

**Department of Conservation**  
**Conservation Services Programme Project**  
**MIT2015-01 (Year 3: 2016-17)**  
**Final Report**

**Seabird Liaison for Surface Longline Fleet Programme**



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## Background

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In 2014 The Department of Conservation (DOC) initiated a three year project (MIT2015-01) aimed at reducing bycatch in small vessel longline fisheries.

The objectives for this project were consistent through the three years as follows:

1. To provide one or more liaison officers to the inshore bottom longline and small vessel surface longline fishing fleets, with a focus on northern North Island, to assist those fleets reduce their seabird bycatch.
2. To coordinate the seabird liaison officer roles with wider efforts targeted at seabird bycatch reduction in relevant fisheries to achieve the greatest reduction in bycatch possible.

Observer coverage in the surface longline fishery on New Zealand's (NZ) West Coast of the South Island (WCSI) during the fishing season May-June 2016 highlighted instances of significant seabird capture events and poor use of tori lines. This prompted an increase in focus for the liaison project towards this fleet and fishery. The refined objective was to deliver an intensive and assertive plan to install and implement a structured and comprehensive risk management programme across the entire domestic surface longline fleet. This was to be undertaken within the ambit of the existing MIT 2015-01 project.

It is to be noted that the larger vessel (50 m+ length overall – LOA) Foreign Licensed Vessel fleet (Japanese freezer longliners) had not been in the fishery in 2015-16 and neither in 2016-17, so the surface longline activity in the NZ Exclusive Economic Zone (EEZ) is now entirely a domestic small vessel (17-22 m LOA) operation.

Collaboration in the form of meetings between industry, DOC and the Ministry for Primary Industries (MPI) significantly helped scope the details of the proposed programme and its operation.

This report encompasses both the Co-ordination and Liaison Officer components of the project, Surface Longline Fleet Liaison Programme (the Programme).

## Methods and Materials

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Project objectives, rationale, implementation approach and required outputs were developed in consultation with MPI and industry, and specified in the approved DOC CSP Plan 2016-17 (Appendix 1).

### Objectives

The overall objectives have been described in the background above.

To meet these objectives and deliver the Programme to the fleet the following components were assembled.

## **Personnel**

The team consisted of Richard Wells (Co-ordination) John Cleal and Gary Levy (Liaison Officers – LOs). All have significant seabird expertise and experience in fishing vessel and fleet operational management (large and small craft) and implementation of safety and environmental risk plans on vessels across NZ, and have recognition as well as credibility in industry.

Strong operational structure in the Programme and a firm and fast approach were desired. Personnel were selected to be able to deliver on that. Two LOs were required because the geographical distribution of ports where vessels are domiciled (Greymouth in South Island to Manganui in upper North Island) meant travel costs and logistics were too much for a single LO.

## **Workplan**

The Programme envisaged and budgeted for:

- Two LOs operating in harmony but broadly in separate regions being the South Island - lower North Island (from Napier southwards) and upper North Island (from Gisborne northwards)
- Co-ordination to ensure consistency and synergy in LO efforts and approach, by having personnel all based out of Port Nelson
- Delivery of best available tori line materials
- Two vessel visits for every vessel in fleet (implementation visit and review visit)
- Up to 6 workshops for skippers to be held at various ports to improve understanding and use of tori lines and line weights
- On-call support and incident management
- Administrative outputs including reports, budget management and travel arrangements
- Communications

### *Collation of Fleet Information and Data Management*

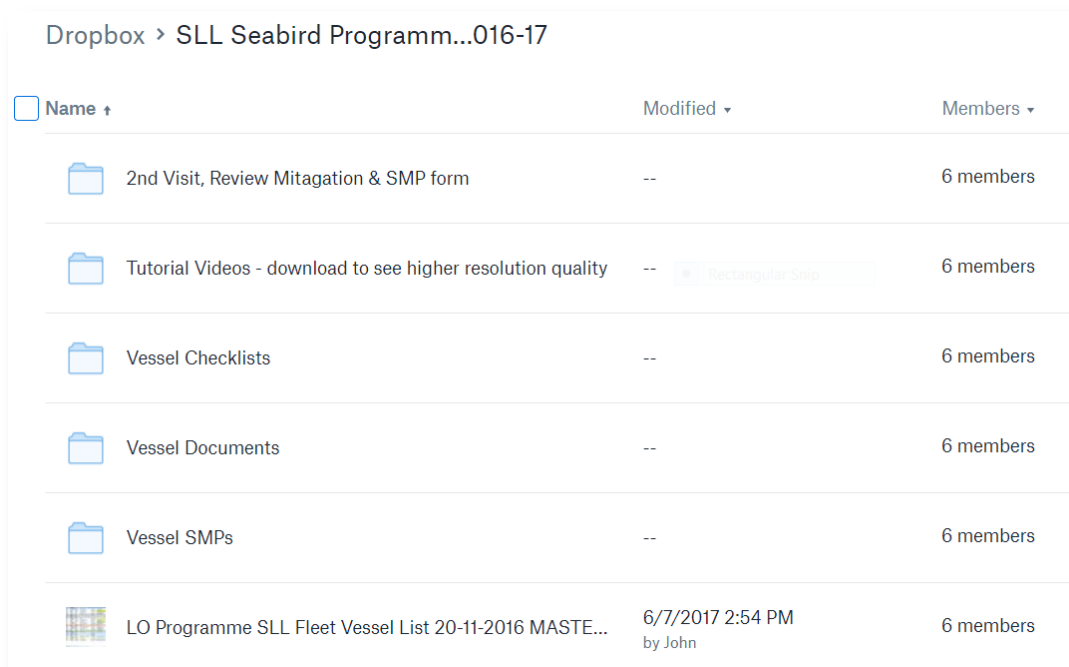
First steps were to ascertain the size of fleet and information regarding vessel owner contacts, skipper contacts, and ports of domicile.

Information was collected from industry bodies (Fisheries Inshore NZ Ltd (FINZ) and FishServe) and from Programme team knowledge and contacts.

It was recognised that there was a need for a single 'database' (in this case Excel spreadsheet) which could both be updated easily and provide confidentiality and authorised Government insight.

To this end a Dropbox account was established with the help of FINZ and FishServe. This was used to house all documentation (drafts, final PDFs, templates and completed forms etc.) as well as the spreadsheet of vessels, owner and skipper contacts, vessel visit register etc. (Programme dBase). The necessary permissions were established to allow specific DOC and MPI personnel (one person from each entity) to have access for oversight. No other persons beyond the project team and the administrator had access. This allowed collation of necessary information in a manner that did not reduce trust with the fleet.

A screenshot of the Dropbox is below:



Completed vessel reviews and risk plans (Seabird Mitigation Plans - SMPs) could be scanned and uploaded.

This process allowed LOs certainty regarding up to date information on fleet, a simple and sure way to archive completed work, and those with access for oversight to monitor progress.

Further insight and information for developing the Programme was gained from the previous year's work reported to the CSP in 2016 by Johanna Pierre and David Goad <http://www.doc.govt.nz/Documents/conservation/marine-and-coastal/marine-conservation-services/reports/mit2015-01-seabird-liaison-finalreport.pdf>

## **Communications**

### *Meetings*

Several meetings (Government and industry organised, and noting some were for a variety of purposes) were held with vessel operators and used to present the nature, extent and objectives of this Programme. This was groundwork to pave the way for good communication and co-operation at a vessel owner and skipper level (note some vessels are skippered by the owner, in some cases owners may have 1-5 vessels in their operation and have contract skippers aboard).

### *Email*

Significant effort was put into gathering a full email contact list for vessel owners. This was used to send information about the programme to all owners on a consistent basis.

Also an email address was established and promulgated to allow owners and vessels to email the Programme directly.

### *Phone contacts*

Skippers are best contacted by mobile phone. With the support of FINZ, all skipper phone numbers were loaded as Outlook contacts with the vessel name as contact. The LOs uploaded these to their phones ensuring simple ability to call the skippers of each vessel.

### *Ongoing communication with fleet and community*

Use was made of various media outlets to provide updates on the Programme through its duration.

## **Documentation**

It was clear that a suite of information was needed to ensure all vessels had the requisite information to operate to the law and to best practice, as well as to be able to document their vessel's specific operational practices (in the form of a SMP). It was also considered sensible to ensure that materials provided could be updated easily, be as clear and concise as possible (as skippers notoriously dislike reading "fine print") and any other relevant protected species information should be provided within the opportunity this Programme provided.

A dossier type system was developed in a clear file which was a compendium of documents with the most important and easily absorbed seabird risk mitigation information foremost.

Regulatory requirements were distilled into more simple guidelines and tori line prescriptions from regulations developed into both written and schematic "how to" guidelines for construction and deployment.

In these parts of the process the Programme collaborated with another DOC CSP project (MIT2015-02 <http://www.doc.govt.nz/Documents/conservation/marine-and-coastal/marine-conservation-services/reports/mit2015-02-tori-line-designs-presentation.pdf>) lead by Dave Goad. He was working specifically on tori lines and we needed both his knowledge and wanted to ensure congruent information.

Information on safe handling and release of turtles, and the latest information on sharks (as several species of these are an unwanted bycatch in surface longline fisheries) were collated.

Given that line-weighting (as required in NZ regulations for daylight setting) has safety issues, a simple guideline to Health and Safety management was also developed.

### *Tori line materials*

A major component and budget item of the Programme was delivery of best available tori line materials, as the use of poor quality tori lines was observed in previous years. We considered that often non-use of tori lines was a result of poor construction and deployment techniques leading to tangling in gear and frustration for fishermen, so a major thrust was to improve this situation.

A previous DOC CSP project had focussed on tori line material development and materials for small vessel longliners <http://www.doc.govt.nz/Documents/conservation/marine-and-coastal/marine-conservation-services/reports/mit2014-02-toriline.pdf>.

Also, Deepwater Group (via John Cleal) had previously developed dropper material for small ling longliners following the manufacture of a heavier material (Kraton) developed for deepwater trawler tori lines via another DOC CSP project <http://www.doc.govt.nz/our-work/conservation-services-programme/csp-reports/2011-12/warp-strike-mitigation-devices/>.

These meant two options for dropper material (Kraton and Beauty) were available as pictured below. These materials were to be supplied to vessels such that every vessel in the fleet had fit and proper materials for their tori lines. These materials were available from a number of NZ fishing gear suppliers and the Programme bought and stored materials strategically in ports around NZ.

Also identified was a non-rotating rope for backbone of the tori as well as flash-tape, a lightweight material used in viticulture for bird scaring and considered a useful addition between the main droppers (see Figures 1 and 2).



**Figure 1:** Kraton Aurora Pink 6mm diameter tori line dropper material (aka “the pink stuff” as supplied to vessels.



**Figure 2:** Beauty 6mm diameter tori line dropper material, flash-tape (aka “the orange stuff”) and non-rotating backbone rope (8mm braided polyethylene ski-rope) as supplied to vessels.



## Results

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### Fleet Visits

Over the term of the Programme **39 vessels** were identified as potentially involved in surface longlining for tuna species and swordfish in recent years. These were based in 14 ports from WCSI to Northland, often shifting ports when fishing.

The Programme sought to make an initial visit to every vessel in the fleet (**36** active vessels as of December 2016) and this was achieved by late February 2017. Post February **3** new entrants arrived (including two from Australian waters) and they were visited when appropriate.

During the Programme **9** of the total **39 vessels** identified advised they were not active in the fishery during the season. Most of these 9 vessels therefore did not receive a second review visit. However, all 39 vessels within the Programme were fully equipped with a SMP and associated documents and tori materials during the term of the Project, ending on June 30<sup>th</sup> 2017.

The second round of review visits commenced in late March 2017 and focussed on those vessels now known to be active in the fishery during the Project period (**30** vessels) and was completed by mid-June 2017.

**Table 1:** Number of vessels considered, identified and visited in the Programme between December 2016 and end of June 2017. Candidate vessels were found to include vessels which were tied up or had moved to different fishing methods and therefore not visited, non-active vessels were visited only once, SMPs and tori materials were delivered to all identified SLL vessels.

Candidate Vessels	Identified SLL Vessels	First Visit and SMP	Revisit and Review Form Complete	Non-active Vessels	Tori Materials Delivered
49	39	39	30	9	39

### Documentation

The following lists the contents of each vessel dossier as delivered in the first vessel visit:

- Vessel Specific Seabird Mitigation Plan (SMP)
- 10 Golden Rules for Surface Longliners to Save Seabirds
- Key Contacts for 2017 (names and contacts for key Programme and associated personnel)

- DOC CSP Programme Checklist for Small Surface Longliners
- Small Vessel Surface Longline – Seabird Operational Procedures
- SLL Tori Line Design Guide (schematic and Guiding Principles)
- Towing the Tori Line (schematic and information - JPEC)
- Turtle Handling and Safe Release and Crew Safety
- New Rules for Sharks – A Quick Guide – FINZ re NPOA Sharks
- MPI Information Factsheets 1-4 Sharks
- Small Vessel Longline Crew and Vessel Safety Guide – Line weighting, tori lines and deck lighting
- Fisheries (Seabird Mitigation Measures – Surface Longlines) Circular 2014

A final document was subsequently developed although not included in the vessel’s dossier; this was a review checklist for second vessel visits (see Appendix 2) and uploaded to the database.

Development of the suite of documents above was time consuming; significantly in ensuring that guidelines and Operational Procedures provided clarity about requirements and were in adherence with the relevant Regulations.

The new Operational Procedures, vessel SMP templates, checklists etc. were initially developed with feedback from some vessel operators and then “test-driven” on several vessels to ensure utility. This highly structured approach meant that every vessel had the same information and templates for both generic and vessel specific components of their risk mitigation documentation.

Final drafts of key documents were reviewed by DOC prior to completion.

More detail on the documents is provided below and they are available in Appendix 2:

- DOC CSP LO Programme Checklist Small Vessel Surface Longliners  
This was used by the LOs in conjunction with skippers when drafting and agreeing the vessels’ SMP. All completed checklists were uploaded to the Programme data base
- Vessel Specific Seabird Mitigation Plan (SMP)  
This is a single page risk plan which includes the vessel’s particulars and what it is using to meet the regulatory mitigation requirements, as well as additional measures it might be taking e.g. dyed bait, management of deck lights etc.
- 10 Golden Rules for Surface Longliners to Save Seabirds  
This simple one-pager lays out all they key requirements of a vessel to meet necessary standards and if adhered to should mean a vessel is achieving good practice; it is a “ready reckoner” for skippers and crew
- Small Vessel Surface Longline – Seabird Operational Procedures

This document gave vessels a comprehensive set of procedures to meet both regulations and best practice including mitigation, crew safety, seabird handling and reporting protocols

- SLL Tori Line Design Guide
- Schematic and Guiding Principles
- SLL Crew and Vessel Safety Guide
  - Guiding Principles for weights, tori lines and deck lighting
- Turtle Handling & Release and Crew Safety
- New Rules for Sharks – A Quick Guide – FINZ re NPOA Sharks
- DOC CSP LP SLL Programme; Review of SMP and Vessel Mitigation Form

Also included in the vessel dossier:

- MPI Information Factsheets 1-4 Sharks  
See here: <https://fs.fish.govt.nz/Page.aspx?pk=165&tk=556>
- Fisheries (Seabird Mitigation Measures – Surface Longlines) Circular 2014:  
[http://www.legislation.govt.nz/regulation/public/2014/0213/latest/DLM6163625.html?search=ts\\_act%40bill%40regulation%40deemedreg\\_seabird+mitigation\\_resele\\_25\\_a&p=1](http://www.legislation.govt.nz/regulation/public/2014/0213/latest/DLM6163625.html?search=ts_act%40bill%40regulation%40deemedreg_seabird+mitigation_resele_25_a&p=1)

#### *Tori line materials and deployment and other mitigation*

Materials were delivered to every vessel at each visit. Providing the best dropper materials available plus optional backbone (some vessels already had preferred backbone material) meant that everyone was on a level playing field regarding materials. It was also a good “icebreaker” commencing discussions with skippers prior to sitting down and drafting the vessel’s SMP.

The Programme delivered **17,000 m** of backbone, **7,000 m** of dropper material and **12,000 m** of flash-tape. There is further material still in stock for delivery at a later stage.

Particular focus was given to both the height of the tori attachment point on the vessel and drag objects as key parts of the process. Each vessel’s SMP noted attachment height as this is a key parameter to effective deployment, aerial extent and less tangling with the gear.

The information guidelines and discussions on vessel were used to ensure skippers understood the trade-offs between deployment height, setting speed, drag object, tori line weight and placement of droppers to get optimal aerial extent and seabird deterrence while reducing the risk of gear tangling and breaking off.

This process around tori line improvement on a “face to face” basis on vessels with information, support and materials removed the need for Fisher Workshops which were originally envisaged in the workplan.

### *Weighted lines*

Information was provided on options for weighted lines (including provision of samples of sliding weights obtained from DOC which were held over from other CSP projects).

There were approaches made by producers of line weights and their material was circulated to vessel owners for their information and consideration as and when received.

During the Programme timeline MPI introduced proposed policy changes regarding weighted lines and this had two flow-on effects:

1. Some increased uptake of line weights as standard gear (see more below)
2. The decision, (taken in discussion with DOC) to postpone Fisher Workshops until MPI policy (and subsequent regulations) were finalised. At time of writing this has not yet occurred.

### *Line weight use*

At the commencement of the programme **3** vessels were consistently using line weights (either swivel or sliding weights) at the hook end of the snood (branch-line). By the end of the project **12** vessels were using weights at hook end of the snood (as opposed to clip end) as standard practice, with the increase being in use of sliding weights. This four-fold increase meant that the active fleet went from 9% of vessels using weighting to 38%.

One vessel changed to weighted snood material (lead core) but struggled to maintain fishing efficacy with this approach and changed back to standard monofilament snood after several months.

### *Hookpod trials*

The Programme stayed in communication with Dave Goad in terms of the DOC CSP tori line and Hookpod (<http://www.hookpod.com/>) trials to ensure harmony of approach and information etc.

Two vessels were using up to 50% Hookpods on their gear within the period of the Programme. The results of these trials are reported via DOC CSP <http://www.doc.govt.nz/Documents/conservation/marine-and-coastal/marine-conservation-services/reports/mit2015-02-hookpod-trials-final-report.pdf>

## **Communications**

Three articles were published on progress of the Programme:

- DOC's Bycatch Bylines: <http://www.doc.govt.nz/pagefiles/74833/bycatch-bylines-26-march-2017.pdf>
- FINZ newsletter: <https://www.inshore.co.nz/communications/newsletter/single/item/new-programme-helping-save-seabirds/>

- MPI's Pelagic Update: [www.mpi.govt.nz/document-vault/18965](http://www.mpi.govt.nz/document-vault/18965)

### *Programme reports*

Updates were delivered to the DOC CSP Technical Group in March 2017, at the MPI Highly Migratory Species meeting in Tauranga (April 2017) and at a FINZ HMS industry stakeholder meeting in Auckland.

The DOC CSP TG was updated by presentation in March 2017:

<http://www.doc.govt.nz/Documents/conservation/marine-and-coastal/marine-conservation-services/meetings/mit2016-02-hms-fleet-seabird-risk-plan-programme2016-17.pdf>

A final presentation was made in July 2017:

<http://www.doc.govt.nz/Documents/conservation/marine-and-coastal/marine-conservation-services/reports/mit2016-02-liaison-programme-presentation.pdf>

### *Vessel Reporting*

Trigger reports of seabird capture incidents were heavily dependent on observer coverage. MPI provided excellent, useful and mostly consistent feedback through their Observer Programme when triggers, incidents or any other relevant issues were apparent.

## **Discussion and Recommendations**

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The Programme team are satisfied that the structured approach coupled with both high levels of communication and intensive vessel visits was a good approach. The team would apply the same principles in any future implementation process and would utilise the structure for any on-going liaison with this fleet.

The single repository (Excel spreadsheet "data base") for documents and fleet info was critical to achieving the Programme's goals, and measuring progress along the way as it ensured document control and allowed remote access via Dropbox.

Collaboration and communication with DOC, MPI and industry bodies and fishery leaders both prior to and during the Programme was essential in achieving its objectives.

Providing best available tori line materials not only substantially lifted the general standard of tori lines and contingency materials on-board all vessels, but also "broke the ice" in vessel visits and made the implementation of risk plans a faster and better process.

Good communication within the fleet meant the Programme was advised when new entrants were arriving into the fishery. This is usually a source of risk; new entrants are often implicated in poor performance and significant capture events. By having the fleet attuned to the Programme, we received a heads up in good time to include these vessels.

## **Room for Improvement**

A milestone not met was the Fisher Workshops; this was following discussion and agreement with DOC during the course of the Programme. As noted above it is not considered to have detracted from improved tori line knowledge and use. Use of line weights must wait in abeyance until it is clear what approach to training in their safe use is determined by those involved and future policy as set.

Unobserved vessel seabird capture reporting to the Programme was likely below par but this can only be speculative (as many vessels achieved observed trips with zero captures, it is not possible to determine any level of under-reporting) and is based on our experience in other fleets where it has taken a few years of LO contact to engender improved reporting (observed or unobserved) and for it to become standard practice.

During the compilation of Guidelines for tori lines it became apparent that for many of these vessels meeting the prescribed specifications is difficult, and in fact in parts impossible to achieve, whilst still being able to deploy an effective tori line. The current regulations for droppers over a given length of the line means that its weight becomes too great to easily maintain adequate aerial extent, and where therefore too many droppers at the end of the backbone are in the water and get fouled in the gear or may entangle seabirds.

It was found that when new skippers took up a position on a vessel, the handover of the requirements of the Programme, and introduction to the dossier of information etc. was in some cases inadequate. This highlights the recognised risk posed by new entrants, be they new vessels or new skippers on existing vessels, which can lead to communication and awareness breakdowns. The structured approach taken, increased contact with vessel owner or manager, and broader communication system will help alleviate the risk. However, in future it is necessary to have shore-side managers who are totally aware and in support of the Programme.

## **Recommendations**

The Programme should continue so that the headway made is maintained. Given that the implementation phase is complete, this can be a lesser project in resources with a different activity plan, but is of equal importance.

Future LO support should increase focus on:

- fisher reporting and feedback, as this communication loop both improves practices and reduces risk of incidents or problems escalating into major capture events
- continued maintenance of good tori lines
- ensuring shore-based staff are fully aware of the LO process and understand and support it, especially recognising the need for new or relief skippers to be inducted (by advising the LO Programme if need be)

Await MPI policy finalisation regarding weighted lines and then evaluate the need for any workshop on proper and safe use (including who should deliver and how).

Instigate a review of the prescriptive Longline Regulations with regard to tori lines (similar issues, as well as contradictions, manifest themselves in the Bottom Longline Circular) with consideration for a more enabling approach that allows for and ensures effective tori lines are used consistently. This issue was also raised in the coastal bottom longline fleet Programme: <http://www.doc.govt.nz/Documents/conservation/marine-and-coastal/marine-conservation-services/reports/mit2015-02-tori-line-designs-draft-final-report.pdf>

## Appendix 1: Excerpt from DOC CSP Plan 2016-17

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<http://www.doc.govt.nz/Documents/conservation/marine-and-coastal/marine-conservation-services/plans/csp-annual-plan-2016-17.pdf>

### 4. Mitigation Projects

NOTE: This multi-year project (MIT2015-01) was consulted on in 2014/15 and is included here for completeness.

#### 4.1 Seabird bycatch reduction (small vessel longline fisheries)

**Project code:** MIT2015-01

**Start Date:** 1 July 2015

**Completion Date:** 30 June 2017

**Guiding Objectives:** CSP Objective A; National Plan of Action – Seabirds.

#### Project Objectives

1. To provide one or more liaison officers to the inshore bottom longline and small vessel surface longline fishing fleets, with a focus on northern North Island, to assist those fleets reduce their seabird bycatch.
2. To coordinate the seabird liaison officer roles with wider efforts targeted at seabird bycatch reduction in relevant fisheries to achieve the greatest reduction in bycatch possible.

#### Rationale

To effectively reduce the risk of interactions with seabirds it is important for vessels to take the latest developments in mitigation technology and be able to adapt them to their specific operations. Translating the latest scientific research and fishing regulations into operational parameters is not always a straight forward process. To reduce that risk at a species level it is necessary for there to be consistency of application of mitigation across all fleets interacting with the species. Seabird liaison officers have formed a vital interface between skippers, government and researchers. Other projects and processes are also underway, which aim to reduce seabird bycatch, including the work of collaborative groups involving industry, Government and eNGOs, and process driven by the Ministry for Primary Industries. Coordinating liaison officers with these other processes to maximise reduction results is important.

Liaison officers were trialled in the snapper longline fleet around the Hauraki Gulf in 2013/14 and its initial positive results led to an expanded project being jointly resourced between DOC and MPI in 2014/15. This project expanded to a wider area and over a broader range of seasons, in particular to a larger portion of the Snapper longline fleet



whilst also moving into the bluenose/hapuku fleet to develop vessel specific Seabird Management Plans (SMPs) along with liaison with the domestic surface longline fleet. Based on the outcomes of two years of this work the ongoing need for the liaison role has been demonstrated to allow review, refinement and expansion of SMPs or equivalent on inshore vessels interacting with seabird species.

## **Implementation approach**

### *Liaison officers*

An adequate working understanding of seabird biology, taxonomy and behaviour assist in understanding the risk posed in each area and season. By employing liaison officers who have operational experience in fishing fleets along with an understanding of best practice mitigation and seabird characteristics it is possible to spread information over the fishing fleet in a collaborative and practical manner. These officers will also be equipped with fact sheets/resources and mitigation materials to assist in the dissemination of this knowledge.

The approach of this project will be to employ one or more liaison officers to travel to key ports before, during and immediately after high risk months in order to share information on seabird behaviour and mitigation options. Officers should actively encourage development of vessel specific mitigation practices and where appropriate vessel management plans. Liaison officers will operate closely with Observer Services to ensure mutual gains with part of the role including sea time on vessels to help understand individual vessels' operations and therefore tailor the most appropriate mitigation solutions. The officers should also operate as a conduit for communication between fishers and government by directing fishers concerns or questions to the right people.

### *Coordination*

A coordination officer will be appointed to actively liaise with all interested parties and coordinate the work of the liaison officers with other projects and processes relevant to the target fisheries. The officer will be tasked with identifying and prioritising actions that will makes the highest contribution to reducing seabird bycatch in the target fisheries.

## **Outputs**

1. Regular communication and meetings, as appropriate, with relevant agencies, industry bodies and other parties to coordinate bycatch reduction activities and report progress.
2. Monthly short form reports back to relevant advisory groups detailing progress and any developments which have come from the fleet
3. Annual written report detailing interactions with fishers and steps take to enhance mitigation.

## **Appendix 2: Selected Templates and Documents from Vessel Dossier**

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# DOC CSP LO Programme Checklist Small Vessel Surface Longliners

Vessel Name & Reg. Number \_\_\_\_\_

## Documentation

Seabird Mitigation Plan	<input type="checkbox"/>	MPI surface longline regulations (Seabirds)	<input type="checkbox"/>
Surface longline Operational Procedures	<input type="checkbox"/>	MPI Non Fish Protected Species Catch Return	<input type="checkbox"/>
Surface longline 10 Golden Rules	<input type="checkbox"/>	Information sheets sharks	<input type="checkbox"/>
Tori line Design Information	<input type="checkbox"/>	Information turtle captures	<input type="checkbox"/>

## Mitigation Equipment & Procedures - Tori lines

Fit and proper tori line \_\_\_\_\_  
Spare complete tori line \_\_\_\_\_  
Breakaway and lazy line on tori line \_\_\_\_\_  
Tori line parts \_\_\_\_\_  
Preferred streamer material and backbone \_\_\_\_\_  
Drag weight and type \_\_\_\_\_  
Attachment point height (6m+) \_\_\_\_\_  
Other \_\_\_\_\_

## Weights

Mandatory weight (type, weight and placement) \_\_\_\_\_  
Other weight on gear (e.g. clip weights) \_\_\_\_\_  
Other (night set if not weighting) \_\_\_\_\_

## Offal and Used Bait Control & Management

System (batching) and container to hold offal before discharge \_\_\_\_\_  
System and container to hold used bait before discharge \_\_\_\_\_  
Bait dye and mixing container \_\_\_\_\_  
Bait thaw system \_\_\_\_\_  
Other \_\_\_\_\_

## Setting and hauling equipment

Line setter \_\_\_\_\_  
Hauling mitigation system (describe) \_\_\_\_\_  
Other \_\_\_\_\_

## Lighting

Spotlight managed \_\_\_\_\_  
Decklights managed \_\_\_\_\_

## Reporting - Communication systems

SLL email installed in Sat-C	<a href="mailto:sllinfo@inshore.co.nz">sllinfo@inshore.co.nz</a>	<input type="checkbox"/>
LO phone numbers on Vessel phone	J Cleal 021 305 825 G Levy 0275 390 399	<input type="checkbox"/>

Vessel briefed to:

- Record all seabird captures in the MPI - Non fish Protected Species Catch Return (NFPSCR) logbook and furnish to MPI and
- Advise LOs within 24hrs when seabird captures reach 'Trigger-Point' levels

## Comments

Checked by \_\_\_\_\_

Date \_\_\_\_\_

Registration Number \_\_\_\_\_

Port \_\_\_\_\_

Operator \_\_\_\_\_

### Purpose of this SMP

The SMP documents the required and agreed procedures and actions to be followed by this vessel to reduce risk to seabirds. Skipper and crew must also read and understand the SLL Operational Procedures provided.

### Regulated measures for seabird risk reduction

Seabird risk reduction measures required by law apply to the surface longline fishery. A copy of these measures is on board. All seabird captures must be reported using the capture of protected species box on the Lining Trip Catch Effort Return, and the Non-Fish Protected Species Catch Return.

### This vessel's measures used to manage seabird capture risk

As required by Law	In use?	What, When, Where or How
Weighting		
Standard tori line		
Spare tori line and parts		
Attachment height		
Night setting		
Reporting (NFPSC return)		
Other Best Practice		
Use of thawed bait		
Use of blue dyed bait		
Use of mitigation device used at the haul		
Managed discharge of offal and bait		
Use of line shooter		
Managed deck & spot lights		

### Seabird handling and reporting

The skipper and crew have read the SLL Operating Procedures and understand safe and correct seabird handling techniques and reporting required to MPI and Liaison Programme triggers

### Contacts

For any questions about this SMP, mitigation, and seabirds contact the Programme Seabird Liaison Officers:

John Cleal Ph: **021 305 825**Gary Levy Ph: **0275 390 399**or email [sllinfo@inshore.co.nz](mailto:sllinfo@inshore.co.nz)

Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

## 10 Golden Rules for Surface Longliners to Save Seabirds

1. Ensure your vessel has a Seabird Risk Plan, Operating Procedures and the current surface longline seabird Regulations
2. Ensure your tori line meets the legal standard and is always deployed when fishing (day & night)
3. Tori line is a minimum of 100m long, well-constructed & when deployed has minimum of 75m aerial extent, that area is fitted with *durable brightly coloured streamers spaced at 5m intervals*
4. Tori must be attached at least 6m above the vessel's waterline and have drag weight to achieve aerial extent
5. Set tori with weak link breakaway and retrieval line plus carry a spare tori and ample spare parts on board
6. Know the line weighting legal standards - use weight of 60g within 3.5m of hook or 40g within 50cm of hook
7. If not line weighting set only at night (i.e. only set between nautical dusk and dawn)
8. Manage the discharge of offal, fish waste, and used bait so as not to attract birds while setting and hauling
9. Report seabird trigger level captures to Liaison Officer [sll@inshore.co.nz](mailto:sll@inshore.co.nz) (see your Operating Procedures):
  - 3 big (e.g. albatross/mollymawk) or 5 small (e.g. petrel/shearwater) birds - dead in 24 hr period or
  - 10 birds of any type, dead or released alive, in a 7 day period
10. Record all seabird captures as legally required in the MPI - Non fish Protected Species Catch Return (NFPSCR) logbook and furnish to MPI

*For more advice phone John Cleal 021 305 825 or Gary Levy 0275 390 399*



# Small Vessel Surface Longline

## Seabird Operational Procedures

*November 2016*

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*Disclaimer: This document has been produced to serve as a guide to the MPI Fisheries Regulations for Bottom Longlining for use by industry. This is not intended to be used as a substitute to any statutory, regulatory and/or non-regulatory requirements for bottom longline and deepwater fishing. Before acting in reliance, either wholly or partially, on any information contained in this document, readers should seek advice as to how current legislation, rules and regulations may affect their interests. It is the duty of the operator to know and understand the current Regulations that apply.*

## **Part 1: Introduction**

These Operational Procedures (OPs) set out the management measures required by the Ministry for Primary Industries (MPI) by law (the mandatory measures) as well as additional best practice measures and reporting requirements. This regime is implemented and administered by the DOC CSP Surface Longline Liaison Officer (LO) Programme (2016).

### **Purpose and Rationale of these Procedures**

These OPs have been established so that seabird risk reduction measures are documented and able to be understood by vessel owners, skippers and crew.

The observed and estimated capture rates of seabirds from the small vessel surface longline (SLL) fisheries are sufficient to require a structured risk management approach.

The factors that can increase the risk of incidental captures by SLL are:

- Attraction to setting (and hauling) baits
- Inadequate tori line coverage over setting hooks
- Slow sink rate of hook and bait allowing birds time to reach sinking baits
- Offal and used-baits around vessel while setting and hauling
- Day fishing or night fishing with clear skies and full moon when birds can see bait more easily
- Fishing areas and seasons that are well known for high numbers of, and hungry, seabirds.

### **Objectives of these Procedures**

The objectives of these OPs are to ensure that:

- Risk of seabird mortalities is mitigated by reducing the risk of captures
- This vessel has robust, documented and easy-to-follow seabird mitigation procedures in place that meet all mandatory, as well as other best practice measures
- Mandatory measures are understood and adhered to
- The vessel crew is actively involved in seabird mitigation measures and improvement through ongoing observation, information gathering and action.

### **Status of these Procedures**

This OP came into effect in 2016 and remains so.

### **Application of these Procedures**

These OPs apply to:

- All surface longline vessels less than 35 m length overall.

### **Other Key Operational Documents or Rules & Regulations**

These OPs are to be used alongside or with (but do not replace or override) the following:

- MPI Fisheries (Seabird Mitigation Measures) Regulations for Surface Longlining (Circular 2014)
- Vessel specified Seabird Risk Plans (SMPs)
- Any vessel safety plans or operating procedures
- All or any relevant laws and regulations pertaining to fisheries activities in New Zealand waters.

### **National Plan of Action-Seabirds (NPOA-Seabirds)**

The NPOA-Seabirds is of particular relevance to these OPs. The NPOA was established as part of New Zealand's obligations under the Agreement on the Conservation of Albatross and Petrels (ACAP), and is



linked to UN and FAO processes and guidelines. It sets out objectives for the next five years to guide the management of risk to seabirds in New Zealand fisheries.

The Level 2 Risk Assessment (L2RA) 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' is estimated for each seabird species (i.e. the ratio between the estimated annual potential fatalities due to fisheries and the number that the population can withstand to sustain or grow its population). The risk ratios are assessed on a fishery-by-fishery basis where data is sufficient to allow this. A key part of the NPOA is the objective to move seabird species to a lower risk category within the five-year period.

Currently, several species, e.g. black petrel, flesh footed shearwater, wandering albatross (Antipodean and Gibson's) as well as white-capped, southern and northern Buller's albatross) caught by SLL are assessed to be in a risk category (high or very high) that needs an immediate reduction in captures. There are other species with significant observed captures in this fishery. Captures occur in all areas often fished by the fleet.

## **Part 2: Responsibilities of Parties**

The following outlines the responsibilities of parties to the Small Vessel Surface Longline Operational Procedures.

### **Commitment to these Procedures**

All vessel owners or operators of vessels in these surface longline fisheries are required to adhere to these OPs.

### **Vessel Owner and Operator Responsibilities**

All vessel owners and operators must:

- Ensure that officers and crews of all surface longline vessels targeting tunas and swordfish are aware of and act in accordance with the requirements of these OPs – including ensuring:
  - Fishing operations are meeting mandatory requirements and best practice standards
  - Key crew are briefed on the SLL Operational Procedures and fully understand the actions required
  - Key crew are aware of seabird activity around the vessel, assess the risks and take action to minimise these risks
  - Vessel is either night fishing or has gear set up with weights to maintain line weighting to mandatory requirements
  - Vessel is supplied with a tori line, plus spare and sufficient parts to maintain and repair in event of loss or damage
  - Mitigation devices are deployed and adjusted to best suit weather, fishing gear and operations, as well as offal and bait waste discharge to minimise risk
  - Have a copy of "The 10 Golden Rules for SLL Vessels" on the bridge
  - Correct reporting (MPI and LO Programme) and that trigger reports are sent to LOs in real time
  - Communication with Liaison Officer as required for information or support
  - Any required corrective action is undertaken
  - Crew meet responsibilities below.

## Vessel Crew Responsibilities

All vessel crews must:

- Ensure all fishing practices and mitigation meet mandatory requirements
- Fish at night or line weight to mandatory standards
- Control offal and used baits to ensure no discharge of offal and fish waste occurs when setting and that offal, fish and fish waste is discharged in batches on the opposite side from the hauling station during hauling
- Hold used baits and batch discharge ensuring no continuous or ad hoc discharge of offal and fish waste occurs when fishing
- Carry and deploy a vessel-specific tori line that meets the required standards and spare parts to rebuild/replace if damaged or lost
- Tori lines are deployed and adjusted to best suit weather, fishing gear and operations and fish waste discharge conditions to minimise risk
- Handle captured seabirds safely and carefully, returning all seabirds to the sea (unless requested otherwise by MPI observer) as per best practice
- Report seabird triggers to Liaison Programme (LO) and report captures in MPI NFPSCR.

## Liaison Officers' Responsibilities

- The Programme Liaison Officer will review each vessel's adherence to these OPs during any vessel visit

## Part 3: Risks Associated with the SLL Fisheries

Seabirds 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:**

### 1. **Food attractant: offal, waste, bait discards, fish on the hauling line**

- The more food the more birds around the vessel increasing the risk of captures.

### 2. **Fishing area and calendar period: increased seabird numbers and aggressive feeding**

- During periods of higher bird numbers (e.g. breeding season, migration or full moon periods) the feeding behaviour becomes more aggressive increasing the risk of captures.

### 3. **Baited hooks during line 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 driven by poor line sink rate
- Risk is also increased if the tori line is poorly designed or deployed and does not provide adequate cover over the gear when setting.

Managing risks associated with these three factors at a vessel level will reduce the incidental capture of seabirds.

**Table 1 Main Seabird Species at Risk from SLL Fisheries**

<b>Seabird Species</b>	<b>Main Risk Area</b>
Wandering albatross (Gibson's and Antipodean)	Kermadec, East Coast North Island
Black petrel	Kermadec and FMA1
Flesh footed shearwater	Kermadec and FMA1
Northern Buller's albatross	East Coast North Island
Southern Buller's and whitecapped albatross	West coast South Island
White chinned petrel	All areas

## **Part 4: Mandatory MPI Seabird Mitigation Requirements**

### **Summary**

MPI has implemented regulatory requirements for seabird risk mitigation. These standards are required to be met as described by the regulations. DWG provides guidance below on best practice to meet and implement these requirements on your vessel and has also produced a [summary guide of the Regulations – MPI Fisheries \(Seabird Mitigation Measures-Surface Longlines Circular 2014\)](#). You should also have a full copy of the Regulations on board and understand them.

**Tori (streamer) lines:** Tori lines must be deployed day and night during setting and meet design specifications.

**Night setting:** SLL vessels must set only at night unless line weighting is employed.

**Line weighting:** Line weighting is required for day setting.

### **Tori Lines (also see Regulations where tori lines are described as streamer lines)**

Tori lines are regarded as one of the most effective mitigation measures. All vessels must deploy a tori line during setting.

The tori line must also meet the following minimum specifications:

- The tori line must achieve a minimum aerial extent of **75m**
- It must be attached at a point no less than **6m** above the waterline
- The streamers must be brightly coloured, be spaced a maximum of 5m apart, and extend along the aerial extent of the line.
- Streamers must reach down close to the sea surface for the first 55m after which shorter lengths can be fitted to the required 75m of aerial extent
- If the tori line is less than **150m** in overall length it must have a drag object to maintain tension for arial extent.

### **Best practice for tori lines**

Achieve at least **75m** of aerial extent using a three part system (see also design guide): Vessel attachment; placed as high as possible and recommended at least **7-8m** above waterline. Depending on the position the gear is shot away from crew need to be able to adjust or move the tori line or use a bridle to place tori in best spot relative to fishing gear and weather conditions:

- A breakaway system fitted so tori line will break free before fishing gear breaks or tangles
  - A proper pole or attachment point is essential.
1. Streamer aerial section; backbone of the tori line with minimum of 10-12 sets of streamers spaced at **5m** intervals:
    - Depending on height (off water) of each streamer line, reduce length of each streamer by approximately 50cm going down the backbone
    - Once deployed (without the setting gear) the first time, trim streamers to stay just above the water to reduce drag, tangling gear and birds (i.e. so streamers are in the air not in the water).
  2. Drag section; can be either a float(s) or rope or mono. Must have drag object fitted if total length of the tori line is less than **150m** (from vessel stern to end of the drag):
  3. Tangling; if tori lines are not deployed or adjusted correctly they often tangle with setting gear. To reduce this problem 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
    - 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 can regain the vessel end of the tori line and retrieve it.

### **Mandatory Line Weighting Measures (also see Regulations)**

Note: Line weighting can lead to risk of accident or injury, fishing practices need to be assessed, risks identified and procedures both documented and implemented to manage these risks

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

- 1 weight 40g or more within 0.5m of the hook; OR
- 1 or more weights of 45g or more 1m from hook; OR
- 1 or more weights of 60g or more 3.5m from hook; OR
- 1 or more weights of 98g or more 4m from hook.

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

- night setting is a recommended practice as the visibility of the bait is reduced.
- Add additional 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
- Using line setters or slowing vessel's setting speed will reduce tension on the setting line and increase sink rate.

### **Best practice for fish offal control**

- Offal should be held (e.g. in bins) 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 Practice for Bait**

- When hauling, used bait must be held (e.g. in bins) and discharged after hauling has ceased.

### **World's Best Practice**

#### ***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 on full moon)
- Slower setting speeds, weights and line setters all help the main line sink more quickly (0.3m/s is best practice)
- Mainline diameter and material as well as the distance between weights and numbers of floats used all can affect the sink rate
- Getting gear deeper than **5-10m** less than **70m** astern makes tori lines work and far less able to tangle.

## **Part 5: Additional Mitigation Measures**

### **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 may be fitted around the hauling station on larger vessels
  - Used bait and all fish waste should be held for as 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 thawed bait
- 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.

### **Dyeing of Bait**

- Bait that is dyed blue reduces its visibility but does not affect its fishing
- This can help at times of particularly high risk as noted below.

### **Vessel Lighting**

- Bright spotlights shining back over the stern well behind the vessel onto the hook setting line attract birds. These should be either turned off, replaced with lower output light output or directed from shining directly on the setting longline
- Deck lighting around stern and deck area should be dimmed or shrouded during night time setting (while maintaining required safety standards for crew). Headlamps for crew can aid their workspace lighting.

## High Risk Periods

- *Full moon:*
  - During full moon periods seabirds can enter a feeding frenzy leading to very high capture rates
  - Mitigation options include:
    - Increasing line sink rate (e.g. slow setting speed, add weight and/or remove floats)
    - Adding another tori line
    - Moving from the area
    - Set deeper
    - Dye bait
- *Multiple captures while setting the gear:*
  - Take immediate action to reduce the risk of multiple captures re-occurring (see above)
  - Contact vessel manager and/or Liaison Programme for advice and report seabird triggers (as required below in Part 8).

## Part 6: Seabird Handling & Release and Crew Safety

### Release Alive

Every care should be taken to release seabirds (and any other incidental catch) alive. Reduce stress and handle with care to minimise any further harm or injury to the animal to increase survivability when returned to the sea.

### Bird Release

- Keep the bird calm by covering the head with a cloth. Use two crew; one (Crew 1) to support the bird, while the other (Crew 2) frees the gear from the bird. Use gloves and eye protection (beware large birds can inflict a nasty bite)
- Equipment: using line cutter, bolt-cutter, pliers, long handle net
- Reduce drag on bird, pull boat out of gear, bring bird onboard by hand or with long handle net
- Covering birds eyes or head with cloth, this helps keep it calm
- Crew 1: secure bird hold wings gently but firmly to the birds body. Support head, neck etc
- Crew 2: isolate tangled gear and or hook, work on removal of gear/hook.

### Hook Swallowed

- Do not pull or place pressure on the line/hook
- Crew 2: Cut the line as close as possible to the swallowed hook, leaving the hook untouched in place.

### Hook through body part

- Crew 2: Trim off any line, cut or flatten off the barbs from the hook and reverse the hook out, or
- Use bolt-cutters, cut the hook in two and thread out.

### Gear Tangled

- Crew 2: Remove line, cut away gear, locate hook ensure hook free from bird, all gear free from bird.

## Return to sea

If the bird is waterlogged, put it in a safe space, e.g. an empty fish crate, box, or an open, safe area on deck let the bird dry out when the bird is dry or active again ease the bird back into the water as close to the water surface as possible.

Release bird carefully; don't throw seabird into air, place back on the water-surface.

**Report capture to skipper.**

## Part 7: MPI Mandatory Reporting

It is not illegal to accidentally capture protected species while commercially fishing, but it is illegal to fail to report the capture. It is important that all captures and mortalities are reported. All protected species landed dead or alive (then returned to sea) must be recorded in the **Non-Fish Protected Species Catch Return** form (NFPSCR) and then furnished to MPI as required under the Regulations.

### NFPSCR Codes

- Use the **XAL (unidentified albatross/mollymawk)** and **XXP (unidentified petrels & shearwaters)** species codes
- Record any leg band numbers on the form.

## Part 8: Reporting - Triggers

Trigger limits are the SLL Programme real-time reporting system. Once a trigger is reached, it requires the skipper to communicate with the Liaison Programme, both LO and skipper to monitor the situation closely and whenever appropriate the vessel crew to take corrective actions.

### SLL Programme Triggers & Requirements

If any of the following capture scenarios are triggered you must report to LO Programme:

In **any 24 hour period** you capture and bring on board, **dead**:

- **3** or more large seabirds (albatross and mollymawks)
- **5** or more small seabirds (petrels and shearwaters)

OR in any **7 day period** you capture, **dead or alive**:

- **10** or more seabirds (of any type or species of seabirds)

You must notify the Liaison Programme within 12 hours of trigger breaches so that any necessary corrective actions can be discussed and if need be carried out.

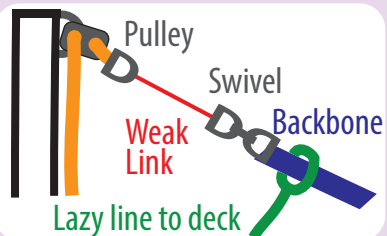
Email all trigger reports to [sllinfo@inshore.co.nz](mailto:sllinfo@inshore.co.nz) or call (see list below).

**Table 2 DWG 24-hour Contacts**

Contact Person	Phone	Email
John Cleal	021 305 825	john.fvms@xtra.co.nz
Gary Levy	0275 390 399	g.levy@xtra.co.nz
Richard Wells	021 457 123	richard@resourcewise.co.nz

# SLL Tori Line Design Guide (Vessels Less Than 35m)

## Vessel Attachment

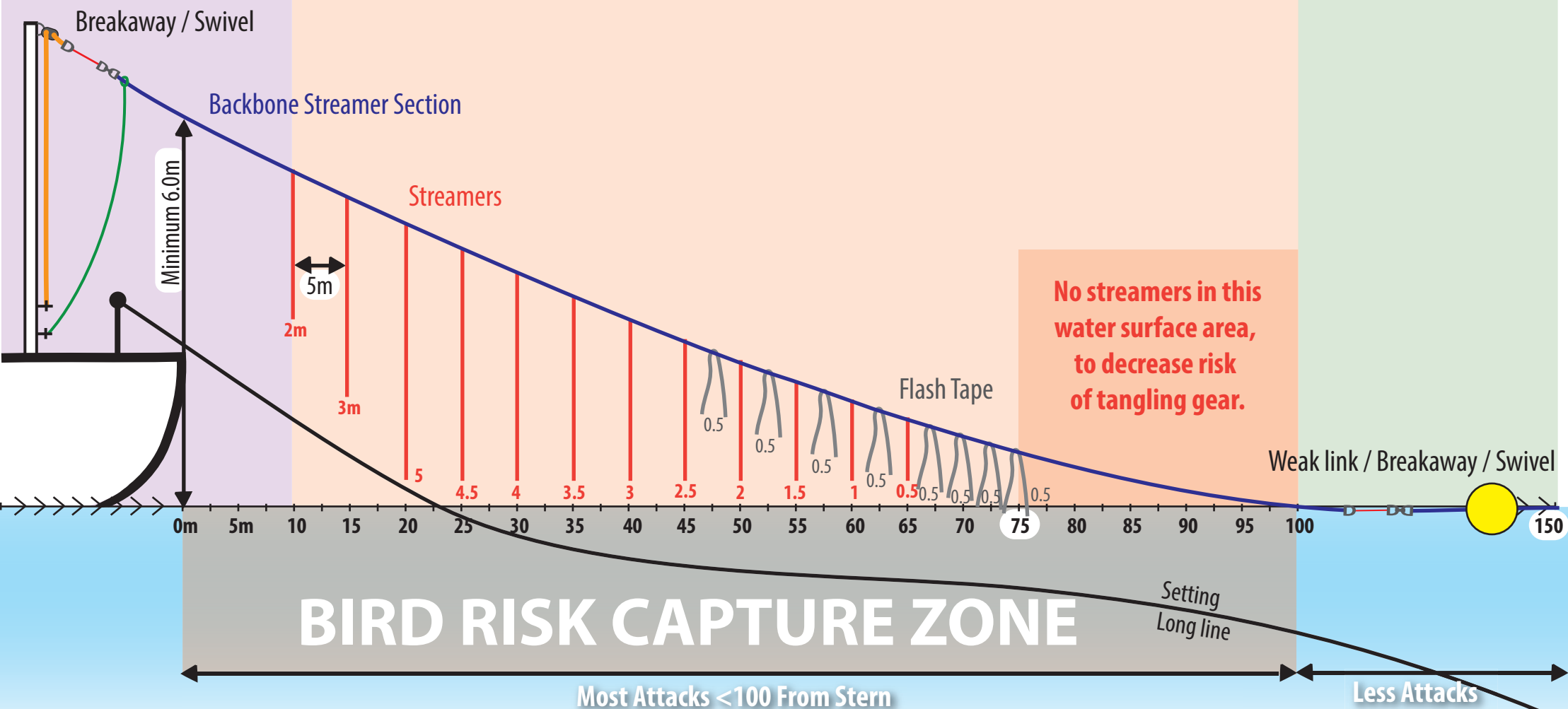


## Streamer Aerial Section

Achieving at least 75m of aerial coverage/extent to protect/ limit bird access to baited hooks.  
Backbone should be at least 80 to 100m in length (not including drag section).  
10 to 12 Drops of brightly coloured streamers fitted at no more than 5m intervals.  
Flash-tape fitted between streamers in the last third of the aerial section tape.  
Last drops use flash-tape as this end is (in/out) of the water often wont tangle with gear.

## Drag Section

If tori line is less than 150m must have drag object fitted.  
Needs enough drag to maintain 75m of aerial extent.





# Tori Line Design and Build – Guiding Principles

Tori lines (streamer-lines): must be used at all times when setting fishing gear and achieve a minimum of 75m aerial extent. Your vessel needs tori lines that are: well built, easy to deploy, easy to retrieve (even after a tangle or break) and have backups ready to go. It is important to maintain the tori line just like you would the fishing gear. Use the tori line design guide (over-page) as a starting-point to construct something that works for your vessel design and fishing.

## Three main Sections: (1) Vessel attachment, (2) Aerial and streamer section (3) Drag section

### Vessel attachment - *many boats don't fit the tori high enough!*

- Height: fit the tori line as high as possible ideally 8 to 10m+ above waterline, (for every 1m extra height, you'll achieve 8 to 10m more aerial extent)
- Adjustable: be able to adjust/move the tori line or use a bridle etc. to shift it depending on conditions
- Weak Link: Make a breakaway system (fit a weak link) so the tori line will break-free before lots of tension comes on the tori line and the drum overruns or the pole breaks. Use a lazy line back to deck so you regain control of the vessel end of the tori line (and either clip it on to the longline or cut it away).

### Aerial streamer section: -*most vessels do achieve enough aerial distance!*

**Backbone:** Plenty of material options for the backbone/ aerial section. Choose a material that is:

- Light weight durable material; Braided line twists less (same for the drag material).
- Depends if you want lighter weight or heavy more robust gear. (The more weight and wind-age the more drag you need). Some vessels use dyneema (3 or 4mm) or mono backbone and tie/clip on streamers, others use larger diameter 8mm braid and thread streamers into the rope
- Streamer section: minimum of 10 sets of brightly coloured streamer tubing spaced at 5m intervals. Fit a few shorter drops of any type of 'flash-tape' at the seaward end
- Streamers: The first few streamers need to be shorter to reduce risk of tangling with the gear. Same too for the last few drops, switch to a light weight cheaper 'flash tape' (less likely to hook-up your gear or just rips out, so it doesn't matter if it's in the water at times)
- Streamer Lengths: As per the design-guide (over page) it's dependent on the height you've attached line to the vessel. Do a test deployment and trim each streamer to suit height and keep them clear of the water (i.e. **keep all streamers in the air not in the water**)
- The last 20m or so of this section is in/out of the water, don't fit any streamers to reduce hook-ups with gear

### Drag Section - *most boats don't have enough drag, without that can't achieve the required aerial extent!*

- Drag object: this is fitted to aerial streamer section, often with a separate breakaway (weak link) and a swivel to reduce twisting, braid/mono material twists less for the drag section
- A float will produce increased drag (less rope to pull in for the crew) but will tangle more often; other wise use long lengths of mono or rope, but it's going to take hundreds metres (depending on diameter) but is less likely to snag on your gear.(often a combination of both object and line is used).
- Options trialled and shown to achieve 75m aerial extent from 6m height attachment include: 150m of 5.5mm mono, 300m of 2mm mono, 200m of 8mm rope, 30m of 12mm rope with 6" float, or 6" float partly filled with water.

## Small Vessel Surface Longline Crew and Vessel Safety Guide

### Line Weighting, tori lines and deck lighting

**Background:** There are methods and equipment used to reduce the risk of seabird captures. The information below is to be used as a guide to risk management for vessels and crew handling fishing gear using branch line weighting and deploying tori lines. It also considers issues with managing deck lighting; these methods have recognised hazards components. Vessel operators should have written safe operating procedures and crew training information covering all safety issues onboard including in relation to their seabird mitigation practices. Parts of this information below should be discussed with crew and included in the vessel owner's hazard Identification process. The creation of a vessel safety operating procedure should be considered also.

#### **Past Safety Issues (lead swivels)**

Line weighting snoods to reduce gear tangling and increase sink rate of snood and baited hook to reduce the risk of seabird captures has been carried out for many years. A fatality and several major injuries from recoiling weights on larger vessels in the mid-late 1990s occurred.

MNZ investigations found the following often contributing to incidents:

- *inexperienced crew with little or no training*
- *excessive force when the hauling gear created high-tension recoil (vessel speed and/or using winch)*
- *crew hauling from vessel with high bulwarks so the angle of the snood lead-weight recoil was travelling towards the crew's upper body*
- *lack of personal protective equipment*
- *poor communications, between skipper, winch operator and crew*

#### **Hazards associated with line weighting near the hook**

During a bite off or hook release when line is under tension the weight becomes a bullet-like projectile recoiling with significant speed and force towards the vessel. It is the stretch-energy within the monofilament line, coupled with high pulling force and vessel speed which results in the recoil speed and hence weight energy.

**Lead swivels:** A lead swivel released with 100kg of tension could recoil at speeds upto 200+km/h not allowing sufficient time for crew to react. Reducing the tension applied to the snood will reduce the risk of harm. The first point of impact is often in the proximity of the person or device (hauler) that is applying the tension to the snood.

#### **Sliding leads** (Lumo/Glo-leads, double lead branch-lines etc)

Sliding leads are a line-weighting device designed to improve safety by reducing the recoil force during a 'bite-off' by allowing the weight to either slide off the snood or move in opposite direction down the snood thus reducing the force and possible impact of the weight back to the vessel. While sliding-leads have proven to reduce recoil impacts (when compared to weighted swivels) they should however not be considered 'safe' and safety measures should be in place to reduce the risk of serious harm injury to crew.

**Risk mitigation options:** Look to replace some or the entire snood, mono with another material which won't have the re-coil properties of mono, lead weights will have greatly reduced pressures during fly-back situations. Other option is a short weighted section, of line use several smaller leads spread over 1 or 2mtr, or combine with a section of lead core braid etc.

**Identify hazards** associated with seabird mitigation devices and procedures, list what equipment and procedures can be used to reduce the risk of accident and or injury. Add these hazards to the vessel's hazard register as per MOSS requirements. Ensure controls are in place and all crew understand these and are briefed as to the hazards and any safe operational procedures you develop. We have listed some of these hazards and risks and ideas and how to minimise them as a guide to get you started.

### **Safety Guide: Line weighted Mono snoods** (*All weight types placed near hook mono*)

Reducing the force or tension applied to the snood will reduce the risk of harm, keeping recoil trajectory away from the person's head and upper body. Ensure when using sliding leads you follow the manufactures recommendations.

- Crew on deck are immediately made aware when a large fish/shark is on the line, use a fighting line to play large fish, only experienced/trained crew should handle this line
- The vessel speed should be reduced to a safe-speed to reduce the force on the snood
- Hand landing of fish is recommended or set hydraulic haulers to low-pressure settings (i.e. no more tension than a person could apply)
- Locate lead blocks or pull the snood from a position to lower the impact zone (generally the lead with recoil to position of the applied force, i.e. don't pull from head height)
- Crimps fitted too tightly or general wear and tear on snoods can often result in mono breaking well within its 200kg expected breaking load
- Use the correct Personal Protective Equipment (PPE). Either use head protection or have area where you can haul/stand that's protected/shielded to isolate crew from recoiling weighted snood

### **Safety Guide: Tori line**

**Background**, tori line safety incidents can occur when crew are deploying and or retrieving the device. A tangled tori line can require a lot of force to retrieve. Deployment is most often carried out from the stern and or from an elevated position, potentially placing the crew at risk from a fall from height and or a fall overboard.

- When deploying tori line crew should be under the watch (visual sight) of skipper or other crew
- If tori line is fitted to a high gantry or pole, etc use a lazy-line from deck level to deploy
- Ensure tori line backbone, streamers and drag object are properly stowed (bin, drum or reel etc) to reduce tangling during deployment and reduce risk of crew tripping and falling
- Around 10kg of drag is required to maintain 75m of the streamer section in the air, reduce vessels speed to a safe level for deployment and more so for retrieval to reduce the effort and force placed on the crew
- Tori lines are prone to tangle with the setting hook line, ensure there is system/procedures in place so when the tori line breaks free crew can maintain safe-control of the breakaway and have another spare ready to deploy.

### **Safety Guide; Deck lighting**

**Background**, Reduced light emission on the stern deck and from spotlights astern reduces the risk of bird captures.

- Ensure general deck lighting is maintained for safe working on deck when shrouding, redirecting or turning off any lights which are attracting seabirds

# Turtle Handling & Release and Crew Safety

## **To reduce risk:**

- Large circle hooks (18/0) and setting deeper (below 40m) helps to avoid interactions with turtles.

## **General Pointers**

Do not land turtles on board if there is the possibility this will cause further injury and stress. Hauling animals to the deck using the line may result in increased tissue damage by the hook, possibly piercing the oesophagus or stomach or pulling organs from connective tissue and killing the animal.

Where practical use the DOC supplied line cutters to cut as much line as possible off an entangled animal or de-hooking device to remove hooks from internally (e.g. throat hooked) or externally (flipper) hooked animals.

Where practical (small turtles) use dip-nets (long enough to reach the animal from the fish door) to retrieve small animals that require further treatment. For animals that can be brought aboard, land them gently to avoid damage.

## **If a turtle is caught by being hooked or entangled in your longline:**

- If a turtle is noticed on the line, slow down to reduce trauma to the animal.
- If the turtle is too large to bring on board, bring it as close to the boat as possible without putting strain on the line – then cut the line as close to the turtle as possible. Don't jump in the water to untangle the line.
- Turtles may appear lifeless but are not necessarily dead – they may just need time on board to recover.
- If the turtle is small – use the supplied dip net to lift on board the boat. Make sure you don't use a gaff or pull on the line, or grasp the eye sockets of the turtle.
- Gently place a piece of round wood (a broom handle) in the turtle's mouth so that it cannot bite you – bites can be nasty.
- If the hook's barb is visible use bolt cutters to cut off the point. Then remove the two parts of the hook separately.
- If the hook is not visible remove as much line as possible without pulling too hard. Then cut the line close to the turtle.
- If the turtle is active then you can carefully release it after noting and recording any tag numbers
- If the turtle is not active then it may have water in its lungs. Raise the rear flippers by 20cm while it is recovering.
- Place the turtle in a shaded location on the boat. Cover the turtle's body with wet towels, avoiding the nostrils. Spray the towels with salt water, again avoiding the face.
- Keep the turtle on board for at least 4 hours. Assess its recovery – it can be released when it is lively again – this can take up to 24 hours.
- Carefully return the turtle to the water when it has recovered. Release it headfirst while the boat is stopped and the propeller stopped.
- Ensure the turtle is well clear of the boat before making way again.
- Report the turtle capture in MPI Non-Fish & Protected Species Catch Return

## **DOC Turtle Kits:**

- Information DVD's (Cross the Line turtle Handling & Hook out and Cut line dehooker & linecutter
- A short handled de-hooker (40m approx)
- A long handled dehooker (up to 3m in two 1.5m sections)

- A long handled line cutter (up to 3m in two 1.5m sections)
- A large dip net about 75cm diameter ( handle up to 3m in two 1.5m sections)




**Turtle ID and Codes; Green turtle – GNT Loggerhead Turtle – LHT Leatherback turtle - LBT**

MARINE REPTILES


**TURTLES:**

**TLE**

- **Green turtles (GNT)** are up to 1.5 m in length, and weigh up to 200 kg. They have a hard shell of bony scutes (plates), olive green to brown in colour.
- **Loggerhead turtles (LHT)** are around 1 m in length and reddish-brown to orange-brown in colour. They can be up to 100 kg in weight.



Green turtle




Loggerhead turtle

MARINE REPTILES

**TURTLES:**

**TLE**

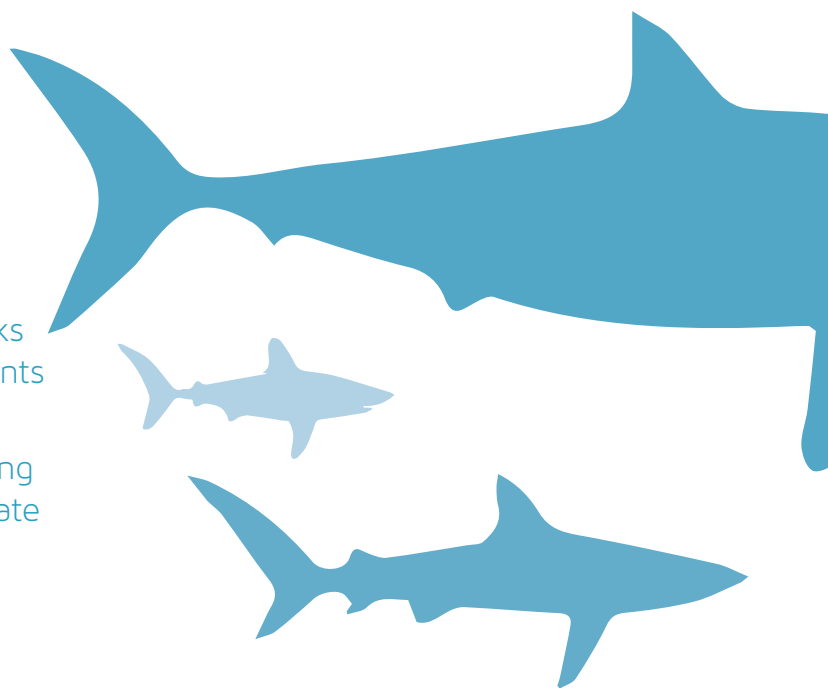
- **Leatherback turtles (LBT)** are up to 2.7 m in length and weigh up to 900 kg. They have 3 prominent ridges running the length of the shell instead of plates. They are dark green to grey in colour with small patches of lighter colour over the body.



Leatherback turtle

# NEW RULES FOR SHARKS

## A QUICK GUIDE



A review of the National Plan of Action-Sharks has led to some major changes to requirements to be met by commercial fishermen.

The key points to be considered when catching or processing sharks are set out here and relate to the four factsheets produced by MPI.

- Protected sharks – you need to know these species, return them to the sea without any processing and report in your NFPSCR (**MPI factsheet #1**)
- Removal of shark fins from any QMS or non QMS species of shark without the landing of the trunk (finning) is now prohibited by law (**MPI factsheet #1**)
- You are not required to land fins unless you wish to but you may not land any fins without the associated trunk
- Use of the reporting code FIN (and the less used FIW and FID codes) is no longer allowed, fins will always be a by-product of the trunk
- If you wish to land fins, the rules and reporting codes allowing this differ by species and you must remember which rules apply to which species
- For blue sharks (BWS) fins can be removed but must be “re-attached” with string, cable tie or similar (**MPI factsheet #2**) and these must be weighed together at the LFR
- For spiny dogs (SPD) and all non QMS sharks the fins must remain totally or partially attached by skin to the trunk (**MPI factsheet #2**)
- For the remainder of the QMS sharks a ratio of expected weight of trunks for a certain weight of landed fins is used (**MPI factsheet #3**)
- All fins must be stored in separate bins by species
- It is always OK to have less weight of fins than the ratio allows but never more
- There are new rules allowing return of QMS sharks to the sea (There are now 6 shark species on Schedule 6: SPO, SPD, POS, BWS, MAK, SCH) and for some species, if they are alive, they do not need to be balanced against ACE. Check out **MPI factsheet#4**.
- If you catch sharks we suggest that you always have on board:
  - NPOA –Sharks
  - MPI Shark Circular
  - MPI shark factsheets #1-4
  - This guide
  - ID guide with pictures of protected shark species.

This is a guide only.  
When in doubt, check it out!



# DOC CSP LP SLL Programme; Review of SMP and Vessel Mitigation

**Fishing Vessel Name & Reg. Number** \_\_\_\_\_

## Vessel Owner

Name \_\_\_\_\_

Contact Numbers \_\_\_\_\_

Email \_\_\_\_\_

## Skipper

Name \_\_\_\_\_

Contact Numbers \_\_\_\_\_

Email \_\_\_\_\_

## SMP OP Manual

Is the SMP OP manual onboard  Yes  No  Yes  No  
Skipper/owner to produce it

Replace hand written SMP with typed one  Yes  No

Review SMP, are changes required?  Yes  No

• If Yes, what are the new changes (list):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

• If yes, hand write any additions on new typed SMP/take photo of SMP Completed

## Tori Line Onboard

Does it meet basic specifications  Yes  No  Yes  No  
It is made of decent materials

• Comment on condition/materials etc:  
A. Height \_\_\_\_\_  
B. Drag \_\_\_\_\_  
C. Streamer \_\_\_\_\_  
D. Backbone \_\_\_\_\_

Vessel given New tori line material (backbone and streamers)  Yes  No

## Snood Weighting

Is vessel using snood weighting at or near hook (not clip)  Yes  No

A. Device type \_\_\_\_\_

B. Weight \_\_\_\_\_

C. Distance from Hook \_\_\_\_\_

## 10 Rules

Go over the 10 Golden Rules again with skipper/owner  Yes  No

## Comments

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Checked by** \_\_\_\_\_

**Date** \_\_\_\_\_