

A key part of the NPOA -Seabirds is the objective to move seabird species to lower risk categories (so the populations are not threatened) and a long-term objective is to have negligible impact on seabirds (i.e. few if any seabirds are killed).

Currently 13 seabirds are assessed to be in a risk category that warrants prompt and considered attention. Four of these species have been observed captured by the inshore BLL fleet – especially black petrels and flesh-footed shearwaters, Salvin's and white-capped albatross (Note that the terms mollymawk or albatross are both applied to these birds).

A variety of smaller petrels, shags and shearwaters are also prevalent in these waters. While some seabird populations are identified as being at higher risk than others, they are typically all caught in similar ways – on hooks or colliding with the vessel at night (deck strikes). Therefore, mitigation measures that reduce the risk of capturing one species usually work to reduce the risk of capturing others as well.

Marine Mammals	A risk assessment has been prepared for marine mammals. It indicates certain dolphin species are at higher levels of risk from commercial fishing than other mammals. The BLL fishery has not been observed to capture marine mammals.
Turtles	There are a small number of captures have been reported for the BLL fleet.
Purpose and Process	The process for mitigating the risk to protected species involves: Operating Procedures –background information and fleet-wide mitigation measures; Toolbox of Mitigation Measures – a supplementary guide to mitigation measures considered effective and appropriate for use in a fishery; Vessel Specific Protected Species Risk Mitigation Plans (PS-RMP) – the mitigation processes and measures agreed by the vessel owner/operator that will be used to mitigate fishing risks on that vessel Trigger Reporting – reporting of captures of significant species or numbers that might indicate a mitigation failure or a need to review a vessel plan Monitoring and Audit – observer reporting of vessel use of measures and auditing the performance of mitigation measures by the fleet. These OPs have been established so that agreed and required management measures are clearly communicated to and understood by vessel captains, vessel managers and ACE providers/ fish receivers. The purpose of the Inshore BLL Operational Procedures is to ensure: risks of marine protected species mortalities are mitigated by reducing the risk of capture that by implementing this OP and associated vessel specific Protected Species Risk Management Plan (PS-RMP) the vessel crew is actively involved in seabird and marine mammal mitigation measures and undertakes improvements through ongoing on board observation, review and improvement processes, i.e. **Look – Think – Act** that all vessels in the fleet have the same information as well as robust and documented systems to manage protected species risk and therefore are working together as a fleet to manage the risks vessels report as required and as accurately as possible all capture events (FNZ reporting) as well as any event triggers required by the OP documented systems to manage protected species risk are able to stand up to audit or review by vessel owners, skippers or Government.

Main species at risk due to observed fishery interactions

Birds are attracted to setting of baited hooks, loose bait, offal and discards from the vessel or whole fish on the hauling line. Once attracted, they are at risk of being caught, injured or drowned.

Risk to seabirds is driven by four main factors which can occur alone or together**.** Managing risks associated with these three factors at a vessel level will help minimise interactions and reduce the incidental captures of seabirds.

RISK ITEM	PLACE, TIME and RISK PROFILE
SEABIRDS	**Black petrel** Nests on Great and Little Barrier, locally common and active in Bay of Plenty, Hauraki and Northland areas during spring, summer and autumn Highest risk seabird in Fisheries NZ Risk Assessment; Threat classification nationally critical, aggressive feeder around vessels and observed caught in longlines in region **Flesh footed shearwater** Nests on many off lying islands around upper North Island, most common spring, summer and autumn Aggressive feeder around vessels and observed caught on longlines in region Third highest risk species in Fisheries NZ Risk Assessment **White capped and Salvin's albatross** Occasionally visitors to upper North Island coasts year round but especially spring/summer Aggressive feeders around vessels **Other petrel species** Prone to net capture and deck strikes at night **Penguins and shags** Coastal waters near their breeding colonies or roosts onshore Can forage well out to sea but usually nearshore Shags that form "rafts" i.e. large flocks on the sea can pose a risk

Managing Risk Associated with the Coastal BLL Fishery

Birds are attracted to setting of baited hooks, loose bait, offal and discards from the vessel or whole fish on the hauling line. Once attracted, they are at risk of being caught, injured or drowned.

Risk to seabirds is driven by three main factors which can occur alone or together. Managing risks associated with these three factors at a vessel level will help minimise interactions and reduce the incidental captures of seabirds.

RISK ITEM	RISK FOR	WAYS TO MANAGE RISK
Food Attractant (Offal, waste, discarded baits, whole fish returned to the sea, whole fish on the line) The more food the more birds around the vessel increasing the risk of captures	Seabirds (mostly petrels, shearwaters, albatross)	• Stopping or controlling (batching) offal/waste discharge while setting or hauling lines or discharging any attractant on the other side from which the hauling station is located • If hauling over the stern, discard used baits, offal, waste and live fish in batches on the leeside of the vessel
Baited Hooks- Setting (Seabirds are attracted to baited hooks during line setting and are either beak hooked or get foul hooked when baits come off or become entangled in the line). The risk increases the longer the hook is on or near the surface and is made worse by poor sink rate (e.g. if there is not enough line weighting, there are floats on the gear or if the vessel is moving too fast) or if the tori line is poorly designed or deployed and does not provide adequate cover over the gear when setting or if the line is clearly visible to birds	Seabirds (mostly petrels, shearwaters, albatross)	• Use of a tori line(s) to deter seabirds from accessing baits • Use of weights to ensure a sink rate that mitigates the risk to diving petrels • Slowing the vessel or free-spooling the drum to let the line sink faster • Setting at night to reduce visibility of gear • Avoiding setting the line when large numbers of birds or mammals are present • Reducing lights both on the logline and around the vessel to the minimum possible • Avoiding the full moon when setting lines • Not using frozen bait
Baited Hooks- Hauling Seabirds are attracted to any remaining baited hooks during line hauling and are either beak hooked or get foul hooked when baits come off or become entangled in the line	Seabirds (mostly petrels, shearwaters, albatross)	The risk increases the longer the hook is on or near the surface and is made worse by a slow retrieval rate (e.g. if there is not enough line weighting, there are floats on the gear or if the vessel is moving too fast or caught fish have brought the line to or near the surface • Use of bird scaring device at the hauling station • Hauling as quickly as possible • Avoiding hauling the line when large numbers of birds or mammals are present • Reducing lights both on the logline and around the vessel to the minimum possible

Mitigation methods

Mandatory Mitigation Measures

MPI has implemented regulatory requirements for seabird risk mitigation. These standards are required to be met as described by the regulations. Guidance below on best practice to meet and implement these requirements on your vessel is found in the "endorsed Practices….". The regulations that apply are: *Fisheries NZ Seabird Mitigation Measure – Bottom Longlines Circular 2018* - http://www.legislation.govt.nz/regulation/public/2018/0116/latest/whole.html).

You should also have a full copy of the Regulations on board and understand them.

In summary,

Streamer (tori) lines: Streamer lines must be deployed day and night during setting and meet design specifications.
Night setting: BLL vessels must set BLL only at night unless line weighting is employed.
Line weighting: Line weighting is required for day setting.
Offal and fish discharge: Offal or fish may only be discharged during hauling provided it is discharged from the opposite side on which the hauling station is located. Note there are waivers for Schedule 6 or sub - Minimum Legal-Size fish

Tori Lines (also described as streamer lines)

Tori lines are regarded as one of the most effective mitigation measures. **All vessels 7m or longer** in overall length must deploy a tori line during setting.

Common names of parts of a tori line:

A tori line consists of a backbone that attaches to the vessel,

has streamers hanging from it and has a drag on its seaward end (streamers are the coloured droppers to deter birds)

and a drag object which keeps the line under tension and holds streamers up out of the water.

For vessels less than 7m: no regulations apply

For vessels 7-20m LOA the tori line must also meet the following minimum specifications:

The tori line must achieve a minimum aerial extent of 50m

It must be attached at a point no less than 5m above the waterline

The streamers must be brightly coloured, be spaced a maximum of 5m apart, and extend along the entire aerial extent of the line

The first streamer must be no more than 5m from the stern of the vessel

The tori line must be attached to the vessel at least 5m above the waterline and the streamers must reach the sea surface. Streamers will therefore vary in length along the line

For vessels over 20m, the tori line must be a minimum of 150m in overall length. The other conditions above apply

Best design guide for tori lines:

Achieve around 60-70m of aerial extent using a three part system.

Vessel attachment; placed as high as possible and recommended 7-8m above waterline. Depending on the position the gear is shot away from, need to be able to adjust or move the tori line or use a bridle place tori in best spot relative to fishing gear

A breakaway system fitted so tori line will break free before fishing gear breaks or tangles

Streamer aerial section; Backbone of the tori line with minimum of 10-12 sets of streamers spaced at 4m or 5m intervals

Depending on height (off water) of each streamer line, reduce length of each streamer by approximately 30cm/50cm going down the backbone

Once deployed (without the setting gear) the first time, trim streamers away to stay well above the water to reduce drag, tangling gear and birds (i.e. so streamers in the air not in the water)

Drag section; can be either a float(s) or rope or mono. If the vessel is over 20m length, the whole tori line must be 150m long. For vessels under 20m, recommended is 80 m to 100m long with either rope, float (or both) or mono for drag.

Adjust tori line to best suit weather, gear and processing conditions to minimise risk during periods of high seabird interactions

Tori lines if not deployed or adjusted correctly often tangle with setting gear. To reduce this maintain height separation for as long as possible between the tori line and setting gear:

Fix the tori line as high as possible to vessel (every 1m height will give you 8-10m more aerial extent)

Increase the drag (most tori lines don't have enough drag) by increasing size, length or weight of drag object

Trade-off: Either mono or very long length of small diameter rope (placed on reel etc) which is less likely to snag with the setting gear but at least hundred of metres is required to provide enough drag versus adding a float(s) to end of a shorter (20m-30m) larger diameter (12-14mm) rope. Trial and error is required as to what suits best

Keep streamers out of the water. Only the last section of the backbone without streamers should be in the water back to the drag object

Fit a breakaway (weak link) so if a tangle occurs the tori line breaks at the weak spot, then there is no damage to other gear. Have a lazy line back to deck so you regain the vessel end of the tori line and retrieve it

Line Weighting Measures

If setting during daylight hours (see Regulations for detail of day and night), the line must meet the following specifications:

The mainline is integrated weighted line (IWL) with a lead core of at least 50g/m; OR

If the mainline is 3.5mm in diameter or greater – a minimum of 4kg of metal weight (or 5kg of non-metal weight) must be attached to every 60m of mainline that has hooks attached; OR

If the mainline is less than 3.5mm in diameter– a minimum of 0.7kg of metal weight must be attached to every 60m of mainline that has hooks attached

Floats over 150mm may not be attached to the hook-bearing line, no more than 3 floats may be attached for every 60m of line, unless an additional 1kg of weight is added to the line

All ropes used to attach weights to the mainline must not be longer than 20m

If the surface marker buoy is attached directly to the hook-bearing line (i.e. downlines are not used), no hooks can be attached to the mainline within 30 m of the marker buoy.

Vessels that cannot meet mandatory weighting measures must set at night, with tori lines deployed.

Night setting is a recommended practice as the visbility of the bait is reduced

Best operational guides for line weighting and good sink rate (around 0.3m per second)

Weight line to achieve satisfactory sink rate so seabirds have less time to target the baited hooks

In times of heightened risk, add more weight and/or remove some floats

Using line setters or slowing vessel's setting speed will reduce tension on the setting line and increase sink rate

Applying weights at regular intervals will help maintain a steady sink rate

Do not fit single large weights at wide intervals, this will pull down the backbone in one area while floating the rest of the line behind it

Integrated Weighted Line (IWL) lead core backbone achieves 0.3m/s sinkrate and is considered world's best practice for steady and consistant sink rate.

Best operational guides for night setting and sink baited hooks while under the protection of the tori line

Night setting makes it difficult for seabirds to see baited hooks (except full moon)

Slower setting speeds, weights and line setters all help the mainline sink more quickly (0.3m/s best practice)

Mainline diameter and material as well as the distance between weights and numbers of floats all can affect the sink rate

If it takes ~80-90m astern of your vessel for your hooks to sink to 5-10m depth (safe zone), the tori line therefore requires 80-90m of aerial extent to properly protect baited hooks

Offal & Fish Discharge Measures

The following minimum specifications must be followed:

During setting, offal or fish cannot be discharged from the vessel

The only exceptions are:

If the fish are legally undersize (MLS) or

The fish is listed on the Sixth Schedule of the Fisheries Act

When hauling the line, offal, used bait or whole fish can only be discharged from the opposite side of the vessel to which the line is being hauled.

Best operational guides for offal control

No continuous or ad hoc discharge of fish waste, all offal/fishwaste discharge is to be managed (held and batched) at intervals as well as meeting the mandatory standards above

Offal should be held (in bins, fish pounds, etc.) for as long as practicable and 'batch' discharged when fishing ceases or, if required, during hauling on the opposite side of the hauling station.

Best Operational Guides for Bait

When hauling, used bait must be held and discharged after hauling has ceased

If too many birds are crowding the hauling line, discharge a batch of offal/ waste or whole sea on the opposite side of the hauling station to distract the birds

Additional Mitigation Measures

The following measures may be used to increase the effectiveness of mitigation

Hauling Stations

During hauling, seabird captures have been observed as birds attack returning baits. While lesser risk than setting, mitigation measures to reduce risk of captures should be in place at the hauling station:

Hose spray is often enough to deter seabirds from the area

A seabird scaring device can be fitted around the hauling station on larger vessels. Brickle curtains are often used for this purpose and are very effective. For more information call DWG Liaison Officer

Used bait and all fish waste should be held for long as possible and/or discharged on the other side of the vessel from hauling station.

Thawing of Bait

The use of totally frozen bait is to be avoided as it floats more than when thawed

Bait must be taken out of the freezer or ice for several hours before setting

Partially frozen bait works well as it is firm when cut up and hooked.'

Lighting

Bright spotlights shining back over the stern well behind the vessel onto the hook setting line should be either off, replaced with lower light output or shielded from shining on the longline

Deck lighting around stern should be dimmed during night time setting while maintaining required safety standards for vessel and crew

High Risk Periods

Full moon:

During full moon periods seabirds (esp. diving birds) can enter a feeding frenzy leading to very high capture rates

Mitigation options include:

Increasing line sink rate (e.g. add weight and/or remove floats and/or reduce setting speed)

Adding another streamer line

Moving from the fishing area

On rare occasions, switching to day time setting can reduce capture rates (remember to meet line weighting regulations).

Multiple captures while setting the gear:

Take immediate action to reduce the risk of multiple captures reoccurring

Contact vessel manager and/or Liaison Officer for advice and report seabird triggers (as advised below)

Risk Management Plan Responsibilities

Responsibilities of Operator and Skipper	The vessel operator and skipper will: Ensure all crew are briefed on these OPs, the vessel's PS-RMP and fully understand all the actions required Be aware of seabird/mammal activity around the vessel, assess risks and take those actions needed to minimise risk Ensure shooting and hauling carried out as quickly as possible and with regard to protected species activity in immediate area Batch discharge equipment is available and fish waste is not discharged when shooting and hauling Deploy mandatory mitigation measures and additional measures as considered appropriate to the risk to seabirdss Deploy and/or adjust mitigation measures to best suit weather, fishing and processing conditions to minimise risk of seabird interactions Display a copy of "The 10 Golden Rules for NI Coastal Longline Vessels" on the bridge Ensure correct reporting (MPI) and that trigger reports are sent promptly to the Liaison Officer identified on your PS-RMP. Ensure crew are meeting their responsibilities listed below. Address any deficiencies in implementation of the PS-RMP as noted by any observer Address the effectiveness and content of the PS-RMP if seabird captures exceed the triggers
Responsibilities of Crew	This crew must: **Not discharge offal and fish waste prior to or during hauling and shooting periods to reduce bird numbers in the longline danger zone** Hauling: This period is defined by when the marker buoy is taken on board until the last of the longline is on board. Shooting: This period is from when the marker buoy is off the deck until the last hook is at fishing depth Shoot and haul the net as quickly as practicable and always minimise the time the net remains on or near the surface Maintain a watch of seabird and mammal activity around the vessel and advise the skipper as appropriate when it is clear there is risk that requires action including: Not shooting in presence of significant feeding activity Altering hauling speed and operation to reduce risk Advising if any animal seen caught and ensuring its immediate release if alive Carry and deploy a fit and proper bird scaring device as described in the vessel's PS-RMP and spare parts to rebuild /replace if damaged or lost

Audit & Review

Government fisheries observers on your vessel will audit the implementation of your PS-RMP. Information they collect will be provided to DOC, Fisheries NZ and the Liaison Officer.

If your PS-RMP is not being implemented effectively, it means that either the Plan needs updating or practices onboard need to be improved. Your Liaison Officer can work this through with you, and update your Plan if necessary.

Your PS-RMP may also need updating at other times. For example, if you change gear or target species, or there are changes in any element of your fishing operations that relate to the risk of protected species captures. At these times, please contact your Liaison Officer.

Reporting Protected Species Captures

Trigger Limits & Vessel Action	Trigger Limits are the FINZ real time reporting 'threshold' system of significant captures. Once a 'trigger' is reached, the Liaison Officer, FINZ, and the operator/owner and skipper (noting these might be the same person at times) will review the situation. Whenever appropriate, the vessel crew may need to take additional steps to mitigate risk of further capture events. This is usually by actively and immediately reassessing the effectiveness of their fish waste control and mitigation measures and, where necessary, altering or deploying additional measures.
Real Time Reporting Triggers	A trigger has been reached if the vessel captures (dead or alive): • any penguin, dolphin, sea lion, leopard seal, basking shark, great albatross (wandering, Antipodean, Gibson's, royal); or, In any 24 hour period: • 3 or more large seabirds (albatrosses, mollymawks, giant petrels); or • 5 or more small seabirds (petrels and shearwaters); or • 2 or more fur seals, or in any 7 day period: ▪ 10 or more seabirds of any type; or ▪ 5 or more fur seals.
Trigger breach Reporting Contact - 24/7	The vessel (directly) or the onshore Vessel Manager must notify the Liaison Officer **within 24 hours** of any trigger breach so that any follow-up deemed necessary can be discussed and carried out. Emails from Sat-C or texts are OK. Your Liaison Officer's contact details are shown on your Protected Species Risk Management Plan.

Fisheries NZ Reporting Requirements

Fisheries NZ Reporting Requirements – All protected species captures

It is not illegal to accidentally capture protected species while commercial fishing, **but it is illegal to fail to report the capture**. It is important that all captures and mortalities are reported accurately. All protected species (captures or deck strikes, see below) dead or alive (then returned to the sea) must be recorded in the Non-Fish Protected Species Catch Return form (NFPSCR) or the Electronic Logbook equivalent.

Fisheries NZ observers may decide to keep some protected species caught for autopsy and identification. They are permitted to do so. The vessel may only do so if it holds a DOC permit.

Capture: *An animal (dead or alive) which is brought onboard on/by the fishing gear and requires assistance/help off the vessel.*

Deck-Strikes: *Birds that 'collide' with the vessel/deck/superstructure and are dead or injured, unable to leave vessel of its own accord; report as 'deck-strikes' (not reported if alive and leaves the vessel unassisted, i.e. landed on vessel)*

Always meet your legal requirements. Record all captures (dead or released alive) and furnish to MPI as required under the fisheries reporting regulations.

NFPSCR Codes, Species Identification and legbands/tags

Seabirds

Use the XAL (unidentified Albatross/mollymawk) and XXP (unidentified Petrels & Shearwaters) species codes if you are not 100% sure of the species identification. If you are 100% sure, use the species individual codes supplied by MPI.

Record any leg band numbers on the form, these are really important and FINZ urges skippers to record any leg bands. Take a photo if possible and send to your Liaison Officer.

Marine mammals

If you are able to identify marine mammals, report these captures at species level. If you are unsure, use generic codes. You may wish to take photos of the head, whole body and any distinguishing marks on a marine mammal. Do this without any crew or vessel features in the picture. Share these photos with your Liaison Officer, who may identify the marine mammal for you.

Animal Handling/Release and Crew Safety

Release Alive	Every care should be taken to release animals alive, reduce stress and handle with care to minimise any further harm or injury to the animal, and to increase survivability when it is being returned to the sea alive. **Deliberately harassing or harming these animals after an incidental capture is an offence.**
Birds	Keep the bird calm by covering the head with a cloth. Use two crew; one to support the bird, while the other frees the gear from the bird. Use gloves and eye protection (beware large birds can inflict a nasty bite). Carefully isolate the tangled meshes. Peel the netting back over the tail, feet, and then the wings, while holding the bird firmly. Remove the head from meshes last. When freed, place the bird gently back into the water. If the bird is waterlogged keep it in a safe place, such as an empty fish case, until it has recovered.
Marine Mammals	If possible, give animals time and space to leave the vessel. Do not take actions that will antagonise the animal. Watch carefully for signs of aggression in the animal. Do not allow crew to be in its path or escape route, use netting as a moving barrier or a deck hose to persuade/guide the animal back to the sea.
Turtles	Release while in the water If hooked or swallowed, cut the snood as close to the animal as possible If tangled, cut the snood as required to remove the line
Returning Dead Seabirds and Marine Mammals to the Sea	The entire body of any dead protected species must be returned to the sea, unless a MPI observer onboard the vessel directs the skipper to, or they themselves keep it or the skipper has been advised otherwise by DOC or Fisheries NZ. Usually they only keep seabirds. **Taking any part and keeping it or cutting or mutilating the body of a protected species is an offence.**
Seal Handling and Crew Safety Issues	Seals can carry a number of infectious diseases which can infect humans. Live marine mammals can also be potentially dangerous to humans particularly when they are in stressful situations. Handling marine mammals should always be kept to a minimum and should only occur if and when needed. When attending to animals landed on deck the following steps should be followed to ensure crew safety: Whenever handling bodies of drowned fur seals, or any other marine mammals, wear waterproof gloves and waterproof protective clothing Where possible, avoid direct contact with blood, urine, faeces and other body fluids. It is also important to avoid the mouth of the marine mammal as this is a major source of disease. If bitten or grazed by a marine mammal, as a first measure wash and disinfect the wound immediately, apply betadine/antiseptic ointment and cover the wound. This minimises the risk of 'seal finger', a chronic and very painful infection caused by bacteria carried by some marine mammals. Visit a doctor once ashore as infection is very common with seal and sea lion bites. After handling any marine mammal, crew should wash their hands and forearms with antibacterial soap and their protective clothing by hose down.

Fisheries (Seabird Mitigation Measures—Bottom Longlines) Circular 2018

This circular is issued by the Chief Executive of the Ministry for Primary Industries under regulation 58A of the Fisheries (Commercial Fishing) Regulations 2001.

Contents

Circular

1 Title

This circular is the Fisheries (Seabird Mitigation Measures—Bottom Longlines) Circular 2018.

2 Commencement

This circular comes into force on 1 July 2018.

3 Interpretation

In this circular, unless the context otherwise requires,—

Act means the Fisheries Act 1996

aerial extent means the section of the streamer line backbone running from the vessel stern to where the backbone of the streamer line enters the water

bottom longline means a line to which 7 or more hooks (whether baited or not) are attached, and is sunk using weights

hauling means the period from when line retrieval commences to when all of the hooks are onboard

nautical dawn means the time at sunrise when the centre of the sun is at a depression angle of 12 degrees below the ideal horizon for the location of fishing

nautical dusk means the time at sunset when the centre of the sun is at a depression angle of 12 degrees below the ideal horizon for the location of fishing

observer means an observer appointed under section 223 of the Act

offal means parts of a fish that are usually discarded, including minced parts

set, in relation to a bottom longline, means releasing the bottom longline into the water.

4 Streamer line required

A commercial fisher using bottom longlines as a method of fishing from a vessel 7 metres or greater in overall length must—

(a) carry a streamer line on board the vessel; and

(b) permit inspection of the streamer line at any reasonable time by a fisheries officer or an observer.

5 Use of streamer line required during setting of bottom longlines

A streamer line must be used on vessels 7 metres or greater in overall length during the setting of bottom longlines, in accordance with clause 6.

6 Streamer line specifications

(1) For vessels over 20 metres in overall length, the streamer line must meet the following specifications:

(a) the streamer line must be attached to the vessel so that when deployed the baits are protected by the streamer line, even in a crosswind; and

(b) the streamer line must be a minimum of 150 metres in length; and

(c) the streamer line must achieve a minimum aerial extent of 50 metres; and

(d) streamers must be brightly coloured; and

(e) streamers must be spaced at a maximum of 5 metres apart, beginning not more than 5 metres from the stern of the vessel and extending along the full aerial extent of the line; and

(f) when deployed, each of the streamers must reach the sea surface in the absence of wind and swell. Streamer length will therefore vary depending on the height of their attachment point above the water; and

(g) the streamer line must be suspended from a point on the vessel at least 5 metres above the water in the absence of swell.

(2) For vessels 7–20 metres in overall length, the streamer line must meet the following specifications:

(a) the streamer line must achieve a minimum aerial extent of 50 metres; and

(b) streamers must be brightly coloured; and

(c) streamers must be spaced at a maximum of 5 metres apart, beginning not more than 5 metres from the stern of the vessel and extending along the full aerial extent of the line; and

(d) when deployed, each of the streamers must reach the sea surface in the absence of wind and swell. Streamer length will therefore vary depending on the height of their attachment point above the water; and

(e) the streamer line must be suspended from a point on the vessel at least 5 metres above the water in the absence of swell.

(3) The specifications in subclauses (1) and (2) do not apply to additional or secondary seabird-scaring devices fishers may choose to use (such as a second tori or streamer line).

7 Restrictions on use of bottom longlines

No commercial fisher may set bottom longlines to take fish, aquatic life, or seaweed between 0.5 hours before nautical dawn and 0.5 hours after nautical dusk, unless line weighting is employed in accordance with clause 8.

8 Line weighting

(1) For the purposes of clause 7, lines must be—

(a) an integrated weighted line with a lead core of at least 50 g/m; or

(b) when externally weighted gear is used and the hook-bearing line is 3.5 millimetres or greater in diameter, every 60 metres of hook-bearing line must have at least 4 kilograms of metal weight or 5 kilograms of non-metal weight attached; or

(c) when externally weighted gear is used and the hook-bearing line is less than 3.5 millimetres in diameter, every 60 metres of hook-bearing line must have at least 0.7 kilogram of weight attached.

(2) Regardless of the type of line weighting used under subclause (1),—

(a) any rope or line used to attach weights to the hook-bearing line must not be longer than 20 metres; and

(b) no more than 3 floats (up to 150 millimetres in diameter) may be attached to the hook-bearing line for every 60 metres of line, unless an additional 1 kilogram of weight is added to the line per additional float; and

(c) floats greater than 150 millimetres in diameter are not permitted to be attached to the hook-bearing line; and

(d) when a separate rope or line is not used to attach a marker buoy to the hook-bearing line, and a marker buoy is attached directly, no hooks may be attached to the line within 30 metres on either side of the marker buoy.

9 Restriction on discharge of offal or fish while setting and hauling bottom longlines

(1) No person may discharge offal or fish during setting of bottom longlines.

(2) Offal or fish may be discharged during the hauling of bottom longlines, but only from the side of the vessel that is opposite to the side on which the hauling station is located.

(3) Subclause (1) does not apply to—

(a) fish that are legally undersize; or

(b) fish that are listed in Schedule 6 of the Act and that are likely to survive.

(4) Despite subclause (2), during the hauling of bottom longlines,—

(a) Patagonian toothfish may be discharged on the side of the vessel on which the hauling station is located; and

(b) the fishing vessel *Janas* may discharge whole spiny dogfish on the side of the vessel on which the hauling station is located if it complies with the conditions in clause 10.

10 Conditions for fishing vessel *Janas*

From 1 July 2018 to 30 June 2020, the following conditions apply to the fishing vessel *Janas*:

(a) a bird exclusion device must be deployed during hauling; and

(b) on at least 1 domestic trip per year where ling is targeted, the vessel must carry an observer.

11 Revocation

The Fisheries (Seabird Sustainability Measures—Bottom Longlines) Circular 2010 (*Gazette* 2010–go4976) is revoked.

12 Schedule

(1) The Schedule provides further guidelines on the design and deployment of streamer lines as seabird-scaring devices.

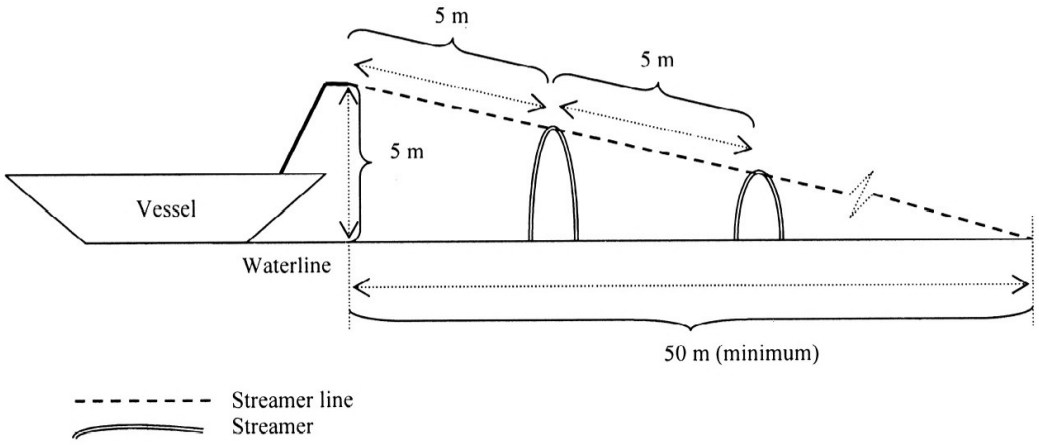
(2) The Schedule is not part of the specifications.

(3) If there is any inconsistency between the guidelines in the Schedule and the specifications, the specifications prevail.

Schedule
Seabird-scaring device (streamer line)

cl 12

Seabird Scaring Device (Streamer line)
Diagram not to scale
Not all specifications illustrated



1 The streamer line needs to protect baited hooks from seabirds. This means that the streamer line should be positioned in such a way that streamers are flapping in an unpredictable fashion, above the area in which the baited hooks enter the sea, so that seabirds are deterred from attempting to take bait from the hooks. In order to achieve this even during cross-winds, it is expected fishers will have to make adjustments to the configuration of the streamer line depending on the conditions.

2 It is generally recognised as best practice to maximise the aerial extent of the streamer line, because this maximises the area in which the baited hooks are protected from seabirds. Best practice would be to achieve an aerial extent of 100 metres or more. In order to maximise aerial extent, it is necessary to create tension in the streamer line. This can be achieved by—

- towing an object on the terminal end of the streamer line; or
- towing extra length of streamer line; or
- increasing the diameter of the in-water section of the streamer line.

3 In order to be effective at scaring seabirds away from the line of baited hooks, the streamer lines should not become tangled, either with each other or with the branchline. Each streamer shall be attached to the streamer line in a manner to prevent fouling of individual streamers with the streamer line, and to ensure individual streamers reach the waterline in the absence of wind or swell. Swivels or a similar device can be placed in the streamer line in such a way as to prevent streamers being twisted around the streamer line. Each streamer may also have a swivel or other device at its attachment point to the streamer line to prevent fouling of individual streamers.

4 Streamers are to be spaced at 5-metre intervals along the aerial extent of the line. The total number of streamers in use will vary depending on how the line is configured. Streamers that are hanging in the water can be prone to tangling. Because the far end of the streamer line will frequently be in the water, fishers may not wish to have streamers the whole way down the line. However, it is important that streamers are present to deter birds from taking baited hooks all along the part of the line that remains above water, as outlined in the specifications.

5 To ensure streamers are visible to birds, they should stand out against the surroundings. Streamers should be made of brightly coloured fluorescent plastic tubing or other material. Bright colours such as red, yellow, orange, or pink are most effective during day setting. For night setting, the streamers should be of a colour that contrasts with the surroundings. Colours such as blue and green are less likely to be effective, because they are less likely to be highly visible to birds.

6 A complete additional streamer line should be carried as a spare.

7 When externally weighted gear is used, it is not necessary for all the weight specified to be applied at 60 metres intervals along the hook-bearing line. It is equally permissible for multiple weights of smaller sizes to be attached to the hook-bearing line at shorter intervals, as long as the total weight attached along every 60 metres of hook-bearing line meets the relevant weight requirement specified in clause 8. For example, under clause 8(1)(b) of this circular, 4 kilograms of metal weight is required for every 60 metres of line. It is permissible to attach the following combinations, or any other variation that totals 4 kilograms:

- one 4-kilogram metal weight every 60 metres along the hook-bearing line; or
- one 2-kilogram metal weight every 30 metres along the hook-bearing line; or
- one 1-kilogram metal weight every 15 metres along the hook-bearing line.

Dated at Wellington this 29th day of June 2018.

Arthur Hore,
Manager Offshore Fisheries,
Ministry for Primary Industries.

Explanatory note

This note is not part of the circular, but is intended to indicate its general effect.

This circular, which comes into force on 1 July 2018, is made under regulation 58A of the Fisheries (Commercial Fishing) Regulations 2001 (the **regulations**). It is made by the Manager, Offshore Fisheries, of the Ministry for Primary Industries pursuant to an authority delegated under section 41 of the State Sector Act 1988.

This circular sets out mandatory mitigation measures that apply to commercial fishers using the method of bottom longlining. The measures are designed to mitigate the effect of fishing-related seabird mortality. The circular requires that, when setting bottom longlines, commercial fishers—

- use and configure streamer lines 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.

Streamer lines meeting the requirements of this circular are approved seabird-scaring devices for the purposes of regulation 58(1) of the regulations.

The *Schedule* sets out best practice guidelines for—

- the configuration and use of streamer lines; and
- the weighting of bottom longlines.

The guidelines do not form part of the specifications set under regulation 58A of the regulations and do not have the force of law. In the event of any inconsistency with the specifications set out in *clauses 6 to 8*, the specifications prevail.

This circular also imposes restrictions on the discharge of offal or fish while setting and hauling bottom longlines, and specifies conditions that apply to the fishing vessel *Janas* for a 2-year period commencing on 1 July 2018.

Issued under the authority of the Legislation Act 2012.
Date of notification in *Gazette*: 5 July 2018.
This circular is administered by the Ministry for Primary Industries.

Wellington, New Zealand:
Published under the authority of the New Zealand Government—2018

Department of Conservation
Te Papa Atawhai

Fisheries New Zealand
Tini a Tangaroa

June 2019

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

Bottom longline (hand baiting)

1. Introduction

To effectively reduce the risk of seabird captures, bottom longline vessels need to use a combination of mitigation practices that best address the risks of their individual operations. As the bottom longline 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 bottom 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 mitigation standards are applicable to all bottom longline vessels which bait hooks by hand (manual baiting vessels). See Appendix 1 for a characterisation of the hand baiting bottom longline 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. Seabirds are not able to access baited hooks during setting.
3. Seabird access to hooks during hauling 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. Mandatory measures

Fisheries (Seabird Mitigation Measures—Bottom Longlines) Circular 2018[3] is the legislative instrument used to mitigate against seabird captures on bottom longline vessels. In summary, the Circular requires all fishers using the method of bottom 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;[4]
- Either set lines at night, or weight lines in accordance with the specifications prescribed in the Circular;
- Restrict the discharge of fish waste during setting; and
- Only discharge fish waste during hauling from the opposite side on the vessel to the side on which the hauling station is located.

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.

Mitigation standard 1.1:	Fish waste is not discharged from the vessel immediately before or during setting.[5]
Mitigation standard 1.2:	Fish waste is held on board for the duration of hauling[6] (when possible) with any discharge occurring in a way which minimises the risk to seabirds.

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

- Develop and document a fish waste management system that describes how mandatory requirements and mitigation standards 1.1 and 1.2 will be met. A copy of this document

[3] New Zealand Ministry for Primary Industries. (2018). Fisheries (Seabird Mitigation Measures—Bottom Longlines) Circular 2018. Retrieved from http://www.legislation.govt.nz/regulation/public/2018/0116/latest/whole.html#whole

[4] Only applicable to vessels greater than seven metres in overall length.

[5] 'Setting' is defined as the act of releasing the bottom longline into the water.

[6] 'Hauling' is defined as the period from when line retrieval commences to when all of the hooks are on board.

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 mandatory requirements and mitigation standards 1.1 and 1.2.
- Retain all fish waste on board during setting.
- Retain all used bait on board until hauling has finished.
- Retain any processing offal and dead or damaged fish 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 and meet mandatory requirements.
- 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 or factory floor 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 scuppers (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, 2.3 and 2.4 are necessary to achieve desired outcome 2.

Mitigation standard 2.1:	A tori line effective at deterring birds from accessing baited hooks is deployed throughout setting.
Mitigation standard 2.2:	Hooks set during high-risk periods[7] are protected by the aerial extent of the tori line until the hooks have reached a depth of 10 metres.
Mitigation standard 2.3:	Hooks set outside of high-risk periods are protected by the aerial extent of the tori line until the hooks have reached a depth of 5 metres.
Mitigation standard 2.4:	Bait state (such as whether it is frozen) does not reduce the sink rate.

To meet mitigation standards 2.1 vessel operators should:

- Deploy a tori line throughout setting. The specifications of the tori line must meet mandatory requirements. The tori line should be fixed to the vessel at the highest practicable point and have streamers[8] spaced along the entire aerial extent of the line.

[7] High-risk periods are defined as during daylight hours (i.e. between nautical dawn and nautical dusk) and during nights three days either side of a full moon (except when there is full cloud cover). High-risk periods are defined as such because seabirds (especially albatross) are generally less active at night. Additional information regarding night setting is available in BirdLife International. (2014, September). *Bycatch mitigation fact-sheet 5: practical information on seabird bycatch mitigation measures.* Retrieved from https://acap.aq/en/resources/bycatch-mitigation/mitigation-fact-sheets/1824-fs-05-demersal-pelagic-longline-night-setting/file

[8] Streamers should be brightly coloured and long enough to deter seabirds.

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 mandatory requirements.
- Ensure the tori line can be adjusted or repositioned so that the streamers can be positioned over the hook bearing line to suit varying conditions.

To meet mitigation standard 2.2 vessel operators should:

- Externally weight lines so that the slowest sinking hook[9] can be demonstrably shown to reach a depth of 10 metres within the aerial extent of the tori line (refer to Section 8: Sink rates); or
- Conduct setting outside of high-risk periods if mitigation standard 2.2 cannot be met.

To meet mitigation standard 2.3 vessel operators should:

- Externally weight lines so that the slowest sinking hook can be demonstrably shown to reach a depth of 5 metres within the aerial extent of the tori line (refer to Section 8: Sink rates).

To meet mitigation standard 2.4 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.

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)

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.
- Utilise measures appropriate to both the vessel and the situation to actively deter seabirds from approaching hauled hooks. Depending on the vessel and the situation,

[9] The location of the slowest sinking hook will vary depending on how gear is configured, but typically the hook closest to a float or furthest from a weight will be the slowest to sink.

suitable measures include using low pressure water sprayers,[10] sound (such as banging a gaff against the superstructure), hauling mitigation devices and/or vessel manoeuvres.

- 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.

6. Implementation

The mitigation standards outlined above are implemented through Fisheries (Seabird Mitigation Measures—Bottom Longlines) Circular 2018 and non-regulatory management measures. Non-regulatory management measures applicable to hand baiting bottom longline vessels are set out either in the Ling Bottom Longline LIN 2-7 Operational Procedures or Inshore Bottom Longline Operational Procedures and Protected Species Risk Management Plans (PSRMPs).[11]

Ling bottom longline operational procedures

Ling bottom longline operational procedures apply to all vessels that target ling in fish stocks LIN 2 – LIN 7 and are agreed between ling quota holders, vessel operators and Fisheries New Zealand. Ling bottom longline operational procedures are implemented and administered by the Deepwater Group Ltd, an organisation which represents the majority of deepwater quota holders.

[10] Deck hoses must be used carefully, as they may harm seabirds.

[11] The applicable operational procedures depend upon the targeted fish stock.

The Deepwater Group contracts an environmental liaison officer (ELO) to oversee bottom longline operational procedures and associated processes. The ELO visits most vessels annually[12] to train crew, and review and update VMPs. The number of vessels visited by the ELO is reported annually by Fisheries New Zealand[13] and will be included in the seabird annual review report.

Inshore bottom longline operational procedures/protected species risk management plans

Inshore bottom longline operational procedures apply to all bottom longline vessels that do not target ling in fish stocks LIN 2 – LIN 7. They are agreed between quota holders, vessel operators and Fisheries New Zealand and set out the fleet wide management measures to reduce interactions between seabirds and bottom longline vessels. Inshore bottom longline operational procedures are implemented and administered by Fisheries Inshore New Zealand, an organisation which represents quota holders and vessel operators.[14]

Associated with inshore bottom longline operational procedures, each vessel is required to have, and follow, a PSRMP which sets out the vessel specific 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 Conservations (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 are 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[15] 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 bottom longline operational procedures observer review form (Appendix 3) or a protected species risk management plan observer review form (Appendix 4).[16] Fisheries New Zealand discuss the review form with the observer and then sends it to either the Deepwater Group ELO or the liaison officer coordinator to follow up on any issues with the vessel operator. The outcome of any follow-up actions are reported to Fisheries New Zealand and DOC quarterly and are reported annually in the Seabird Annual Report.

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[12] The ELO prioritises visiting new vessels and those deemed 'higher risk' due to the number of reported captures or other issues.

[13] https://www.mpi.govt.nz/dmsdocument/33340-annual-review-report-for-deepwater-fisheries-201718

[14] https://www.inshore.co.nz

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

[16] The choice of form depends on the fish stock that the vessel targets.

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 5) or the bottom longline gear form (Appendix 6).

Observer coverage of the hand baiting bottom longline fleet is targeted towards those vessels active around the north coast of the North Island or those targeting ling around the South Island. Levels of observer coverage in both areas are relatively low with approximately 5% of hooks typically observed in both areas each year.

8. Sink rate

A bottle test provides a simple, cheap method for an observer, liaison officer or fisher to establish the sink rate of bottom longline gear.

To conduct a bottle test, attach an empty plastic bottle to a clip using 10 metres of monofilament or rope. During setting, clip the bottle to the mainline next to the slowest sinking hook and throw it overboard. Once the bottle has been pulled under the water, the mainline will be 10 metres deep.

The Commission for the Conservation of Antarctic Marine Living Resources[17] and fishers in New Zealand[18] have developed very similar protocols for conducting bottle tests on bottom longline gear. When the tests are conducted at night, a light stick can be substituted for a bottle.

Bottle tests should be conducted regularly and whenever gear set-up or setting speed is significantly changed (this makes sure that the new set-up meets the mitigation standards). The tests should also be conducted at random intervals along the line (this makes sure that all hooks are sinking at the required rate).

An additional document with more detailed information on how and when to conduct bottle tests will be distributed to skippers and crew by the ELO or liaison officer.

Measuring aerial extent

The aerial extent of a streamer line can be measured by accurately measuring the distance between streamers and counting the streamers until the streamer line touches the water. Alternatively, it can be measured by streaming a separate rope, graduated in metres and with a tension-generating device on the end, until the streamer line touches the water.

[17] CCAMLR Conservation Measure 216/XX: Experimental line-weighting trials. Retrieved from https://www.ccamlr.org/sites/default/files/216-XX.pdf

[18] JPEC Ltd. (2014, December). *Bycatch bylines*. Issue 13. Retrieved from https://www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/marine-conservation-services/bycatch-bylines/bycatch-bylines-december-2014.pdf

Appendix 1: Characteristics of the hand baiting bottom longline fleet

Hand baiting vessels vary in length between 6 metres and 25 metres. A total of 93 vessels fished using the method of bottom longlining during the 2017/18 fishing year however the number of fishing events (sets) conducted per vessel varied between less than 10 and over 300. The number of hooks deployed each set typically varies between less than 100 and over 6,000. Collectively, the hand baiting fleet set approximately 20 million hooks during 2017/18.

Hand baiting vessels target a wide variety of species and are active around New Zealand's entire coastline—from shallow inshore waters to offshore areas over 600 metres deep. The most frequently targeted species are snapper (mainly between Northland and the Bay of Plenty), ling (around the South Island and eastern North Island) and bluenose (mainly in northern waters).

All hand baiting vessels use hook-bearing lines that are externally weighted. However, the gear set-up varies considerably between target species and operators. For example, more floats are typically added to the line when bluenose is targeted.

All vessels discharge their fish waste (processing offal, unwanted fish and used bait) at sea.

Inshore BLL PSRMP
Observer Review Form

Fisheries New Zealand
Tini a Tangaroa

Trip Number	Vessel Name	Observer name	Trip start date	Trip end date	Sets observed
		.	/ /	/ /	

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 (except Items 3, 4, 12 & 22) then please make detailed comments on the reverse.

Item 1. Did the vessel have a copy of its Protected Species Risk Management Plan (PSRMP) on board?

Item 2. Were the crew familiar with the contents of the PSRMP?

Item 3. Were any protected species capture '*trigger-points'* activated during the trip?
(If Y record details of the triggers and the action taken by the vessel)

Item 4. Did a gear 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 '*trigger point*' events or during 'high risk' periods
(e.g. full moon, multiple capture events, many seabirds around the vessel at setting or hauling, etc.)

Mitigation device

Item 6. Was a tori line used for the entirety of all sets?

Item 7. When deployed was the aerial extent of the tori line adequate to reduce bird 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 sufficient parts to construct a second tori line if required?

Item 10. Was the tori line attachment point higher than 5 m above the waterline?

Item 11. Could the tori line be adjusted or repositioned so that streamers could be positioned over the backbone to suit varying conditions?

Item 12. Were any other mitigation devices used (e.g. a haul mitigation device)?
(*If Y record details in the comments)*

Fish Waste & Bait Management

Item 13. Was all fish waste (including bait scraps) retained on board during setting?

Item 14. Was fish waste discharged from the vessel during hauling?

Item 15. Was the discharge of fish waste during hauling managed/controlled as described in the PSRMP?

General procedures

Item 16. Were all plastics (including fishing plastics such as snoods, carton strapping etc.) retained on board?

Item 17. Was all setting conducted at night**?

Item 18. Were spot lights shining directly astern controlled/dimmed during night-setting?

Item 19. Did the line-weighting and float regime follow the set-up(s) described in the PSRMP?

Item 20. Were all protected species captures recorded on the MPI Non-fish Protected Species Catch Return logbook or electronically as required by law?

Item 21. Were protected species caught and released alive handled with due care?

Item 22. Any other comments? *(describe on reverse)*

** 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*

HOOK REMOVAL FROM SEABIRDS

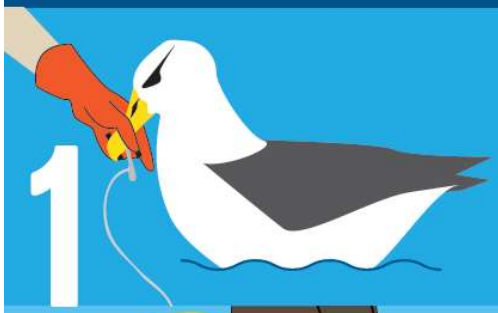
Agreement on the Conservation of Albatrosses and Petrels

Release Kit

Towel / Blanket | Pliers / Bolt cutters | Net | Box / Bin | Gloves

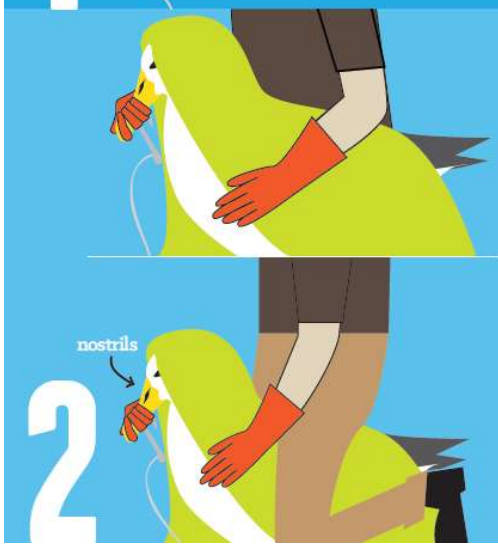
ACAP

Visit **www.acap.aq** for more information



1 Bring bird aboard

If possible, slow or stop hauling and slow or stop vessel to release line tension. If practical, use a landing net to lift small birds on board, otherwise retrieve the bird on the line as safely and quickly as possible. When within reach, grab it by the bill. Never grab the wing.



2 Restrain bird and hold securely

Carefully fold the wings into the bird's body. Wrap the bird in a towel/blanket (not too tightly) and cover the eyes if possible. Make sure the bird doesn't come into contact with oil on deck.

For large birds that you cannot manage under your arm, restrain the bird securely between your legs without squeezing. Hold the bill gently shut but do not cover the nostrils.

If the bird vomits, loosen hold on bill so the bird does not suffocate.

OR

3 Remove the hook

If the hook is visible

Use pliers (or bolt cutters for large hooks) to cut through the hook shaft (or to flatten the barb). Pull the hook back out of the bird.

If the hook is swallowed and removal is possible

A second person can find the hook position externally by feeling along the neck or internally by following the line to the hook. Gently force the tip of the hook so that it bulges under the skin of the bird (for large birds, this may be easier if you reach down the bird's throat and hold the hook). If you can get a good grip on the hook, push the tip of the hook though the skin and remove. Never try to extract the hook backwards.

OR

If hook removal is not possible

Either because removing the hook will cause further damage to the bird or the hook is too deeply ingested, cut the line as close to the hook as possible and leave the hook in the bird.

4 If the bird is exhausted or waterlogged

If possible, place in a ventilated box or bin in a quiet, dry, shaded place to recover for an hour or two. Otherwise, contain bird in a quiet dry area, away from oil. The bird is ready for release when the feathers are dry, bird is alert and able to stand.

5 Release the bird

If the bird is strong and mostly dry, release it onto the water (but clear of the vessel) immediately after hook removal. Having again first grabbed the bill, lift and slowly lower the bird onto the water letting go of the bill last.

Where birds cannot be lowered directly onto water, lift and release the bird from the side of the vessel into the wind letting go of the bill at the same time. The bird may remain on the water for some time after release.

ACAP

January 2019

HOOK REMOVAL FROM SEABIRDS Visit **www.acap.aq** for more information

Appendix 1. Hook release guidelines developed by the Agreement on the Crvation of Albatrosses and Petrels