



Australian Government

Department of the Environment and Energy

Assessment of the
Commonwealth Macquarie Island Toothfish Fishery

October 2016

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This report should be attributed as '*Assessment of the Commonwealth Macquarie Island Toothfish Fishery October 2016*, Commonwealth of Australia 2016'.

Disclaimer

This document is an assessment carried out by the Department of the Environment and Energy of a commercial fishery against the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition*. It forms part of the advice provided to the Minister for the Environment and Energy on the fishery in relation to decisions under Parts 13 and 13A of the *Environment Protection and Biodiversity Conservation Act 1999*. The views expressed do not necessarily reflect those of the Minister for the Environment and Energy or the Australian Government.

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SECTION 1: SUMMARY OF THE ASSESSMENT FOR THE COMMONWEALTH MACQUARIE ISLAND TOOTHFISH FISHERY AGAINST THE GUIDELINES FOR THE ECOLOGICALLY SUSTAINABLE MANAGEMENT OF FISHERIES (2ND EDITION)

Purpose: To enable transparent articulation of which commercial fisheries assessed under the EPBC Act clearly meet all legislative requirements and all Guidelines, and those which may require further investigation or assessment to demonstrate requirements are met.

Summary: Overview of Macquarie Island Toothfish Fishery against the relevant requirements of the Guidelines and the EPBC Act.

	Meets	Partially meets	Does not meet	Details
Guidelines				
Management regime	8 of 9	1 of 9	0	<p>Despite the limited ecological risk assessments (ERAs) and ecological risk management strategies for this fishery, management is relatively precautionary and well documented. Accessibility and to a lesser extent, transparency could be improved however.</p> <p>In lieu of the ERA review, expected in 2019, greater alignment with CCAMLR arrangements is suggested as a way to manage uncertainty and risk. This would be consistent with the management plan objectives.</p>
Principle 1 (target stocks)	9 of 9	0	0	<p>Although there is no formal harvest strategy, total allowable catch limits are based on stock assessments which include relevant biological reference points. Input and output controls are used to control harvest and ensure fishing is conducted in a manner that does not threaten stocks of target or byproduct species.</p>
Principle 2 (bycatch and TEPS)	8 of 8	0	0	<p>ERAs have been completed for demersal trawl and demersal longline. These cover non-target species including protected species. The longline assessment is however considered preliminary and the authors recommend further analysis when data becomes available (Zou and Fuller 2011).</p> <p>Risk management measures exist for demersal trawl and demersal longline methods. Methods other than demersal longlining are not currently used by fishers.</p> <p>Protected species interactions are low; however protection of critical feeding and migratory areas, particularly for species under local or global threat may need further consideration when ERAs are reviewed. Management for marine mammals such as the Antarctic fur and southern elephant seals should also be considered, noting the findings of recent reviews.</p>

Principle 2 (ecosystem impacts)	4 of 5	1 of 5	0	<p>Current management appears sufficiently precautionary given the current scale of the fishery and is unlikely to significantly impact the structure, productivity and function of the ecosystem.</p> <p>ERAs have been completed for demersal trawl and demersal longline. These consider target and non-target species, including protected species, but do not consider habitats or ecological communities. The longline assessment is also considered preliminary and the authors recommend further analysis when data becomes available (Zou and Fuller 2011).</p> <p>While methods other than demersal longlining are not currently used, trawling is authorised.</p>
EPBC requirements				
Part 12				Not applicable.
Part 13	11 of 11	0	0	<p>Protected species interactions are low and management measures appear to be effective.</p> <p>However, a number of species found in the region are under local or global threat and protection of their critical feeding and migratory areas has international significance. These issues should be considered when the ERAs are reviewed.</p>
Part 13A	3 of 3	0	0	The fishery is managed, consistent with the Objects of Part 13A of the EPBC Act.
Part 16	1 of 1	0	0	Management is considered precautionary.
<p>Conclusion: The fishery is managed consistent with the objects of the EPBC Act. Risks to target, bycatch and protected species, as well as ecosystems to a lesser extent, are managed and these arrangements are expected to be updated in 2019.</p>				
<p>Final recommendation for 2016 assessment of Macquarie Island Toothfish Fishery: The fishery is considered low risk and is recommended for 10 year approval (2016 to 2026).</p> <p>The Department considers it important for AFMA to undertake its planned update of the ecological risk assessments in 2019 and for that process to include consideration of species, habitats and ecological communities.</p>				

Notes:**Assessment history:**

- 1st assessment finalised 2005 – LENS, with 4 recommendations
- 2nd assessment finalised 2011 – LENS with 3 recommendations. Part 13 accreditation open ended. Three public comments received. Ministerial decision.

<http://www.environment.gov.au/marine/fisheries/commonwealth/macquarie-island-toothfish>.

Fishery reporting:

- Annual report to the Department – last provided in 2016.
- AFMA annual (corporate) reports (include a summary of fishery performance): <http://www.afma.gov.au/about/corporate-publications/>.
- Protected species interactions – Only two reported interactions since 1994. Interactions are publicly reported via the AFMA website.
- Marine Stewardship Council Surveillance Audits: https://www.msc.org/track-a-fishery/fisheries-in-the-program/certified/southern-ocean/macquarie_island_toothfish/assessment-downloads (accessed 13 September 2016).
- Macquarie Island toothfish fishery 2015 Annual Surveillance report. https://www.msc.org/track-a-fishery/fisheries-in-the-program/certified/southern-ocean/macquarie_island_toothfish/assessment-downloads-1/20151510_SR_TOO283.pdf (accessed 13 September 2016).

Key links:

Fishery information page on AFMA website: <http://www.afma.gov.au/fisheries/macquarie-island-fishery/> (accessed 14 September 2016).

Macquarie Island Toothfish Fishery Management Plan 2006: <https://www.legislation.gov.au/Details/F2013C00157> (accessed 14 September 2016).

Statutory Fishing Right conditions (2015–2016 season): <http://www.afma.gov.au/wp-content/uploads/2014/11/Macquarie-Island-Toothfish-Fishery-General-Conditions-2015-16-Season.docx> (accessed 5 September 2016).

Threat Abatement Plan 2014 for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations: <http://www.antarctica.gov.au/environment/plants-and-animals/albatrosses-and-giant-petrels/threat-abatement-plan-seabirds> (accessed 5 September 2016).

Threat abatement plan for the impacts of marine debris on vertebrate marine life 2009–2014: <https://www.legislation.gov.au/Details/F2009L02532> (accessed 5 September 2016).

Sub-antarctic Fur Seal and Southern Elephant Seal Recovery Plan 2004–2009: <https://www.legislation.gov.au/Details/F2007B00291> (accessed 5 September 2016).

Review of 2004–2009 Recovery Plan for Subantarctic Fur Seal (*Arctocephalus tropicalis*) and Southern Elephant Seal (*Mirounga leonina*).

Department of the Environment. Unpublished report February 2016.

Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) Conservation Measures, <https://www.ccamlr.org/en/conservation-and-management/conservation-measures> (accessed 13 September 2016).

Development of a multi-gear spatially explicit assessment and management strategy evaluation for the Macquarie Island Patagonian toothfish fishery http://www.afma.gov.au/wp-content/uploads/2010/06/rr2008_0873_toothfish2011.pdf (accessed 13 September 2016).

Ecological Risk Assessment (ERA) and Ecological Risk Management (ERM):

Ecological Risk Assessment for the Effects of Fishing: Report of the Demersal Trawl Sub-fishery for the Macquarie Island Fishery.

http://www.afma.gov.au/wp-content/uploads/2014/12/ERA_MIF-Demersal-trawl_Fishery-report_280607.doc (accessed 23 August 2016).

Rapid quantitative risk assessment for fish species in seven Commonwealth fisheries, <http://www.afma.gov.au/wp-content/uploads/2014/11/Sustainability-Assessment-for-Fishing-Effect-SPF-April-2009.pdf> (accessed 23 August 2016).

Sustainability assessment for fishing effect on fish bycatch species in the Macquarie Island Toothfish Longline Fishery: 2007–2010, <http://www.afma.gov.au/wp-content/uploads/2012/07/SAFE-level-3-MITF-longline-06-11.pdf> (accessed 30 August 2016).

Ecological Risk Management Report for the Macquarie Island Toothfish Fishery – Demersal Longline Sub-fishery, <http://www.afma.gov.au/wp-content/uploads/2012/07/ERM-MITF-demersal-longline-July-2011-final.pdf> (accessed 5 September 2016).

Australian sub-Antarctic fisheries bycatch and discarding workplan, <http://www.afma.gov.au/wp-content/uploads/2014/11/Bycatch-and-discard-workplan-2013-2.pdf> (accessed 5 September 2016).

Macquarie Island Toothfish Fishery Total Allowable Catch Determination 2016: <https://www.legislation.gov.au/Details/F2016L00341> (accessed 6 September 2016).

Stock assessments:

ABARES Fishery Status Reports 2015: not overfished, not subject to overfishing.

http://data.daff.gov.au/data/warehouse/9aam/fsrXXd9abm_/fsr15d9abm_20151030/27_FishStatus2015MacquarielsToothfish_1.0.0.pdf (accessed 5 September 2016).

Stock Assessment of the Macquarie Island Fishery for Patagonian toothfish (*Dissostichus eleginoides*) using data up to and including August 2015. Report to SARAG 53, 9 February 2016. CSIRO, Australia. http://www.afma.gov.au/wp-content/uploads/2016/03/SARAG_MITFAssessment2016Feb9.pdf (accessed 5 September 2016).

SECTION 2: DETAILED ANALYSIS OF THE COMMONWEALTH MACQUARIE ISLAND TOOTHFISH FISHERY AGAINST THE GUIDELINES FOR THE ECOLOGICALLY SUSTAINABLE MANAGEMENT OF FISHERIES (2ND EDITION)

Guidelines for the Ecologically Sustainable Management of Fisheries (2nd edition)	Comment
THE MANAGEMENT REGIME	
The management regime does not have to be a formal statutory fishery management plan as such, and may include non-statutory management arrangements or management policies and programs. The regime should:	
Be documented, publicly available and transparent	<p>Arrangements are well documented, but accessibility and to a lesser extent, transparency could be improved.</p> <p>Management arrangements are reflected in various documents, including the fishery management plan. While some of these documents are available through the AFMA website, links to key documents such as the ERAs, total allowable catch determinations and gear directions are either missing or incorrect on the AFMA website. The total allowable catch determinations are also made difficult to find by the fact that the search function on the federal register does not present all available results.</p> <p>The Ecological Risk Management (ERM) report for the fishery only considers demersal longline fishing. While this appears to be due to trends in fishing activity, the rationale is not well documented.</p>
Be developed through a consultative process providing opportunity to all interested and affected parties, including the general public	<p>Management arrangements are developed and maintained through a range of transparent and open consultative processes.</p> <p>Minutes of Sub-Antarctic Management Advisory Committee (SouthMAC) and Sub-Antarctic Resource Assessment Group (SARAG) meetings are published on the AFMA website.</p>
Ensure that a range of expertise and community interests are involved in individual fishery management committees and during the stock assessment process	<p>All relevant stakeholders are represented in SouthMAC and SARAG.</p> <p>Significant scientific expertise is engaged in these groups and also the Conservation of Antarctic Marine Living Resources (CCAMLR), which influences management of this fishery. Meetings also involve industry, research, environment and management interests.</p>
Be strategic, containing objectives and performance criteria by which the effectiveness of the management arrangements are measured	<p>Strategic objectives and performance measures are outlined in the fishery management plan and performance is reported through AFMA annual reports.</p> <p>While the fishery is not part of CCAMLR, the Australian Government agreed that it will be managed consistent with CCAMLR arrangements.</p> <p>Fishery performance is reviewed annually by SouthMAC and SARAG.</p>

Be capable of controlling the level of harvest in the fishery using input and/or output controls	<p>A mixture of input and output controls are used to regulate catch of target, byproduct, bycatch and protected species.</p> <p>Total allowable catch limits are reviewed every two years.</p>
Contain the means of enforcing critical aspects of the management arrangements	<p>AFMA conducts an effective risk-based compliance program.</p> <p>This is supported by independent monitoring of all fishing activity (all trips monitored by on-board observers and VMS).</p> <p>Unloading of catch (target, byproduct and bycatch) is also monitored and can also be used to validate logbook records.</p>
Provide for the periodic review of the performance of the fishery management arrangements and the management strategies, objectives and criteria	<p>Performance measures in the fishery management plan.</p> <p>Performance is reviewed every two years by SouthMAC and SARAG.</p>
Be capable of assessing, monitoring and avoiding, remedying or mitigating any adverse impacts on the wider marine ecosystem in which the target species lives and the fishery operates	<p>Ecological risk assessments (ERAs) have been completed for demersal trawl and demersal longline. These ERAs cover target and non-target species, including protected species, but did not consider habitats or ecological communities.</p> <p>Although the ERAs did not consider habitats or communities, some protection is afforded through adjacent marine parks and nature reserves.</p> <p>Management arrangements for the fishery are also required to not undermine CCAMLR arrangements; however CCAMLR protections for vulnerable marine ecosystems have not been extended to this fishery.</p> <p>Although authorised, demersal trawl fishing has not occurred since 2009. AFMA prohibited the use of methods other than demersal trawl and demersal longline from 12 April 2011 until 14 April 2016, via a direction issued under the <i>Fisheries Management Act 1991</i>. This direction has since expired and has not been renewed as it is considered unnecessary given Statutory Fishing Right conditions for the fishery restrict fishing to longline and trawl methods only (AFMA pers. comm. 2016).</p> <p>AFMA's most recent ERA for longline fishing is considered preliminary and the authors recommend further analysis when data becomes available (Zou and Fuller 2011). The ecological risk management report (ERM) is also focussed on demersal longline fishing and does not consider other fishing methods.</p> <p>Risk management measures are however contained in the conditions on fishing concessions for both demersal trawl and demersal line methods. These include limits for net mesh, bobbin and rock hopper rubber disk sizes, as well as bycatch excluder devices. The arrangements are consistent with the Threat Abatement Plan 2014 for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations and some but not all CCAMLR conservation measures.</p>

	<p>Bycatch species are also managed in accordance with the Australian sub-Antarctic fisheries bycatch and discarding workplan 2013. Catch limits for these species are included on the total allowable catch determination for the fishery.</p> <p>The ERAs and ERM for this fishery are expected to be reviewed and updated in 2019.</p>
Requires compliance with relevant threat abatement plans, recovery plans, the National Policy on Fisheries Bycatch, and bycatch action strategies developed under the policy	<p>The fishery requires compliance with all relevant plans, policies and strategies.</p> <p>These include:</p> <ul style="list-style-type: none"> • Threat abatement plan 2006 for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations • Threat abatement plan for the impacts of marine debris on vertebrate marine life 2009–2014 • Sub-antarctic fur seal and southern elephant seal recovery plan 2004–2009. <p>The fishery is also managed in accordance with the Australian sub-Antarctic fisheries bycatch and discarding workplan 2013.</p>
<p>PRINCIPLE 1 - A fishery must be conducted in a manner that does not lead to over-fishing, or for those stocks that are over-fished, the fishery must be conducted such that there is a high degree of probability the stock(s) will recover.</p>	
<p>Objective 1 - The fishery shall be conducted at catch levels that maintain ecologically viable stock levels at an agreed point or range, with acceptable levels of probability.</p>	
<p>Information requirements</p>	
<p>1.1.1 There is a reliable information collection system in place appropriate to the scale of the fishery. The level of data collection should be based upon an appropriate mix of fishery independent and dependent research and monitoring.</p>	<p>There is a reliable information collection system in place appropriate to the scale of the fishery.</p> <p>CCAMLR logbooks are required to be completed for all fishing activities. Scientific observers also monitor all fishing activity and collect additional data. Vessel Monitoring Systems must also be used at all times.</p>
<p>Assessment</p>	
<p>1.1.2 There is a robust assessment of the dynamics and status of the species/fishery and periodic review of the process and the data collected. Assessment should include a process to identify any reduction in biological diversity and/or reproductive capacity. Review should take place at regular intervals but at least every three years.</p>	<p>There is a robust assessment of the dynamics and status of the species/fishery and periodic review of the process and the data collected.</p> <p>Biennial assessments are undertaken for AFMA by the CSIRO and these are reviewed by SARAG. Assessments are supported by a Management Strategy Evaluation which was undertaken in 2011.</p>
<p>1.1.3 The distribution and spatial structure of the stock(s) has been established and factored into management responses.</p>	<p>The distribution and spatial structure of the stock has been established and factored into management.</p>

	<p>Stock assessments fit data from the entire Macquarie Island Toothfish Fishery, assume a single reproductive stock, but take into account spatial structuring of the population within the region.</p> <p>Northern and southern areas are incorporated into the model, with movement of fish between areas and recruitment to both areas considered. There is however still considerable uncertainty about movement of fish between the northern and southern areas of the fishery and CSIRO has advised that the interaction of movement parameters with other stock assessment elements requires further investigation (CSIRO 2016).</p> <p>A single total allowable catch limit for the entire Macquarie Island region is calculated using the CCAMLR control rule.</p>
<p>1.1.4 There are reliable estimates of all removals, including commercial (landings and discards), recreational and indigenous, from the fished stock. These estimates have been factored into stock assessments and target species catch levels.</p>	<p>There are reliable estimates of all removals, including commercial (landings and discards). There is no recreational or indigenous activity in this fishery. Although stock assessments contain some uncertainties, these are identified and actions are being taken to address them. This is considered sufficiently precautionary at this time.</p>
<p>1.1.5 There is a sound estimate of the potential productivity of the fished stock(s) and the proportion that could be harvested.</p>	<p>Sound estimates of productivity are available and are used in stock assessments.</p>
<p>Management responses</p>	
<p>1.1.6 There are reference points (target and/or limit), that trigger management actions including a biological bottom line and/or a catch or effort upper limit beyond which the stock should not be taken.</p>	<p>Although there is no formal harvest strategy, total allowable catch limits are based on stock assessments which include relevant biological reference points.</p> <p>The fishery is not currently overfished or subject to overfishing (ABARES 2015).</p>
<p>1.1.7 There are management strategies in place capable of controlling the level of take.</p>	<p>Input and output controls are used to control the level of take in the fishery. Total allowable catch limits for target and non-target species are established through a determination made under the <i>Fisheries Management Act 1991</i>. These instruments are difficult to find as the links are incorrect on the AFMA website and the search function on the federal register does not present all available results.</p>
<p>1.1.8 Fishing is conducted in a manner that does not threaten stocks of byproduct species.</p>	<p>Fishing is conducted in a manner that does not threaten stocks of byproduct species.</p> <p>Take of non-target species is low (less than 20 tonnes per year) and catch limits, similar to those applied in CCAMLR conservation measures apply. Like CCAMLR fisheries, bycatch limits apply. These are up to 50 tonnes of each non-target species per year. Unlike CCAMLR fisheries though, the 200 tonne cumulative limit (all non-target species combined) does not apply to this fishery. The reason for these differences in management are not clear.</p>

	These arrangements are reflected in the Australian sub-Antarctic fisheries bycatch and discarding workplan 2013 .
(Guidelines 1.1.1 to 1.1.7 should be applied to byproduct species to an appropriate level)	
1.1.9 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	Management appears likely to achieve the objectives.
If overfished, go to Objective 2: If not overfished, go to PRINCIPLE 2:	
Objective 2 - Where the fished stock(s) are below a defined reference point, the fishery will be managed to promote recovery to ecologically viable stock levels within nominated timeframes.	
Management responses	
1.2.1 A precautionary recovery strategy is in place specifying management actions, or staged management responses, which are linked to reference points. The recovery strategy should apply until the stock recovers, and should aim for recovery within a specific time period appropriate to the biology of the stock.	Not applicable.
1.2.2 If the stock is estimated as being at or below the biological and / or effort bottom line, management responses such as a zero targeted catch, temporary fishery closure or a 'whole of fishery' effort or quota reduction are implemented.	Not applicable.
PRINCIPLE 2 - Fishing operations should be managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem.	
Objective 1 - The fishery is conducted in a manner that does not threaten bycatch species.	
Information requirements	
2.1.1 Reliable information, appropriate to the scale of the fishery, is collected on the composition and abundance of bycatch.	Information on all catches, including bycatch is collected using CCAMLR logbooks. These logbooks require species specific reporting. Information is also collected by scientific observers who monitor all fishing activity.
Assessments	
2.1.2 There is a risk analysis of the bycatch with respect to its vulnerability to fishing.	Ecological risk assessments (ERAs) have been completed for demersal trawl and demersal longline methods. These ERAs include bycatch species. Although authorised, demersal trawl fishing has not occurred since 2009. AFMA prohibited the use of methods other than demersal trawl and demersal longline from 12 April 2011 until 14 April 2016, by a direction made under the

	<i>Fisheries Management Act 1991</i> . This direction has since expired and has not been renewed as it is considered unnecessary given Statutory Fishing Right conditions for the fishery restrict fishing to longline and trawl methods only (AFMA pers. comm. 2016). The ecological risk assessments and management strategy for this fishery is expected to be reviewed and updated in 2019.
Management responses	
2.1.3 Measures are in place to avoid capture and mortality of bycatch species unless it is determined that the level of catch is sustainable (except in relation to endangered, threatened or protected species). Steps must be taken to develop suitable technology if none is available.	Measures are in place to avoid capture and mortality of bycatch species. AFMA's ecological risk management report (July 2011) focusses on demersal longline fishing and does not consider demersal trawling. However, risk management measures are contained in the conditions on fishing concessions for both demersal trawl and demersal line methods. Bycatch species are also managed in accordance with the Australian sub-Antarctic fisheries bycatch and discarding workplan 2013 and catch limits for these species are included on the total allowable catch determination for the fishery. These arrangements are expected to be reviewed when the ERA is reviewed in 2019.
2.1.4 An indicator group of bycatch species is monitored.	Not applicable. No indicator species have been identified.
2.1.5 There are decision rules that trigger additional management measures when there are significant perturbations in the indicator species numbers.	Not applicable. Although no indicator species have been identified, bycatch species are managed in accordance with the Australian sub-Antarctic fisheries bycatch and discarding workplan 2013 and catch limits for these species are included on the total allowable catch determination for the fishery. These catch limits if reached require a cessation of fishing for the boat as discarding is restricted in this fishery.
2.1.6 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	Management appears likely to achieve the objectives.
Objective 2 - The fishery is conducted in a manner that avoids mortality of, or injuries to, endangered, threatened or protected species and avoids or minimises impacts on threatened ecological communities.	
Information requirements	
2.2.1 Reliable information is collected on the interaction with endangered, threatened or protected species and threatened ecological communities.	Reliable information is collected on the interaction with endangered, threatened or protected species and threatened ecological communities.

	<p>Species specific reporting is required through CCAMLR logbooks. On-board scientific observers also observe all fishing activity and collect information on any interactions.</p> <p>There have only been two reported interactions with protected species since 1994 and no threatened ecological communities have been identified in the area of the fishery.</p>
Assessments	
2.2.2 There is an assessment of the impact of the fishery on endangered, threatened or protected species.	<p>Ecological risk assessments (ERAs) have been completed for demersal trawl and demersal longline methods. These ERAs include protected species.</p> <p>Although authorised, demersal trawl fishing has not occurred since 2009. AFMA prohibited the use of methods other than demersal trawl and demersal longline from 12 April 2011 until 14 April 2016, by a Direction issued under the <i>Fisheries Management Act 1991</i>. This Direction has since expired and has not been renewed as it is considered unnecessary given Statutory Fishing Right conditions for the fishery restrict fishing to longline and trawl methods only (AFMA pers. comm. 2016).</p> <p>A recent, unpublished review of the Sub-antarctic fur seal and southern elephant seal recovery plan 2004–2009 by the Department states “fisheries, particularly longline, cannot be ruled out as an emerging threat to both species though there appears to be little impact at present.”</p> <p>The ERA and risk management strategies for this fishery are expected to be reviewed and updated in 2019.</p>
2.2.3 There is an assessment of the impact of the fishery on threatened ecological communities.	<p>Not applicable.</p> <p>No threatened ecological communities have been identified in the area of the fishery.</p>
Management responses	
2.2.4 There are measures in place to avoid capture and/or mortality of endangered, threatened or protected species.	<p>There are measures in place to avoid capture and/or mortality of endangered, threatened or protected species.</p> <p>Although risk assessments have been undertaken for various methods, AFMA's ecological risk management report (July 2011) is focussed on demersal longline fishing and does not consider other fishing methods, including demersal trawling. Conditions on fishing concessions do however contain some risk management measures for both demersal trawl and demersal line methods. These are consistent with some CCAMLR conservation measures and the Threat Abatement Plan 2014 for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations.</p> <p>The Australian sub-Antarctic fisheries bycatch and discarding workplan 2013 also includes management arrangements for protected species.</p>

	<p>There have only been two reported interactions with protected species since the fishery commenced in 1994. One southern royal albatross was killed when it collided with the vessel mast (July-September 2012) and one Antarctic fur seal was hooked and released alive (July-September 2014); both occurred during longline operations.</p> <p>The ecological risk assessments and management strategy for this fishery are expected to be reviewed and updated in 2019.</p>
2.2.5 There are measures in place to avoid impact on threatened ecological communities.	<p>Not applicable.</p> <p>There are no threatened ecological communities identified in the area of the fishery.</p>
2.2.6 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	Management appears likely to achieve the objectives.
Objective 3 - The fishery is conducted, in a manner that minimises the impact of fishing operations on the ecosystem generally.	
Information requirements	
2.3.1 Information appropriate for the analysis in 2.3.2 is collated and/or collected covering the fisheries impact on the ecosystem and environment generally.	The CCAMLR logbooks used in this fishery require species level reporting of bycatch, including interactions with vulnerable marine ecosystems. However it is unclear whether this data is considered in managing this fishery.
Assessment	
<p>2.3.2 Information is collected and a risk analysis, appropriate to the scale of the fishery and its potential impacts, is conducted into the susceptibility of each of the following ecosystem components to the fishery.</p> <p>1. Impacts on ecological communities</p> <ul style="list-style-type: none"> • Benthic communities • Ecologically related, associated or dependent species • Water column communities <p>2. Impacts on food chains</p> <ul style="list-style-type: none"> • Structure • Productivity/flows <p>3. Impacts on the physical environment</p> <ul style="list-style-type: none"> • Physical habitat • Water quality 	<p>Information is collected but risk assessments have not considered ecosystem components.</p> <p>The CCAMLR logbooks used in this fishery require species level reporting of bycatch, including interactions with vulnerable marine ecosystems. However it is unclear whether this data is considered in managing this fishery.</p> <p>Ecological risk assessments (ERAs) have been completed for demersal trawl and demersal longline. These ERAs cover target and non-target species, including protected species, but do not consider habitats or ecological communities.</p> <p>The longline assessment is also considered preliminary and the authors recommend further analysis when data becomes available (Zou and Fuller 2011).</p> <p>The ERAs are expected to be reviewed and updated in 2019. It is expected that habitats and ecological communities will be considered when these assessments are reviewed.</p>
Management responses	

<p>2.3.3 Management actions are in place to ensure significant damage to ecosystems does not arise from the impacts described in 2.3.1.</p>	<p>Although ecological risk assessments have not considered habitats or communities, management arrangements are in place to ensure significant damage to ecosystems does not arise.</p> <p>Protection is afforded to areas adjacent to the fishery by marine parks and nature reserves.</p> <p>While the fishery is not part of CCAMLR, the Australian Government agreed that it will be managed consistent with CCAMLR arrangements. CCAMLR protections for vulnerable marine ecosystems have not been extended to this fishery. The reason for this decision is unclear.</p> <p>AFMA prohibited the use of methods other than demersal trawl and demersal longline from 12 April 2011 until 14 April 2016, via a Direction issued under the <i>Fisheries Management Act 1991</i>. This Direction has since expired and has not been renewed as it is considered unnecessary given Statutory Fishing Right conditions for the fishery restrict fishing to longline and trawl methods only (AFMA pers. comm. 2016).</p> <p>AFMA's ecological risk management report (July 2011) focusses on demersal longline fishing and does not consider other fishing methods. Risk management measures are however contained in the conditions on fishing concessions for both demersal trawl and demersal line methods. These include limits for net mesh, bobbin and rock hopper rubber disk sizes, as well as bycatch excluder devices. The arrangements are consistent with some, but not all CCAMLR conservation measures and also the Threat Abatement Plan 2014 for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations.</p> <p>Bycatch species are also managed in accordance with the Australian sub-Antarctic fisheries bycatch and discarding workplan 2013. Catch limits for these species are included on the total allowable catch determination for the fishery.</p> <p>The ecological risk assessments and management strategy for this fishery is expected to be reviewed and updated in 2019.</p>
<p>2.3.4 There are decision rules that trigger further management responses when monitoring detects impacts on selected ecosystem indicators beyond a predetermined level, or where action is indicated by application of the precautionary approach.</p>	<p>There are decision rules that trigger further management responses when monitoring detects impacts on selected ecosystem indicators beyond predetermined levels.</p> <p>The Threat Abatement Plan 2014 for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations includes a range of risk management arrangements as well as interaction limits for longline fishing. These arrangements are reflected in statutory fishing right conditions, which also contain further protections for five high-risk seabird species. These additional provisions trigger cessation of fishing by the boat if any of the five species are caught and killed.</p>

	<p>Catch limits are also in force for bycatch species, which effectively trigger cessation of fishing because discarding is restricted.</p> <p>CCAMLR protections for vulnerable marine ecosystems are however not extended to this fishery.</p> <p>The ecological risk assessments and management strategy for this fishery is expected to be reviewed and updated in 2019.</p>
2.3.5 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	<p>Management appears likely to achieve the objectives.</p>

SECTION 3: ASSESSMENT OF THE COMMONWEALTH MACQUARIE ISLAND TOOTHFISH FISHERY AGAINST THE REQUIREMENTS OF THE EPBC ACT

Please Note – the table below is not a complete or exact representation of the EPBC Act. It is intended as a checklist of relevant sections and components of the EPBC Act to provide advice on the fishery in relation to decisions under Part 13 and Part 13A.

Part 12

	Comment
Section 176 Bioregional Plans	
(5) Minister must have regard to relevant bioregional plans	Not applicable. There is no marine bioregional plan for the South-east Marine Region in which the fishery operates.

Part 13

	Comment
Accreditable plan, regime or policy (Division 1, Division 2, Division 3, Division 4)	
s. 208A (1) (a-e) , s.222A (1) (a-e), s.245A (1) (a-e), s.265 (1) (a-e) Does the fishery have an accreditable plan of management, regime or policy?	Yes. Macquarie Island Toothfish Fishery Management Plan 2006 in force under <i>Fisheries Management Act 1991</i> .
Division 1 Listed threatened species, Section 208A Minister may accredit plans or regimes	
(f) Will the plan, regime or policy require fishers to take all reasonable steps to ensure that members of listed threatened species (other than conservation dependent species) are not killed or injured as a result of the fishing?	Yes. The management arrangements require fishers to take all reasonable steps to ensure that members of listed threatened species are not killed or injured as a result of the fishing.
(g) And, is the fishery likely to adversely affect the survival or recovery in nature of the species.	No. The fishery is not likely to adversely affect the survival or recovery in nature of listed threatened species. Bycatch is low and management measures appear to be effective. However, a number of species found in the region are under local or global threat and protection of their critical feeding and migratory areas has international significance. These protections should be considered when ecological risk assessment and risk management measures are reviewed in 2019.
Division 2 Migratory species, Section 222A Minister may accredit plans or regimes	

(f) Will the plan, regime or policy require fishers to take all reasonable steps to ensure that members of listed migratory species are not killed or injured as a result of the fishing?	Yes. The management arrangements require fishers to take all reasonable steps to ensure that members of listed migratory species are not killed or injured as a result of the fishing.
(g) And, is the fishery likely to adversely affect the conservation status of a listed migratory species or a population of that species?	No. The fishery is not likely to adversely affect the conservation status of a listed migratory species or a population of that species. Protections exist for seabirds and more conservative arrangements exist for five species considered to be at particularly high risk. Protections for marine mammals such as the Antarctic fur and southern elephant seals should be reviewed when the ecological risk assessment and risk management measures are reviewed in 2019. Known interaction rates for marine mammals are however very low.
Division 3 Whales and other cetaceans, Section 245 Minister may accredit plans or regimes	
(f) Will the plan, regime or policy require fishers to take all reasonable steps to ensure that cetaceans are not killed or injured as a result of the fishing?	Yes. The management arrangements require fishers to take all reasonable steps to ensure that cetaceans are not killed or injured as a result of the fishing.
(g) And is the fishery likely to adversely affect the conservation status of a species of cetacean or a population of that species?	No. The fishery is unlikely to adversely affect the conservation status of a species of cetacean or a population of that species.
Division 4 Listed marine species, Section 265 Minister may accredit plans or regimes	
(f) Will the plan, regime or policy require fishers to take all reasonable steps to ensure that members of listed marine species are not killed or injured as a result of the fishing?	Yes. The management arrangements require fishers to take all reasonable steps to ensure that members of listed marine species are not killed or injured as a result of the fishing.
(g) And is the fishery likely to adversely affect the conservation status of a listed marine species or a population of that species?	No. The fishery is unlikely to adversely affect the conservation status of a listed marine species or a population of that species.
Section 303AA Conditions relating to accreditation of plans, regimes and policies	
(1) This section applies to an accreditation of a plan, regime or policy under section 208A, 222A, 245 or 265.	Accreditation is recommended.
(2) The Minister may accredit a plan, regime or policy under that section even though he or she considers that the plan, regime or policy should be accredited only: (a) during a particular period; or (b) while certain circumstances exist; or (c) while a certain condition is complied with. In such a case, the instrument of accreditation is to specify the period, circumstances or condition.	No conditions required.

(7) The Minister must, in writing, revoke an accreditation if he or she is satisfied that a condition of the accreditation has been contravened.	Not applicable.
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Part 13A

Section 303BA Objects of Part 13A	
<p>(1) The objects of this Part are as follows:</p> <p>(a) to ensure that Australia complies with its obligations under CITES and the Biodiversity Convention;</p> <p>(b) to protect wildlife that may be adversely affected by trade;</p> <p>(c) to promote the conservation of biodiversity in Australia and other countries;</p> <p>(d) to ensure that any commercial utilisation of Australian native wildlife for the purposes of export is managed in an ecologically sustainable way;</p> <p>(e) to promote the humane treatment of wildlife;</p> <p>(f) to ensure ethical conduct during any research associated with the utilisation of wildlife; and</p> <p>(h) to ensure the precautionary principle is taken into account in making decisions relating to the utilisation of wildlife.</p>	
	Comment
Section 303DC Minister may amend list (non CITES species)	
<p>(1) The Minister may amend the LENS by:</p> <p>(a) doing any of the following:</p> <p>(i) including items in the list;</p> <p>(ii) deleting items from the list;</p> <p>(iii) imposing a condition or restriction to which the inclusion of a specimen in the list is subject;</p> <p>(iv) varying or revoking a condition or restriction to which the inclusion of a specimen in the list is subject.</p>	
(1A) In deciding to amend LENS, Minister must rely primarily on outcomes of Part 10, Div 1 or 2 assessment.	Commonwealth fishery management plan accredited on 16 July 2007; not subject to any conditions.
(1C) The above does not limit matters that may be considered when deciding to amend LENS.	The fishery is managed consistent with the Objects of Part 13A.
<p>(3) Before amending LENS, Minister must consult:</p> <p>(a) other Minister or Ministers as appropriate; and</p> <p>(b) other Minister or Ministers of each State and self-governing Territory as appropriate; and</p> <p>(c) other persons and organisations as appropriate.</p>	Consultation with Commonwealth Fisheries Minister in October 2014 (MS14-002367).

Part 16

	Comment
Section 391 Minister must consider precautionary principle in making decisions	
<p>(1) Minister must take account of precautionary principle</p> <p>(2) The precautionary principle is that lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental damage.</p>	Management is considered precautionary.