



Australian Government
Australian Fisheries Management Authority

Scalefish Automatic Longline

Bycatch and Discarding Workplan
2018 - 2019

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1 Introduction

This *Automatic Longline Bycatch and Discarding Workplan 2018-19* aims to:

- respond to high ecological risks assessed through AFMA's Ecological Risk Assessment process
- avoid interactions with species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)
 - reduce discarding of target and non-target species to as close to zero as practically possible
 - minimise overall bycatch in the fishery over the long-term.

Under the *Southern and Eastern Scalefish and Shark Fishery Management Plan 2003*, AFMA is required to develop and implement a bycatch action plan (now referred to as a Bycatch and Discarding Workplan) to ensure that information is gathered about the impact of fishing on bycatch species, that all reasonable steps are taken to minimise incidental interactions with Threatened, Endangered and Protected (TEP) species, and that the ecological impacts of fishing on habitats are minimised.

Discarding of target species will be broadly approached through monitoring discarding rates as a critical input to stock assessment and harvest strategies and developing other incentives and/or strategies to improve product utilisation.

This 2018-19 Bycatch and Discarding Workplan is relevant to operators fishing with automatically baited longlines for scalefish in the Gillnet, Hook and Trap sector of the larger Southern and Eastern Scalefish and Shark Fishery (SESSF).

Action items for the period 2018-19 are outlined in Table 4. Progress against action items from the 2014-16 Bycatch and Discarding Workplan are available on the AFMA website at <http://www.afma.gov.au/managing-our-fisheries/environment-and-sustainability/bycatch-and-discarding/>.

Previous action items from the 2015-16 Bycatch and Discarding Workplan include the amendment of permit conditions to improve handling practices of non-target Chondrichthyan species and an FRDC project undertaken to ascertain a greater understanding of the spatial distribution of gulper sharks. This project assisted by provided the scientific basis for development of the Upper Slope Dogfish Management Strategy.

This workplan should be read in conjunction with:

- *Commonwealth Policy on Fisheries Bycatch 2000 and AFMA's Program for Addressing Bycatch and Discarding in Commonwealth Fisheries: an implementation Strategy 2008*
- *Southern and Eastern Scalefish and Shark Fishery Management Plan 2003*
- *Ecological Risk Management – Report for the Auto-longline sector of the Gillnet Hook and Trap Fishery, Australian Fisheries Management Authority, Canberra, Australia April 2010*

- *Commonwealth Fisheries Harvest Strategy Policy and Guidelines 2007.*

2 Fishery description

Automatic longline fishing forms part of the Gillnet, Hook and Trap (GHAT) sector of the Commonwealth Southern and Eastern Scalefish and Shark Fishery (SESSF). The primary target species are Blue-Eye Trevalla and Pink Ling. Ribaldo and Hapuka are also important commercial species.

Auto-longlining is permitted in Commonwealth waters of the Australian Fishing Zone (AFZ) in waters adjacent to South Australia, Victoria and Tasmania. Under commercial operations, auto-longline vessels must fish outside closed areas and are currently restricted to waters deeper than 183m (Appendix A, Fig 1).

There are currently nine auto longline permits held, with four permits being active in 2018-19 in the fishery. The amount of effort in this sector peaked in 2005 at 9,776,448 hooks set with the number of hooks for 2017 was 3683,570 and as of January 2019 it is 2485,700.

3 Process for workplan development

The 2018-19 Longline Bycatch and Discard Workplan is designed to build upon the progress made under 2016-17 Workplan and to identify strategies to assist the Longline sector in continuing to reduce overall bycatch and discarding. Species assessed as high risk under the 2012 ERA remain a key focus of this workplan in addition to broader bycatch and discard challenges across the sector.

The draft of the SESSF Gillnet Hook and Trap Sector was disseminated in December 2018 with amendments being expected throughout first half of 2019. Fisheries Management Strategies (FMS) will be developed under AFMA's revised Ecological Risk Management Framework and will contain updated bycatch and discard workplan with a focus on species assessed as high risk under the revised assessment. Due to the impending finalisation of the ERA, this workplan will only cover a 12 month period.

The 2018-19 longline Bycatch and Discard Workplan will prioritise activities that have been carried over from the 2016-17 Workplan and include other low cost activities that are already partially underway at the time of writing. It is expected that these will be carried over into the next workplan once the outputs of the new ERA is finalised.

4 Interim workplan activities

The key objectives of this workplan for 2018-2019 are to:

- monitor environmental performance on an individual boat basis to promote responsible resource use and stewardship.
- ensure accurate reporting of interactions with seabird species whilst maintaining cost efficiency through the use of Electronic Monitoring.
- develop an increased understanding of non-quota deepwater shark species catch composition.

- improve handling practices for chondrichthyan species

The action items in Table 4 below will be undertaken during the period of this workplan to pursue the above objectives. Additional action items may be added during the period of this workplan if they are consistent with the objectives and there is capacity to undertake further projects.

5 Ecological Risk Assessment Results

The Ecological Risk Assessment (ERA) process is undertaken to determine the impact of fishing on marine species and habitats. Assessment of marine species is based on a series of parameters including life history, biological productivity and susceptibility to fishing gear. It involves a hierarchy of risk assessment methodologies progressing from a comprehensive, largely qualitative analysis at Level 1, through a Level 2 Productivity Susceptibility Assessment (PSA)

In the updated ERA Level one retained only three ecological components and one hazard for assessment at level 2.

Table 1: High risk species groups identified from the Residual Risk Assessment of Level 2 bSAFE Analysis for the Longline sector.

Scientific Name	Common Name	Role in Fishery	Highest Level of Assessment	Risk Score	Addressed in Action Item (see Table 3)
<i>Cephaloscyllium laticeps</i>	Draughtboard Shark	Byproduct	Level 2	Extreme	
<i>Squatina australis</i>	Australian angel shark	Byproduct	Level 2	High	
<i>Carcharias Taurus</i>	Grey nurse shark	Bycatch	Level 2	Extreme	
<i>Carcharodon carcharias</i>	White shark	Bycatch	Level 2	Extreme	

6 Existing measures to reduce bycatch

6.1 Gear

Fishing concession conditions specify minimum gear requirements in the Auto-longline sector to reduce interactions with non-target bycatch and TEP species. The requirements are:

- no more than a total of 15,000 hooks may be used, stowed and/or secured on the boat.

Bycatch reduction devices reduce interactions with fish and other animals when undertaking fishing activities. The conditions are as follows:

- carry on board one or more assembled tori line. Each tori line must be constructed and used in accordance with the following specifications:
 - i. must be a minimum of 150 metres in length;
 - ii. must be deployed from a position on board the boat and utilise a drogue so that it remains above the water surface for a minimum of 100 metres from the stern of the boat;
 - iii. the streamer pair nearest to the boat is positioned not more than 10 metres (measured horizontally) from the boat;
 - iv. all other streamer pairs are positioned not more than 7 metres apart; and
 - v. in addition to part (i) above, all streamers must be maintained to ensure their lengths are as close to the water surface as possible.
- carry on board one or more assembled seabird excluder devices (brickle curtain); and
 - i. The seabird excluder device is used at all times during line hauling.

If a seabird mortality occurs during fishing operations, for the remainder of the trip, longline gear must only be set at night.

6.2 Trigger limits for shark species

Trigger limits for the Scalefish Hook sector are in place for the take of Gummy Shark and School Shark. AFMA will consider implementing trip limits for Gummy and School Shark (100kg per trip) by way of Direction in the event the 10t Gummy Shark or 5t School Shark trigger limit is exceeded by the sector during a fishing season. This approach is preferable to implementing a permanent 100kg trip limit as discarding will be reduced, without increasing the risk of operators targeting Gummy or School Shark in waters deeper than 183m.

6.3 Upper-slope Dogfish Management Strategy

The Upper-Slope Dogfish Management Strategy (the Strategy) was revised in 2012 and currently undergoing revision in 2018/19 to promote the recovery of two species of dogfish, Harrison's Dogfish (*Centrophorus harrissoni*) and Southern Dogfish (*C. xeehaani*). The strategy relies primarily on a network of spatial closures (Appendix A, Figure 2) complemented by a range of non-spatial operational measures. The network builds on existing closures by implementing new closures, extending existing closures and revising existing closures. Those relevant to the CTS are described in Table 2. The Strategy also provides some protection to Endeavour Dogfish (*C. moluccensis*) and Greeneye Spurdog (*Squalus chloroculus*).

The types of management arrangements which apply under the Strategy include:

- a prohibition on the take of Harrison's Dogfish and Southern Dogfish
- area closures

- monitoring obligations through observers or electronic monitoring
- a limit for bycatch of Harrison's and Southern Dogfish when undertaking permitted types of line fishing in specific areas
- handling practices to improve post capture survival for released sharks

Table 2: Closures under the Upper Slope Dogfish Management Strategy.

Spatial Closures	Details	Complementary management arrangements where fishing is permitted inside closures
Extended Endeavour Dogfish Closure off Sydney	Extended closure to all methods of fishing across the core depth range	Fishing is not permitted so complementary measures are not applicable.
Extended closure in the Flinders Research Zone (FRZ)	Extended closure to range from 200m to 1000m for all methods. The extended FRZ incorporates the existing Babel Island and Cape Barren Closures and one area of the existing 700m line closure	If night time closures are negotiated in future, all fishing will be subject to 100% monitoring*
Extended Port MacDonnell Closure	Extended closure to all methods of fishing across the core depth range	Fishing is not permitted, so complementary measures are not applicable.
Murray Dogfish closure	Closed to trawling Open to hook methods	Line fishing subject to regulated handling practices, interaction limit per boat and 100% monitoring* Vessel interaction limit of three 1 gulper sharks which if reached the closure will be closed to that boat for 12 months
Harrison's Dogfish Closure	Will remain closed to all fishing methods in an amended depth range (200 m to 1000 m) which reflect the depth range of Harrison's Dogfish and Southern Dogfish.	Fishing is not permitted, so complementary measures are not applicable.
Derwent Hunter Seamount	Closed to all fishing methods	Fishing is not permitted, so complementary measures are not applicable.
Barcoo Seamount and Taupo Seamount	Will remain closed to all trawl methods Will be open to line fishing	Line fishing subject to regulated handling practices and 100% monitoring* Vessel interaction limit of three gulper sharks and if reached the closure area will be closed to that boat for 12 months

Spatial Closures	Details	Complementary management arrangements where fishing is permitted inside closures
Queensland and Britannia Guyots	Closed to demersal longline (including trotline and auto-longline) Open to hydraulic hand reel droplining only	Line fishing subject to regulated handling practices, interaction limit per boat and 100% monitoring* Vessel interaction limit of three gulper sharks which if reached the closure will be closed to that boat for 12 months

6.4 Area Closures

There are a number of area closures in the auto longline sector which offer protection for Threatened, Endangered and Protected (TEP) species, as well as high risk and other bycatch species (Table 3).

Table 3: Purpose of closures.

Closure Area	Reason For Closure
Kent Group National Park	Closed to all fishing methods. The Tasmanian Government has implemented a Marine Protected Area around the Kent Island (Deal Is) in eastern Bass Strait.
Seal Bay	Closed to all fishing to protect the breeding grounds of Australian Sea Lions
Pages Island	Closed to all fishing to protect White Sharks and Australian Sea Lions.
Head of the Great Australian Bight	Closed to all fishing to protect School Shark populations
Kangaroo Island	Closed to all fishing methods to protect School Shark breeding stock
Victor Harbor to the Victorian border	Closed to all fishing methods to protect School Shark breeding stock
Automatic Longline 183m Depth Closure	Closed to Auto-longline methods to prevent targeting of School and Gummy shark

SESSF operators are also required to adhere to spatial closures implemented under the Commonwealth Marine Park Network. More information can be found at <https://parksaustralia.gov.au/marine/parks/>.

Further information regarding closures can be found at <http://www.afma.gov.au/managing-our-fisheries/fisheries-a-to-z-index/southern-and-eastern-scalefish-and-shark-fishery>

6.5 Threat Abatement Plans for Seabirds

The objectives of the Seabird Threat Abatement Plan for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations (Seabird TAP) are to reduce the bycatch of seabirds in oceanic longline operations in the Australian Fishing Zone (AFZ) to as close to zero as possible. The seabird TAP was first developed in 1998, then reviewed and updated in 2006 and 2014. In the SESSF the criteria to meet this objective is a bycatch level of less than 0.01 birds per 1000 hooks.

Six key areas are described to meet the objectives of the TAP. Those relevant to AFMA are:

Mitigation - AFMA will ensure effective measures will continue to be applied, both through legislative frameworks and fishing practices, to avoid seabird bycatch and minimise seabird bycatch and bycatch rates, recognising the importance of other factors such as safety, practicality and the characteristics of the fishery

Education – AFMA will communicate the results from data analysis throughout the community, stakeholder groups and international forums, and programs will be established that provide information and education to longline operators.

International Initiatives – advocacy in international conservation and fisheries management forums in support of global adoption of seabird bycatch mitigation measures across the range of effected seabird species including trigger and other limits, and effective bycatch and other threat mitigation methods that are complementary with those outlines in this threat abatement plan.

Research and Development – continued support of research into developing and reviewing the efficiency, effectiveness and uptake of new and improved mitigation measures

Innovation - innovation in 'bird friendly' fishing measures and devices will continue to be encouraged

Data collection and analysis – data will be collected and analysed to assess the performance of the threat abatement plans including mitigation measures and to improve knowledge of seabird- longline interactions and the conservation status of seabirds.

7 Bycatch Workplan Action Items

Table 4: Action items for the longline sector 2018-19 Bycatch and Discard Workplan

Action Items	Risk/Issue to be addressed (workplan object.)	Timeframe	Cost \$	Responsible Parties	Performance Indicators	Milestones
1. Develop and implement measures to minimise seabird bycatch through individual responsibility				AFMA fisheries management staff in consultation with industry		SMPs developed SMPs implemented Operators informed of change to permit conditions
2. Assess effectiveness of the individual responsibility model				AFMA fisheries management branch and bycatch teams		EM footage reviewed Operators compliant with management measures
3. Develop and distribute seabird mitigation fact sheets to auto longline fishers				AFMA bycatch program		
6. Develop and distribute a deepwater shark ID guide for industry				AFMA bycatch program		
7. Develop a handling guide for skates and sharks				AFMA fisheries management and AFMA bycatch program		Guide developed

8. Install electronic monitoring on auto longline vessels	Validation of logbook data and by catch reporting			AFMA electronic monitoring team		Systems supplied Systems installed Systems in use
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8 Summary

AFMA and industry will continue to work co-operatively to reduce bycatch, minimise discarding and improve monitoring within the fishery. It is worth noting that there are no action items in place aimed at mitigating captures of dogfish or gulper shark in this workplan. AFMA has implemented the Upper Slope Dogfish Management Strategy, which includes a network of spatial closures and more on provisions to reduce the impact of hook fishing on dogfish and gulper sharks.

The key areas focused on for this workplan are deepwater sharks, skates and seabirds. The misidentification of deepwater sharks from logbook reports reduces certainty when quantifying the impact of longline fishing on non-target species. AFMA will develop and distribute a deepwater shark identification guide to assist operators in positively identifying non-target deepwater shark species and facilitate accurate reporting.

The preferred habitat of deepwater skates and sharks overlaps with a number of SESSF target species such as Pink Ling, Blue-Eye Trevalla and Ribaldo. Deepwater skates and sharks also consume similar baits to targeted species, making it extremely difficult to mitigate interactions with longline fishing gear. As a result, rather than focusing on reducing the captures of deepwater skates and sharks this workplan aims to increase post capture survivability through improved handling practices. AFMA will develop and distribute a skate and shark handling guide. Guides will be delivered to vessels by fisheries management staff during port visits.

The Seabird Threat Abatement Plan outlines mitigation measures and performance criteria that all operators fishing with longlines must meet. Seabird bycatch in the Scalefish Auto Longline sector has exceeded the bycatch rate over consecutive summer seasons including the 2016-17 summer. This workplan includes measures that strengthen incentives for individual fishers to take action to minimise their seabird bycatch to below 0.01 seabirds per 1,000 hooks set. Under the proposed actions Electronic Monitoring Systems have been implemented on all auto-longline boats to independently monitor fishing effort and bycatch. Fishers are individually responsible for minimising their bycatch and choosing additional mitigation measures best suited to their boat and fishing practices. AFMA continues to support fishers to develop mitigation measures that deter birds from the lines at the surface and sink hooks out of reach of birds as quickly as possible. These boat specific measures will be included in the individual vessel seabird management plans.

9 Review Process

Bycatch and Discarding Workplans are largely output focused. The action items included here are only some of the measures AFMA undertakes as part of the Ecological Risk Management (ERM) Strategy and it is difficult to measure the specific contribution of an action item to the overall objectives of the ERM Strategy. As part of the ERM Strategy AFMA have specific and measureable objectives with outcomes to be quantitatively assessed as part of the annual review.

This workplan will be reviewed at:

- 6 months to check that the progress of action items is on track
- 12 months to
 - ensure actions are progressing well
 - ensure that objectives are being met
 - determine if any additional actions can be taken
- 18 months to check that the progress of action items is on track
- 24 months to assess the effectiveness of the workplan actions in addressing the associated bycatch risks.

At the end of the two year period the outcomes of this workplan will be reported to the Department of the Environment and a new workplan will be developed and implemented.

Appendix A

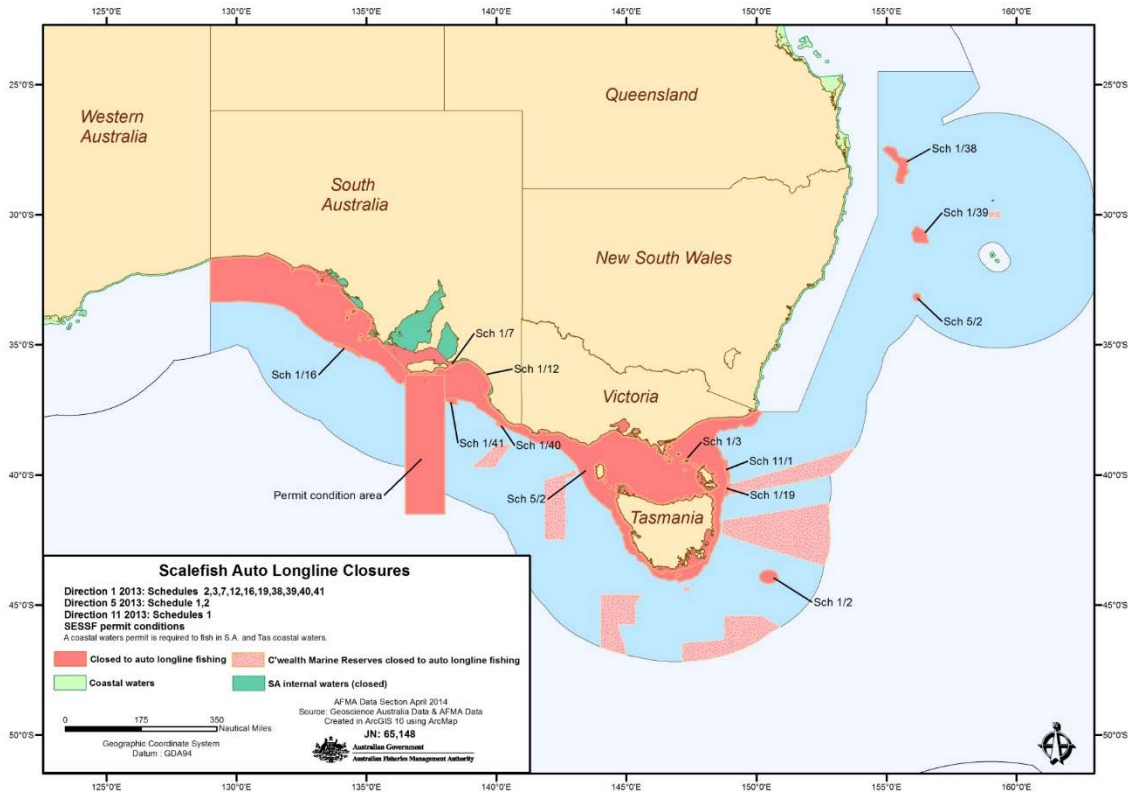


Figure 1: Map of the scalefish hook sector with shallow water automatic longline closure highlighted

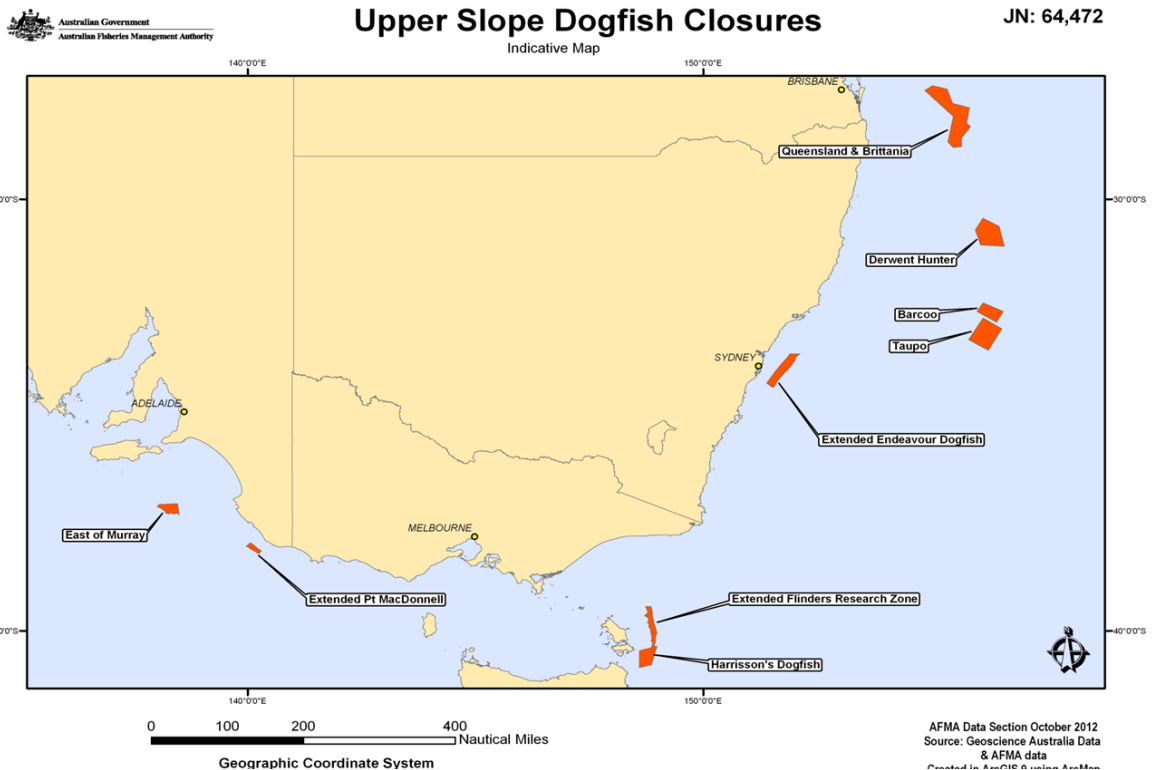


Figure 2: Map of closures under the Upper-Slope Dogfish Management Strategy.