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Australian Fisheries Management Authority



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# Small Pelagic Fishery Dolphin Strategy

Minimising dolphin interactions in the Small Pelagic Fishery

May 2017

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# 1 Introduction

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The Australian Fisheries Management Authority's (AFMA) overarching objective with respect to bycatch is to minimise fishing related impacts on bycatch species, including protected species, in a manner consistent with the principles of ecologically sustainable development. Further, the fishery should not be detrimental to the survival or conservation status of any taxon and fishers are required to take all reasonable steps to ensure that protected species are not killed or injured.

In 2016, the AFMA Commission approved the following bycatch management principles for Commonwealth fisheries:

- Management responses should be proportionate to the conservation status of affected species and Ecological Risk Assessment (ERA) results.
- Ensure consistency with Government policy and legislative objectives (including to 'avoid' and 'minimise') and existing national protected species management strategies such as Threat Abatement Plans and National Plans of Action.
- Incentives should encourage industry-led solutions to minimise bycatch of protected species utilising an individual accountability approach.
- Account for cumulative impact of Commonwealth fisheries on protected species when making management decisions on mitigation.
- Appropriate, and where possible consistent monitoring and reporting arrangements should exist across fisheries.

This Dolphin Mitigation Strategy (the Strategy) has been developed to be consistent with the AFMA Commission principles and aims to minimise dolphin interactions in the trawl sector of the Small Pelagic Fishery (SPF) by adopting an individual responsibility approach to create incentives for fishers to innovate and adopt best practices.

The Strategy implements a management response for any dolphin interaction. For any subsequent interactions, a series of escalating management responses are applied to individual fishers culminating in closures for fishers who are unable to minimise their interactions.

## 2 Background

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The Strategy has been developed to be consistent with the AFMA Commission bycatch principles including adopting an individual accountability approach and consistency with other fisheries. The Strategy requires fishers to take responsibility for dolphin interactions and provides incentive for fishers to adopt best practices and innovate to minimise dolphin interactions.

The Strategy is being developed in the absence of comprehensive information regarding both dolphin population sizes and gear-specific interaction rates. There is limited information available on common and bottlenose dolphin population sizes and structure within Australia and what information there is relates primarily to inshore areas. In relation

to fishing data, despite the increase in fishing effort for the trawl sector of the SPF between 2015 and 2016 from which comprehensive data was collected, long term data on interaction rates with dolphins is relatively limited due to sporadic fishing effort in the fishery.

In light of the above, the management areas and responses in the Strategy are not based on specific dolphin population status but rather aim to minimise and avoid interactions while also creating incentives to drive changes in fishers' behaviour.

To date, interactions within the SPF fishery have been primarily with common dolphins with some interactions with bottlenose dolphins. Common dolphins and bottlenose are listed as Cetaceans under the EPBC Act which means they are protected species. However, they are not listed as threatened species under Section 178 of the EPBC Act and the IUCN lists them both as of Least Concern.

### 3 Objectives

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This Strategy aims to minimise dolphin interactions in the trawl sector of the Small Pelagic Fishery (SPF) by adopting an individual responsibility approach, to create incentives for fishers to innovate and adopt best practices to minimise dolphin interactions. Under the individual responsibility approach fishers are responsible for their actions to minimise interactions and stay within defined performance criteria.

This is consistent with the pursuit of AFMA's objectives to ensure that the exploitation of fisheries resources is sustainable with regard to target and non-target species as well as the broader marine environment, and to maximise the net economic returns to the Australian community from the management of Australian fisheries.

This Strategy implements a framework to minimise dolphin interactions by:

- improving information on the nature of interactions between dolphins and fishing gear, particularly what species are interacted with
- providing incentives for individual operators to minimise dolphin interactions and implement and develop mitigation measures best suited to their circumstances and location
- identifying options and best practice mitigation measures to support fishers in minimising dolphin interactions.

**Table 1: Needs and actions to pursue the objectives of the Strategy**

Needs	Actions
Accurate data on dolphin interactions and support for fishers to adopt mitigation options	<ul style="list-style-type: none"> <li>• All fishers to complete the required Dolphin Interaction Evaluation Report for any dolphin interaction. AFMA to analyse if there are any trends that may contribute to interactions.</li> <li>• Reviewing the mix of observer coverage and electronic monitoring to ensure interactions are reported and detected.</li> <li>• Identification and review of best practice mitigation options by AFMA and Industry.</li> </ul>
Greater accountability and stronger incentives for individual fishers to minimise dolphin interactions.	<ul style="list-style-type: none"> <li>• Staged implementation of individual responsibility:               <ul style="list-style-type: none"> <li>○ Management response for any dolphin interaction.</li> <li>○ Escalating management response culminating in closures for those operators who are unable to minimise interactions.</li> </ul> </li> </ul>

## 4 Rules for trawling operations

### 4.1 Protected species reporting

All protected species interactions must be reported under AFMA's legislation and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). A Listed Marine and Threatened Species form in the daily fishing logbook (paper or electronic) must be completed for all protected species interactions, including dolphins. AFMA has distributed a dolphin identification guide to assist operators to record interactions to a species level.

### 4.2 Dolphin Interaction Evaluation Report

In addition to completing a Listed Marine and Threatened Species form in the daily fishing logbook, a Dolphin Interaction Evaluation Report must be completed and sent to AFMA within 48 hours of landing. This report contains more specific detail about the circumstances of the interaction, and allows AFMA to evaluate if there are any factors trends that contribute to interactions for consideration by the Commonwealth Marine Mammal Working Group (CMMWG). A Dolphin Interaction Evaluation Report template is at **Appendix A**.

### 4.3 Failure to report

Where an operator fails to report a dolphin interaction, potential penalties may apply under the *Fisheries Management Act 1991* or the EPBC Act. In addition, to ensure that this Strategy is supported by accurate information, AFMA may require 100 per cent monitoring (observer or 100 per cent electronic monitoring review) for protected species interactions, charged on a fee-for-service basis.

## 4.4 Dolphin Mitigation Plan

To fish in the SPF, all trawl vessels in the fishery must have an AFMA approved Dolphin Mitigation Plan that outlines what actions are being taken by the fisher to minimise dolphin interactions on that particular vessel. Given that this Strategy is based on an individual responsibility approach, AFMA does not prescribe specific mitigation measures that must be included in the Dolphin Mitigation Plan. AFMA will only approve a Dolphin Mitigation Plan where it is satisfied the plan details actions to minimise interactions being taken in the following areas:

- fishing practices (e.g. only setting gear during daylight hours)
- gear setup (e.g. use of net bindings)
- mitigation devices (e.g. any mitigation or modifications)

Dolphin Mitigation Plans (see **Appendix B**) must be updated by an operator if there are any changes to actions being taken to minimise dolphin interactions. The updated version must be approved by AFMA before implementation and recommencing fishing. AFMA may review electronic monitoring footage of any dolphin interactions to ensure that operators are operating in accordance with their Dolphin Mitigation Plan, and may require increased monitoring (observer or electronic monitoring) to confirm appropriate mitigation strategies are being used by the operator.

Where a review of a Dolphin Mitigation Plan is triggered by an interaction rate or interaction cap being exceeded, the review of the Dolphin Mitigation Plan may be done externally and all costs associated with the review will be cost recovered.

## 4.5 Performance criteria and management responses

This Strategy adopts the Maximum Interaction Rate as its key performance criteria. The current Maximum Interaction Rate of one dolphin per 50 trawl gear sets. Due to the limited information available, an interaction rate consistent with the one applied in the Gillnet, Hook and Trap Fishery (GHaTF) has been adopted. This is because, while using different fishing methods, the maximum number of gear sets that could occur in the SPF over the six month review period is similar to the GHaTF and recent interactions rates per gear sets from the SPF are similar. This rate will be reviewed and refined over time as additional information regarding dolphin populations, or further data on interactions rates within the SPF, becomes available.

The escalating responses and performance criteria are set out in **Table 2** and ensure that a fisher cannot continue fishing unchecked if they continue to have dolphin interactions. For each criterion there is an associated management response that escalates to the point where an individual fisher cannot continue trawling in the fishery.

The current Eastern and Western sub-areas in the SPF (see **Figure 1** below) have been used as the basis for the Strategy with both the interaction rate and the interaction cap applying separately to each area. These areas were used because they provide a suitably-sized area to underpin a management response and also utilise existing zoning arrangements within the fishery.

Table 2: Measures that apply to all trawl fishers for each dolphin interaction.

Performance Indicator	Criterion	Management Response
<p><b>Interaction Rate</b></p> <p>applies separately to the eastern area and the western area</p> <p>measured <b>at the end</b> of the review period</p>	<p><b>If &gt; 1:50</b> (1 dolphin interactions: 50 trawl gear sets)</p>	<p><b>1. If the interaction rate is exceeded in a review period:</b> Cease fishing and return to port. Review of Dolphin Mitigation Plan by AFMA or AFMA-approved reviewer (fee-for-service). The plan must be submitted and approved by AFMA prior to the operator recommencing fishing using trawl methods.</p> <p><b>OR</b></p> <p><b>2. If interaction rate is exceeded for a second consecutive review period:</b> Exclusion from the relevant area (Eastern or Western) for 6 months. Review of Dolphin Mitigation Plan by AFMA or AFMA-approved reviewer (fee-for-service). The plan must be submitted and approved by AFMA prior to the operator recommencing fishing using trawl methods.</p> <p><b>OR</b></p> <p><b>3. If interaction rate is exceeded for a third consecutive review period, irrespective of area:</b> Exclusion from the fishery for 6 months. Review of Dolphin Mitigation Plan by AFMA or AFMA-approved reviewer (fee-for-service). The plan must be submitted and approved by AFMA prior to the operator recommencing fishing using trawl methods.</p>
<p><b>Interaction Cap</b></p> <p>applies separately to the eastern area and the western area</p> <p>measured <b>within</b> a review period</p>	<p><b>Any dolphin interaction</b> <i>in a single gear set</i></p>	<ul style="list-style-type: none"> <li>Operator to review current mitigation, make any necessary repairs to mitigation devices</li> <li>Operator to submit a Listed Marine and Threatened Species Form in the daily fishing logbook</li> <li>Operator to submit complete a Dolphin Interaction Evaluation Report and submit it to AFMA within 48 hours of landing at the end of the trip</li> </ul>
	<p><b>3 or more dolphins</b> <i>across 3 or more gear sets</i></p>	<p>In addition to the Listed Marine and Threatened Species Form and Dolphin Interaction Evaluation Report listed above:</p> <p><b>1.</b> Cease fishing and return to port. Review of Dolphin Mitigation Plan by AFMA or AFMA-approved reviewer (fee-for-service). The plan must be</p>

Performance Indicator	Criterion	Management Response
		submitted and approved by AFMA prior to the operator recommencing fishing using trawl methods.
	<b>6 or more dolphins</b> <i>where the Maximum Interaction Rate <b>has not</b> been exceeded in either of the previous two review periods</i>	In addition to the Listed Marine and Threatened Species Form and Dolphin Interaction Evaluation Report listed above: <ol style="list-style-type: none"> <li>1. Cease fishing and return to port. Review of Dolphin Mitigation Plan by AFMA or AFMA-approved reviewer (fee-for-service). The plan must be submitted and approved by AFMA prior to the operator recommencing fishing using trawl methods.</li> </ol> <p>For any subsequent dolphin interaction within the same review period, the operator must cease fishing and return to port. A review of the Dolphin Mitigation Plan by AFMA or an AFMA-approved reviewer must occur prior to recommencing fishing.</p>
	<b>6 or more dolphins</b> <i>where the Maximum Interaction Rate <b>has</b> been exceeded in either of the previous two review periods</i>	Exclusion from the relevant area (Eastern or Western) for 6 months. Review of Dolphin Mitigation Plan by AFMA or AFMA-approved reviewer (fee-for-service). The plan must be submitted and approved by AFMA prior to the operator recommencing fishing using trawl methods.
	<b>If 6 dolphin interaction cap is exceeded twice within 12 months</b>	Exclusion from the fishery for 6 months. Review of Dolphin Mitigation Plan by AFMA or AFMA-approved reviewer (fee-for-service). The plan must be submitted and approved by AFMA prior to the operator recommencing fishing using trawl methods.

## 5 Monitoring and data collection

The success of the Strategy relies on accurate reporting of dolphin interactions to ensure that the management responses described in the Strategy continue to be effective at minimising dolphin interactions with trawl gear. To measure this, AFMA collects the following information:

- the quantity and nature of dolphin interactions (including species identification)
- spatial and temporal information on dolphin interactions
- effectiveness of mitigation strategies (gear type & behavioural adaptation).



This information is primarily collected through logbook reporting by fishers (verified through electronic monitoring) as well as through the Dolphin Interaction Evaluation Report submitted to AFMA by industry following any dolphin interaction.

All trawl vessels in the SPF are required to have electronic monitoring systems installed. Electronic monitoring ensures that AFMA and scientists have an accurate record of the majority of catch and effort in a fishery. This is achieved through independent verification of logbook data, including reporting protected species interactions.

If an AFMA observer is not present, a minimum of 10 percent of trawling fishing activity recorded by electronic monitoring will be independently reviewed across the fishery to verify interactions with protected species. If there is an increase in reported dolphin interactions, or concerns about non-reporting of dolphin interactions, AFMA may increase the review of electronic monitoring footage for an operator or require the carriage of an AFMA observer (fee-for-service), to ensure that they are operating in accordance with their Dolphin Mitigation Plan.

## 6 Review and performance of the strategy

Performance of individual fishers is monitored continuously against the performance criteria set out in the Strategy.

AFMA will review the Strategy's performance against its objectives after the first year, and every two years after that, with advice from the CMMWG. This Strategy is intended to be adaptive and integrate improved information as needed on:

- any trends identified in Dolphin Interaction Evaluation Reports
- dolphin conservation status and population abundance
- the cumulative impacts of dolphin interactions on populations
- the effectiveness of management measures in mitigating interactions.

AFMA, with advice from the CMMWG, will also continue to review the cumulative level of dolphin interactions across Commonwealth fisheries.

## 7 Definitions

Term	Definition
<b>Dolphin</b>	A marine mammal in the family Delphinidae.
<b>Eastern Area</b>	Has the same meaning as Schedule 1 of the <i>Small Pelagic Fishery Management Plan 2009</i>
<b>Fishing Season</b>	The 12 month fishing season as determined for the Small Pelagic Fishery commencing on 1 May and concluding on 30 April in the following year.
<b>Fishing Trip</b>	The time between leaving port and returning to port and unloading.
<b>Gear Set</b>	The act of deploying trawl fishing equipment

Term	Definition
<b>Interaction</b>	Any physical contact between fishing gear or a vessel and a dolphin. This includes catching (netted, entangled) and collisions with a dolphin.
<b>Marine Mammal Working Group</b>	A group established by AFMA to provide advice on issues relating to marine mammals. It consists of scientists and representatives from State and Federal government departments, environmental groups and the fishing industry.
<b>Maximum Interaction Rate</b>	One dolphin interaction per 50 trawl gear sets.
<b>Operator</b>	The holder, or any person acting on behalf of the holder, of a Small Pelagic Fishery Statutory Fishing Right, including the vessel nominated to the quota SFRs.
<b>Review Period</b>	Either of the first six months or second six months of the Fishing Season in which the operator has fished using trawl gear.
<b>Western Area</b>	Has the same meaning as Schedule 1 of the <i>Small Pelagic Fishery Management Plan 2009</i>

## 8 References

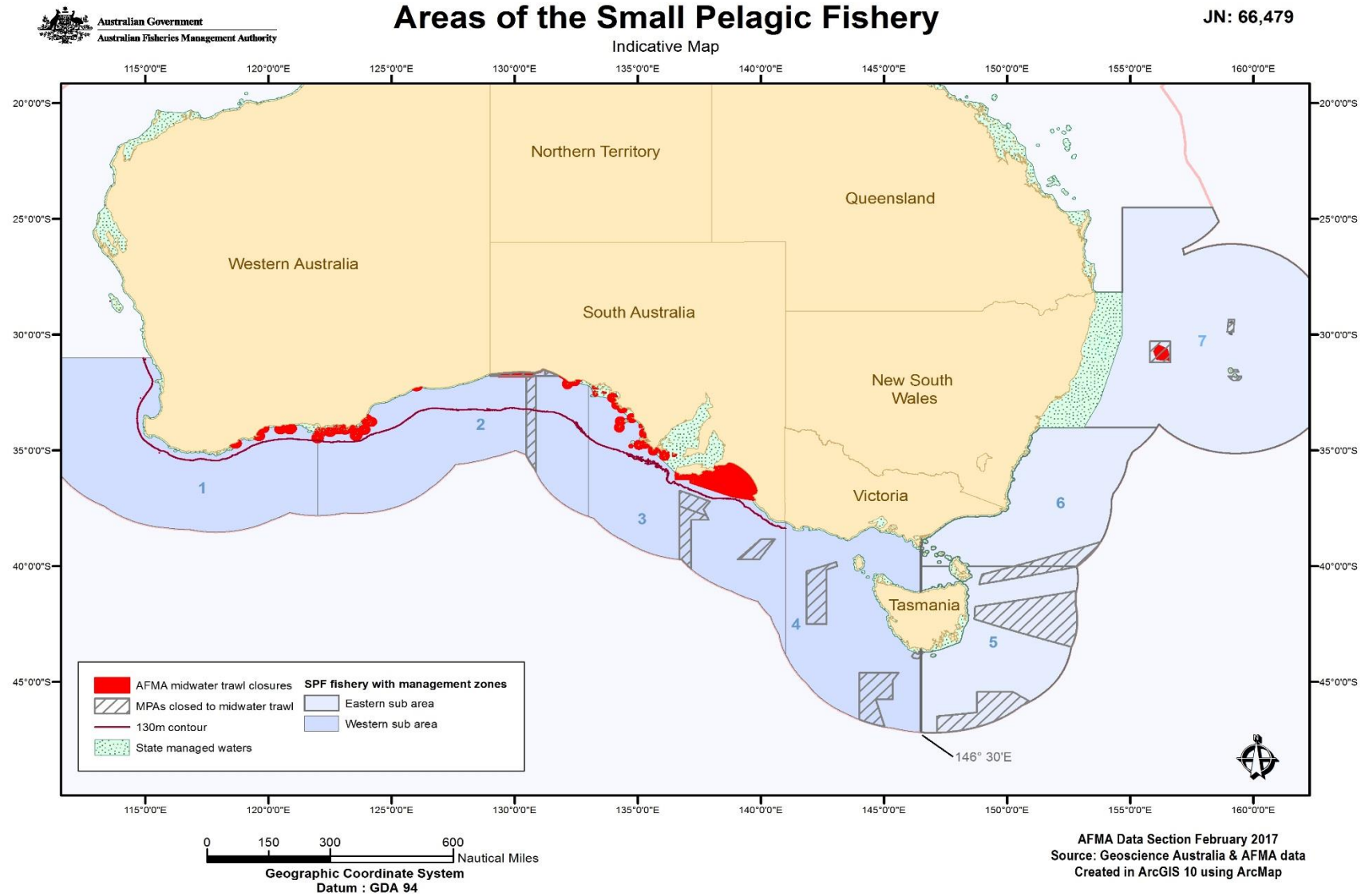
Bannister, J.L., Kemper, C.M. and Warneke, R.M. (1996). *The Action Plan for Australian Cetaceans*. Australian Nature Conservation Agency: Canberra vii 242 pp.

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Mackay, A.I., Goldsworthy, S.D. and Harrison, S. South Australian Research and Development Institute (Aquatic Sciences) 2016. *Critical knowledge gaps: estimating potential maximum cumulative anthropogenic mortality limits of key marine mammal species to inform management*. Adelaide, 2016.

Ross, G.J.B 2006. *Review of the Conservation Status of Australia's Smaller Whales and Dolphins*. Department of Environment: Canberra 124 pp.

Figure 1 Small Pelagic Fishery eastern and western sub-areas and management zones 1-7.



## Appendix A: Dolphin Interaction Evaluation Report template

### AFMA SPF Dolphin Interaction Evaluation Report

v. 1.0

If possible, please provide digital photographs to [SPFConsultation@afma.gov.au](mailto:SPFConsultation@afma.gov.au) of the entanglement and of the animal for identification purposes.

<b>Voyage departure date</b>				
<b>Voyage return date</b>				
<b>Name of vessel</b>				
<b>Home port</b>				
<b>Dolphin species name (refer ID guide)</b>				
<b>Number of animals caught</b>				
<b>How was dolphin caught (select one)</b>	Codend	Before the codend	Entangled in excluder device	Fell out through escape opening
<b>Describe any further detail regarding how dolphin was caught (if relevant)</b>				
<b>Fate of animal and life status e.g. discarded, tagged and discarded,</b>				
<b>Photograph taken?</b>	YES		NO	
<b>Carcass condition</b>	Clean, undamaged.		Lice damaged.	
<b>Location of interaction</b>	Latitude			
	Longitude			
<b>Date &amp; time of interaction</b>				
<b>Logbook number and page number</b>	Logbook #:		Page #:	
<b>Net deployment time</b>	Start:		End:	
<b>Net haul time</b>	Start:		End:	
<b>Net fishing depth (m)</b>				
<b>Weather &amp; sea conditions at time of set:</b>				
<b>Weather &amp; sea conditions at time of haul:</b>				
<b>Average vessel setting course &amp; speed at set:</b>	Course:		Knots:	
<b>Average vessel setting course &amp; speed at haul:</b>	Course:		Knots:	
<b>Standard shot (if not describe problems / net inverted etc)</b>				
<b>Were dolphins observed before setting?</b>	YES		NO	

<b>Were dolphins observed during setting?</b>	YES	NO
<b>Were dolphins observed during hauling?</b>	YES	NO
<b>Any unusual events around interaction?</b>		
<b>Bands, tags or markings present?</b>	YES	NO

<b>Description of fishing gear</b>	Net length:				
	Overall net condition:	Poor	Average	Good	Excellent
	Condition of excluder device:	Poor	Average	Good	Excellent
	Excluder device grid material:				
	Excluder device grid spacing:				
	Excluder device escape opening dimensions:				
	Excluder device hood dimensions:				
	Excluder device kite dimensions:				
	Number of floats used on excluder device, float type and material:				
<b>What mitigation was in place at time of interaction?</b>					
<b>Explanation of why the operator interaction occurred</b>					

<p><b>Detail procedures, if any, the vessel has put in place to prevent any further interactions</b></p>	
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**Were any acoustic dolphin mitigation devices fitted to the net or deployed before the dolphin interaction occurred?**

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**If yes, describe what gear you were deploying including manufacturers specification, setup (frequency range of device, number of devices, spacing along net used to ensure signal overlap from device etc.) and maintenance regime used to check device is working.**

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**Additional Comments**

Provide any additional comments that may be relevant and not recorded above.

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## Appendix B: Dolphin Mitigation Plan template and approval procedure

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A template for a vessel specific Dolphin Mitigation Plan can be found on AFMA's website.

Once AFMA has received a vessel specific Dolphin Mitigation Plan (a Plan) from an operator, AFMA will approve, or not approve, a Plan within five business days of receipt to [SPFConsultation@afma.gov.au](mailto:SPFConsultation@afma.gov.au).

In determining whether to approve a Plan, AFMA will consider whether best practice mitigation measures as identified between AFMA, industry and the CMMWG, have been implemented. AFMA may also seek advice from a relevant expert on whether the actions described in the Plan are appropriate.

AFMA will notify an operator and provide feedback if a Plan is not approved. It is then the operator's responsibility to review and revise the Plan and resubmit to AFMA for approval.

The concession holder must ensure that any modification to mitigation procedures is documented and reported to AFMA at [SPFConsultation@afma.gov.au](mailto:SPFConsultation@afma.gov.au) for reassessment and consideration for approval prior to use. In considering changes to a Plan, AFMA may increase monitoring requirements to review any changes to mitigation measures.