

Australian Government Australian Fisheries Management Authority

Shark Gillnet Bycatch and Discarding Workplan 2025 – 26

Southern and Eastern Scalefish and Shark Fishery

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1 Introduction

This Shark Gillnet Bycatch and Discarding Workplan 2025-26 (the Workplan) applies to gillnet fishing gears in the Southern and Eastern Scalefish and Shark Fishery (SESSF). In carrying out its functions, the Australian Fisheries Management Authority (AFMA) must pursue objectives in the *Fisheries Management Act 1991* (FMA 191) including having regard to the impact of fishing activities.

As articulated in the <u>Commonwealth Bycatch Policy 2018</u> (the Bycatch Policy), the primary objective for bycatch management is to minimise fishing-related impacts on bycatch species in a manner consistent with the principles of ecologically sustainable development (ESD). Under the <u>Southern and</u> <u>Eastern Scalefish and Shark Fishery (SESSF) Management Plan 2003</u> (the Management Plan), 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 the SESSF on bycatch species;
- all reasonable steps are taken to avoid incidental interactions with Endangered, Threatened, and Protected (ETP) species;
- the ecological impact of fishing operations on habitats are minimised; and
- bycatch is reduced to or kept at a minimum, and below a level that might threaten bycatch species.

Following the <u>Guide to AFMA's Ecological Risk Management (ERM) 2017</u>, for all commercial and bycatch (including protected) species, the primary ecological sustainability objective that AFMA pursues via ERM is "to ensure that fishing (by Commonwealth commercial fisheries) does not reduce any species populations to/below a level at which the risk of recruitment failure is unacceptably high. Where such impacts have occurred, recover population to above that level".

There are five guiding principles that AFMA uses to identify issues and to minimise and avoid bycatch of protected and general species. These principles are outlined in the <u>AFMA Bycatch Strategy 2017-</u><u>22</u>:

- 1. <u>Principle 1.</u> Management responses are proportionate to the conservation status of bycatch species and Ecological Risk Assessment results.
- 2. <u>Principle 2.</u> Consistency with Government Policy and legislative objectives (including to avoid and minimise) and existing national protected species management strategies such as the Threat Abatement Plan and National Plans of Action.
- 3. <u>Principle 3.</u> Incentives should encourage industry-led solutions to minimise bycatch of protected species utilising an individual accountability approach.
- 4. <u>Principle 4.</u> Accounting for cumulative impact of Commonwealth Fisheries on protected species when making management decisions on mitigation.
- 5. <u>Principle 5.</u> Appropriate and consistent monitoring and reporting arrangements across fisheries.

The action items developed for this workplan to help reduce bycatch in the fishery are detailed in Table 3. The action items have taken into consideration high risk species flagged through the Environmental Risk Assessment (ERA) process, as well as highlighting areas where there is a lack of information to assist in management decisions.

The workplan should be read in conjunction with the:

- <u>Commonwealth Fisheries Bycatch Policy</u>
- Southern and Eastern Scalefish and Shark Fishery Management Plan 2003
- Commonwealth Fisheries Harvest Strategy Policy and Guidelines 2018
- Gillnet Bycatch and Discard Workplan 2018-2019
- Guide to AFMA's Ecological Risk Management 2017
- <u>Ecological risk assessment Report for the gillnet sector of the Gillnet, Hook and Trap Fishery,</u> <u>Australian Fisheries Management Authority, Canberra, Australia 2021</u>

2 Fishery description

Shark gillnet fishing forms part of the Gillnet, Hook and Trap Fishery (GHATF), a sector of the Commonwealth SESSF. Shark gillnetting uses demersal gillnets to target Gummy Shark (*Mustelus antarcticus*) as the key species and School Shark (*Galeorhinus galeus*) as the secondary bycatch species. The Gillnet vessels operate in waters from the NSW/Victorian border to the South Australian/Western Australian border on the continental shelf, including around Tasmania; from the low water mark to the extent of the Australian Fishing Zone (AFZ) (Appendix A).

A Memorandum of Understanding (MoU) was established in 1999 between AFMA and the states of South Australia, Tasmania, and Victoria with respect to the School and Gummy Shark fishery in waters relevant to the states. The MoU is a co-operative instrument for the management of School Shark, Gummy Shark and the associated bycatch species that would otherwise be managed under Commonwealth jurisdiction taken by fishers operating under state granted fishing concessions.

There are currently 60 Commonwealth gillnet boat concessions, three (3) South Australian and 26 Tasmanian Coastal Waters Permits that allow gillnet fishing. The current management arrangements permit fishing outside of coastal waters and restricts all gillnet operations to waters shallower than 183 m and must have a net depth or "drop" not exceeding 20 meshes.

There are fishery closures in Victorian coastal waters (i.e., within 3 nm of the coast) for School Shark and Gummy Shark management. Tasmania and South Australia also have restrictions on the fishery to outside of the coastal area. Additionally, Victoria and South Australia have an agreement in place to constrain take of School Shark and Gummy Shark, with Tasmania agreeing to limit their take within internal waters. Shark fishing in Tasmanian and South Australian coastal waters is managed as part of the SESSF. AFMA have implemented an observer program, and gillnet vessels carry an electronic monitoring (EM) system if fishing days exceed 50 days within a fishing season.

2.1 SESSF quota species

The shark gillnet fishery has a quota management system in place across species/stocks. Gummy Shark, School Shark, Saw Shark and Elephantfish are SESSF quota species in the gillnet sector and are assessed under the <u>Commonwealth Harvest Strategy Policy</u>. For the purpose of the ERA, School Shark is classified as a secondary commercial species, although managed as an incidental bycatch

species. School Shark is managed under the <u>School Shark Rebuilding Strategy</u>, as the stock is estimated to be below 20% of the unfished spawning stock biomass.

Gummy Shark is assessed under an ERA Tier 1, which is a full quantitative stock assessment, whereas School Shark is assed via Close-Kin Mark-Recapture (CKMR) which estimates absolute abundance, productivity and spawning stock trend. To constrain School Shark bycatch, a catch ratio of School Shark to Gummy Shark was implemented in 2011, applying to gillnet operators to ensure School Shark do not exceed 20% of their Gummy Shark catch.

Saw Shark and Elephantfish are categorised as trigger species, whereby an assessment for low-risk species is only 'triggered' if a set of criteria is met such as percent of TAC caught and stock status. Saw Shark and Elephantfish are assessed using a Tier 4 analysis, which determines a Recommended Biological Catch (RBC) by selecting Catch Per Unit Effort (CPUE) reference points that are then used as proxies for the estimated limit reference point B_{LIM} and target reference point B_{TARG} .

3 Workplan development

The 2025-26 Shark Gillnet Bycatch and Discard Workplan is designed to build upon the progress made under the 2018-19 Workplan and to identify strategies to assist in continuing to reduce overall bycatch and discarding. Species assessed as high risk under the 2021 ERA remain a key focus of this Workplan in addition to broader bycatch and discard challenges across the sector (Table 1).

Fisheries Management Strategies (FMS) will be developed under AFMA's revised Ecological Risk Management Framework and will contain updated bycatch and discard workplans with a focus on species assessed as high risk under the revised assessment. The current workplan covers a 2-year period and will be revised once the outputs of the new ERA are finalised.

4 Interim workplan activities

The activities to be completed as part of this Workplan are detailed as action items in Table 3. Generally, the Workplan aims to:

- mitigate interactions with ETP species by providing details of best practice industry standards for gillnet fishing and gear configuration;
- monitor environmental performance on an individual boat basis to promote responsible resource use and stewardship; and
- ensure accurate reporting of interactions with ETP species whilst maintaining cost efficiency with the use of Vessel Electronic Monitoring.

Additional action items may be added during the two-year period of this Workplan if they are consistent with the objectives and there is capacity to undertake further projects.

This Workplan continues the progress of ongoing action items from the 2018-19 Bycatch and Discard workplan, as well as newly identified actions recommended by the Shark Resource Assessment Group (SharkRAG) and South-east Management Advisory Committee (SEMAC). Previous actions finalised from the 2018-19 Bycatch and Discard Workplan include: a) develop and implement a Dolphin

Management Strategy, b) develop and distribute best practice guidelines for minimising marine mammal interactions, c) conduct a survey about marine mammal bycatch, after best practice guidelines are distributed, d) implement concession conditions to regulate the drop in gillnets to 20 meshes, and e) develop and distribute handling guide for sharks and rays.

5 Ecological Risk Assessment (ERA) results

The ERA for the GHAT shark gillnet sub-fishery was published by CSIRO in 2021. The ERA process is undertaken to determine the impact of fishing on marine species and habitats. The 2021 ERA for the Effects of Fishing 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).

The 2025-26 Workplan focus is on the high-risk species identified following the four-level analysis process of 233 species. These results of high-risk species in GHAT gillnet sector ERA are shown in table 1.

Scientific Name	Common Name	Role in Fishery	Highest Level of Assessment	Risk Score	Addressed by Action Item (Table 3)
Tursiops truncatus	Common bottlenose dolphin	ETP	PSA	High	Afforded protection through the Dolphin Mitigation Strategy
Tursops aduncus	Indian Ocean bottlenose dolphin	ETP	PSA High		Afforded protection through the Dolphin Mitigation Strategy
Thalassarche impavida	Campbell albatross	ETP	PSA	High	Seabird mitigation
Thalassarche cauta	Shy albatross	ETP	PSA	High	Seabird mitigation
Diomedea exulans	Wandering albatross	ETP	PSA	High	Seabird mitigation
Halobaena caerulea	Blue petrel	ETP	PSA	High	Seabird mitigation
Pterodroma mollis	Soft-plumaged petrel	ETP	PSA	High	Seabird mitigation

Table 1: High risk species groups identified from the PSA/bSAFE analysis for the Shark gillnet sector.

6 Existing measures to mitigate risk

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Halobaena caerulea	Blue petrel	ETP	PSA	High	Seabird mitigation
Pterodroma mollis	Soft-plumaged petrel	ETP	PSA	High	Seabird mitigation

Table 2: High risk species groups identified from the PSA/bSAFE analysis for the Shark gillnet sector.

6.1 Gear requirements

To reduce interactions with non-target, bycatch and ETP species there are minimum gear requirements in the GHAT gillnet sector under the fishing concession conditions. Operators are permitted use of bottomset gillnets (excluding the Australian sea lion zones) and the minimum gear requirements are:

- the total headrope length of gillnet, or, if more than one net is used, the total combined headrope length of gillnet that may be deployed from a boat at any time (that is, that may be in the water at any one time) in South Australian waters must not exceed 4,200 m and in other Commonwealth Gillnet sector areas, must not exceed 6,000 m for vessels without EM.
- the total headrope length of gillnet, or, if more than one net is used, the total combined headrope length of gillnet that may be deployed from a boat at any one time (that is, may be in the water at any one time) in all other areas of the Commonwealth Gillnet Sector must not exceed 6,000 m.
- the depth or 'drop' of a net must not exceed 20 meshes.

- i. a drop of 20 meshes mitigates any further increase in the net drop regardless of headrope length. The height of 20 meshes only target demersal shark species and potentially mitigates any potential increase in catch of shark species demonstrating pelagic behavioural characteristics.
- a mesh in a gillnet must be:
 - i. greater than or equal to 150 millimetres in width; and
 - ii. less than or equal to 165 millimetres in width.

6.2 Removal of biological material

AFMA implement provisions prohibiting the discharge of offal from vessel while setting gillnets and requiring biological material to be removed from nets before they are set. Such practices have been identified as potential ways to reduce interactions with ETP species.

6.3 Area closures

There are numerous spatial closures in the SESSF that offer extended protection for some bycatch species by protecting breeding habitats or excluding specific types of fishing gear from areas where bycatch issues are known to occur.

Current closures to gillnet fishing are shown in Table 2. Further information regarding the closures can be sourced at <u>www.afma.gov.au</u>. SESSF operators are also required to adhere to spatial closures implemented under the South-East Commonwealth Marine Reserve Network (figure 1). <u>South-east Network management plan | Australian Marine Parks (parksaustralia.gov.au)</u>

All Victorian coastal waters are currently closed to targeted commercial shark gillnet fishing, offering protection to Gummy Shark, School Shark, Elephantfish and Saw Sharks in waters out to 3 nm.

Table 2. Spatial closures relevant to gillnet fishing gear which have been implemented to protect ETP and
high-risk species. Source: Fisheries Management (Southern and Eastern Scalefish and Shark Fishery and Small
Pelagic Fishery Closures) Direction 2021 and Southern and Eastern Scalefish and Shark Fishery Management
Arrangement Booklet 2024-25.

Closure Area	Species Protected				
Schedule 1 - Murat Bay	Closed to gillnet methods to protect stocks of Australian Sea Lions, Bronze Whalers, Pink Snapper, and Mulloway.				
Schedule 3 - Head of Great Australian Bight	Closed to all fishing methods to protect breeding School Shark and Australia Sea Lion populations.				
Schedule 5 – South Australian Gillnet Closure - Backstairs Passage	Closed to gillnet fishing to protect breeding School Shark and Australian Sea Lion populations.				

Closure Area	Species Protected				
Schedule 6 – South Australian Shark Closure - Kangaroo Island	Closed to all fishing methods to protect breeding School Shark and Australian Sea Lion populations.				
Schedule 7 – South Australian Shark Closure - Victor Harbour to Victorian Border	Closed to all fishing methods to protect breeding School Shark and Australian Sea Lion populations.				
Schedule 8 – Freycinet Commonwealth Marine Reserve Closures	Closed to protect the Upper-Slope dogfish, If the Harrisson's and Southern dogfish triggers are met (refer to 6 (i) in the Direction), then all fishing methods (excluding hydraulic hand reel droplining) are prohibited for the concession holder for 12 months within this area.				
Schedule 9 – Murray Commonwealth Marine Reserves Closures Schedule	Closed to protect the Upper-Slope dogfish, If the Harrisson's and Southern dogfish triggers are met (refer to 6 (i) in the Direction), then all fishing methods (excluding hydraulic hand reel droplining) are prohibited for the concession holder for 12 months within this area.				
Schedule 11 – Gulper Shark Closure – Endeavour Dogfish	Closed to all fishing methods to protect Upper-Slope dogfish.				
Schedule 12 – Gulper Shark Closure – Harrison's Dogfish	Closed to all fishing methods to protect Upper-Slope dogfish.				
Schedule 31 – Derwent Hunter Seamount Closure	Closed to all fishing methods to protect Upper-Slope dogfish.				
Schedule 32 – Port MacDonnell Closure	Closed to all fishing methods to protect Upper-Slope dogfish.				
Schedule 33 – Murray Dogfish Closure	Closed to protect Upper-Slope dogfish. Closed to trawl methods and if the Harrisson's and southern dogfish triggers are met (refer to 6 (u) in the Direction), then all fishing methods (excluding hydraulic hand reel droplining) are prohibited for the concession holder for 12 months within this area.				
Schedule 35 – Australian Seal Lion closures	Closed to all gillnet fishing to protect Australian Sea Lion populations.				
Schedule 36 - Gillnet Deepwater closure	Closed to gillnet fishing to protect breeding School Shark populations.				
Schedule 39 – Flinders Research Zone Closure	Closed to all fishing methods to protect Upper-Slope dogfish.				

6.4 Gillnet Dolphin Mitigation Strategy

To minimise dolphin interactions with gillnets in the SESSF, AFMA, in conjunction with the Commonwealth Marine Mammal Working Group (CMMWG), developed the gillnet dolphin mitigation strategy (2019). The strategy objective is to minimise fishing related impacts on bycatch species, including protected species, which is achieved through adopting an individual approach to create incentives for fishers to innovate and adopt best practices.

The dolphin mitigation strategy requires gillnet vessels in the fishery to have an approved dolphin mitigation plan (DMP) before any fishing commences. A DMP describes the actions an operator will take to avoid interactions and actions to implement following an interaction (e.g., move on provisions). Interactions are monitored during and at the end of a 6-month review period within each SESSF fishing season (1 May – 30 October: 1 November – 30 April). Operators are subject to an interaction cap and an interaction rate, which if exceeded, are required to cease fishing and return to port until fishing is re-authorised by AFMA following a review of the vessels DMP and interaction history. If an operator exceeds the interaction rate for either of the two previous review periods, they are excluded from fishing with gillnets for six months.

This approach provides strong incentives to minimise dolphin bycatch and ensure concession holders fishing responsibly are not penalised by fishers that demonstrate problems with dolphin bycatch.

Incumbent of the dolphin mitigation strategy, concession holders must:

- carry on board the nominated vessel each fishing trip, an AFMA approved DMP to prevent suspension of their concession;
- have re-approval by AFMA of the vessels DMP, if there are any changes made by the concession holder;
- comply with the measure and requirements contained in the DMP;
- carry out actions to minimise dolphin interactions, which are the responsibility of individual fishers;
- report all protected species interactions under AFMA's legislation and *the Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act 1999);
- complete a Dolphin Interaction Evaluation Report for any dolphin interaction;
- complete and submit to AFMA the Listed Marine and Threatened Species form in the daily fishing logbook (paper or electronic) for all interactions with protected species;
- complete and submit to AFMA a Dolphin Interaction Evaluation Report within 48 hours of landing;
- ensure each member of the crew on board the nominated boat is briefed on the content, intent and purpose of the AFMA-approved Dolphin Mitigation Plan and complies with the measures and requirements outlined.

6.5 Australian Sea Lion Management Strategy

The Australian Sea Lion (ASL) was listed in 2020 as Endangered under the *EPBC 1999*. The ASL Management Strategy was developed in 2013 and updated in 2015, to monitor and minimise

interactions between ASLs and gillnets used by Commonwealth shark fishers in SESSF, specifically the shark gillnet fishery in the GHAT to enable ASL populations to recover. The ASL Management Strategy has been reviewed and revised in consultation with industry, conservationists, other government departments and experts that form the GHAT Marine Mammal Working Group. The ASL Management Strategy has proven to be highly effective at significantly reducing impacts of gillnetting on ASL populations.

The key objective of the ASL Management Strategy is to significantly reduce the impact of fishing activity on the ASL population to enable their recovery. The following management measures have been implemented to meet this objective:

- gillnet closures around all sea lion breeding colonies in South Australian waters spanning 18,500km²
- 100 per cent monitoring of all gillnet fishing effort in South Australian waters through independent onboard observers or electronic monitoring systems
- the setting of Australian sea lion mortality limits that act to trigger additional closures if unacceptable levels of interaction occur
- an ongoing review of gillnet fishing practices, including eligible gillnet operators to use hook fishing methods instead of gillnets, and
- a suite of additional measures including identification guides, education programs and an industry gillnetting code of conduct.

Gillnet Closures

Baseline closures are maintained around all 51 colonies in South Australia of at least 4 nm (7.3 km). The 7.3 km baseline closures cover an approximate 3,500 km² of sea lion foraging area around colonies. These closures preclude fishing in the area in which approximately 40 percent of all historically observed Australian Sea Lion interactions have occurred. Additional larger closures are in place around select colonies with higher predicted risk of fishery bycatch, low pup production and terminal extinction risk. These additional closures are around 17 colonies and push the radial closures from 4 nm to 11 nm surrounding these colonies.

Gear Restrictions

Previously a broad range of mesh sizes were permitted in the fishery, however over time the mesh size has been refined and only a narrow range is now permitted. Shark gillnet fisheries are now restricted to net mesh sizes to between 150 mm and 165 mm in width. Commonwealth operators are restricted to the use of 4,200 m of net in waters off South Australia fishers targeting with further restrictions on the height of nets to ensure the total net area is also restricted.

Adaptive Management System

The ASL Management Strategy includes adaptive management zones, which implement significant spatial closures if unacceptable levels of ASL interactions occur within a fishing season (1 May to 30 April). Bycatch triggers are pre-set for the seven South Australian management regions to ensure timely closures occur to reduce ASL mortalities. Closures are for 18 months – being the length of the breeding cycle of the ASL.

Any pinniped captured in the 'Australian Sea Lion Management Zone' will be treated as an Australian Sea Lion for the purpose of the trigger limits, unless there is evidence to the contrary. This evidence may include, but is not limited to, photographs, observer reports, and e-monitoring footage. If a pinniped is caught in the 'Australian Sea Lion Management Zone', the holder must immediately cease fishing and report the interaction to the GHAT manager on 02 6225 5373 or the AFMA Duty Officer on 0419 205 329 and provide email notification to <u>GHAT@afma.gov.au</u>.

6.6 Australian/Long-nosed Fur Seal

All pinnipeds are protected under the *EPBC Act. 1999* and all interactions by gillnet fisheries must be reported to AFMA. Interaction data is collected through AFMA's monitoring programs. An *Industry Code of Practice to Minimise Interactions with Seals* has been developed and adopted by some of the fishing industry. The code can include:

- observing standard watch keeping practices
- delay gear deployment if a seal is sighted in the vicinity
- dispose of offal while the vessel is not fishing

6.7 Seabird mitigation

The mandatory seabird mitigation measures for gillnet fishing are that operators must remove all biological material from a gillnet before setting the net. Additionally, the processing of waste, including offal, must not be discharged from the vessel while a gillnet is being set.

7 Bycatch Workplan Action Items

Table 3: Action Items for the SESSF Gillnet 2025-26 Bycatch and Discard Workplan

Action Items	Risk/Issue to be addressed (Workplan objective)	Timeframe	Cost (\$)	Responsible Parties	Performance Indicators	Milestones
Develop a broader and more relevant species identification guide	Improve Chondrichthyes species ID	2025-26		AFMA	ID guides	Distribute species ID guides of sharks and rays relevant to the gillnet sector
Distribute best practice fact sheet for minimising bird interactions and species ID guides	Seabird interactions	2025-26		AFMA	ID guides	Fact sheets and Id guides published to the AFMA website and distributed to Industry
Investigate mitigation measures to minimise seabird interactions with gillnets	Seabird Interactions	2025-26		AFMA	Mitigation measures	Explore mitigation devices on gillnet gear and expand the seabird management plan to cover gillnet gear methods
Retain the dolphin management strategy and undertake a desktop review of the strategy	Dolphin bycatch	2025-26		AFMA	Management strategy	A review of the dolphin mitigation strategy is completed, and a discussion paper is published
Review the Australian sea lion management strategy	Marine mammal interactions	2025-26		AFMA	Management strategy	An updated strategy is published and distributed

8 Summary

The proposed projects are to design and develop mitigation strategies. The work to be undertaken will contribute towards future mitigation strategies, to fill critical data gaps around bycatch at risk, or more generally about bycatch and discarding. These strategies will be incorporated into a more strategic approach to the management of bycatch and discarding within the fishery. On the annual review of the Workplan, further research priorities and projects can be added if consistent with the overall aim of the Workplan. Research priorities would be based on the capacity to fund further projects.

AFMA and industry will continue to work co-operatively to reduce bycatch, minimise discarding and improve monitoring within the fishery.

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. 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 measurable objectives with outcomes to be quantitatively assessed as part of the annual review.

This workplan will be reviewed at:

- o 6 months to check that the progress of action items is on track
- o 12 months to:
 - o ensure actions are progressing well
 - o ensure that objectives are being met
 - o determine if any additional actions can be taken
- o 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 outputs of this Workplan will be reported to the Department of the Climate Change, Environment, Energy and Water (DCCEEW). Subsequently, a new Workplan will be developed and implemented.

10 Appendix A: Fishery Maps



Figure 1: Map of the Australian Marine Park Network.

Shark Gillnet Bycatch and Discarding Workplan



Figure 2: Map of the Commonwealth Shark Hook and Gillnet Fishery



Figure 3: Map of the Commonwealth gillnet closures

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Figure 4: Map of the Fishery closures under the Australian sea lion (ASL) Strategy



Figure 5: Map of Murat Bay Closure.

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Figure 6: Map of the Head of the Great Australian Bight.



Figure 7; Map of the South Australian Gillnet Closure – Backstairs Passage.



Figure 8: Map of the South Australian Shark Closure – Kangaroo Island.



Figure 9: South Australian Shark Closure – Victor Harbor to the Victorian Border.

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Figure 10: Map of the Freycinet Commonwealth Marine Reserve Closures.



Figure 11: Map of the Murray Commonwealth Marine Reserve Closures – East & West.

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Figure 12: Map of the Gulper Shark Closure – Endeavour Dogfish.

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Figure 13: Map of the Gulper Shark Closure – Harrison's Dogfish.



Figure 14: Map of the Derwent Hunter Seamount Closure.



Figure 15: Map of the Port MacDonnell Closure.

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Figure 16: Map of the Murray Dogfish Closure



Figure 17: Map of the Flinders Research Zone Closure.

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