# HEARD ISLAND AND MCDONALD ISLANDS (HIMI) TOOTHFISH FISHERY MSC FULL-ASSESSMENT REPORT

# Austral Fisheries Pty Ltd.

PO Box 280, Mount Hawthorn, WA 6915, Australia Martin Exel

# Australian Longline Pty Ltd.

Suite 12, 2 Bayfield St, Rosny Park, Hobart, TAS 7018, Australia Malcolm McNeill

Date of Onsite Audit: 09/08/16

Client Draft Report: 11 February 2017

PCDR: 2<sup>nd</sup> May 2017

Prepared by:

Dr. Sabine Daume (Team Leader, Principle 2 Expert) Mr. Alexander "Sandy" Morison (Principle 1 Expert) Ms. Sascha BrandGardner (Principle 3 Expert)

Sustainable Seafood Program – Australia and New Zealand

Victoria 3068, Australia +61 497943304 SDaume@scsglobalservices.com



2000 Powell Street, Ste. 600, Emeryville, CA 94608 USA +1.510.452.8000 main | +1.510-452-8001 fax www.SCSGlobalServices.com

# **Table of Contents**

HEA	RD ISLA	AND AND MCDONALD ISLANDS (HIMI) TOOTHFISH FISHERY	1					
MSC	CFull-as	ssessment REPORT	1					
Aust	ral Fish	neries Pty Ltd	1					
Aust	ralian L	Longline Pty Ltd	1					
Tabl	e of Co	ntents	ii					
Glos	sary of	Acronyms	1					
1.	Execut	tive Summary	3					
2.	Autho	rship and Peer Reviewers	4					
	Audit 1	Team	4					
	Peer R	eviewers	6					
3.	Descri	ption of the Fishery	7					
	3.1	Unit(s) of Certification and scope of certification sought	7					
	3.2	Overview of the fishery	8					
	3.3	Principle One: Target Species Background	9					
	3.4	Principle Two: Ecosystem Background	21					
	3.5	Principle Three: Management System Background	28					
	South	MAC	33					
4.	Evalua	ition Procedure	39					
	4.1	Harmonised Fishery Assessment	39					
	4.2	Previous assessments	44					
	4.3	Assessment Methodologies	51					
	4.4	Evaluation Processes and Techniques	53					
	4.4.1	Site Visits	53					
	4.4.2	Evaluation Techniques	53					
5.	Tracea	ability	56					
	5.1	Eligibility Date	56					
	5.2	Traceability within the Fishery	56					
	5.3	Eligibility to Enter Further Chains of Custody	58					
6.	Evalua	ition Results	59					
	6.1	Principle Level Scores	59					
	6.2	Summary of Scores	60					
	6.3	Summary of Conditions	60					
	6.3.1       Recommendations							

6.4 Determination, Formal Conclusion and Agreement61
7. References
Appendix 1. Scoring and Rationales67
1.1 Performance Indicator Scores and Rationale67
Procedure for Scoring and Rationales67
Principle 169
Principle 2
Principle 3150
1.3 Conditions
Appendix 2. Peer Review Reports
Peer Reviewers Overall Opinion
Client Action Plan Comments
Peer Reviewers General Comments183
Peer Reviewers Comments Related to Scores and Rationales184
Appendix 3. Stakeholder submissions200
Appendix 4. Surveillance Frequency201
Appendix 5. Client Agreement
5.1 Objections Process

# **Glossary of Acronyms**

AAD	Australian Antarctic Division
ABARES	Australian Bureau of Agriculture and Resource Economics and Sciences
ACBP	Australian Customs and Border Protection
ACE – CRC	Antarctic Climate & Ecosystems Cooperative Research Centre
AFMA	Australian Fisheries Management Authority
AFZ	Australian Fishing Zone
ARC	Australian Research Council
B <sub>MSY</sub>	Biomass Maximum Sustainable Yield
CASAL	C++ Algorithmic Stock Assessment Laboratory
CCAMLR Commiss	ion on the Conservation of Antarctic Marine Living Resources
CDS	Catch Documentation Scheme
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CM	Conservation Measure
CRIS	Cost Recovery Impact Statement
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CV	Coefficient of variation
eDCD	electronic Dissostichus Document
DoEE	Department of Environment and Energy
EEZ	Exclusive Economic Zone
EPBC	Environment Protection and Biodiversity Conservation Act 1999
ERA	Ecological Risk Assessment
ETP	Endangered, Threatened or Protected species
FAO	Food and Agriculture Organization of the United Nations
FCM	Fisheries Certification Methodology
FMA	Fisheries Management Act 1991
GYM	Generalised Yield Model
HCR	Harvest Control Rules
HIMI	Heard Island and McDonald Islands
HIMITF	Heard Island and McDonald Islands Toothfish Fishery
HIPPIES	Heard Island Predator Prey Integrated Ecosystem Study
HS	Harvest Strategy
IFQ	Individual Fishing Quota
ITQ	Individual Transferable Quota
IUU	Illegal, Unregulated or Unreported
Kg	kilogram
Lb.	Pound, equivalent to roughly 2.2 kg
LOA	Length Over-All
LRP	Limit Reference Point
M	Million (lbs.)
MAC	Management Advisory Committee
MCMC	Markov Chain Monte Carlo
MNHN	Museum National d'Histoire Naturelle
MPD	Maximum Posterior Density
MSC	Marine Stewardship Council
MSE	Management Strategy Evaluation
nm	nautical mile

OFL	Over-Fishing Level
PCDR	Public Comment Draft Report
PCR	Public Certification Report
PI	Performance Indicator
PISG	Performance Indicator Scoring Guidelines
RAG	Resource Assessment Group
RBF	Risk Based Framework
RSTS	Random Stratified Trawl Survey
SARAG	Sub-Antarctic Resource Assessment Group
SARPC	Syndicat des Armements Reunionnais de Palagriers-Congelateurs
SC	Scientific Committee
SCS	SCS Global Services
SFRs	Statutory Fishing Rights
SG	Scoring Guidepost
SSB	Spawning Stock Biomass
RSTS	Random Stratified Trawl Survey
t and mt metric to	n
TAAF	Terres Australes et Antarctiques Francaises
TAC	Total Allowable Catch
ТОВ	Total On Board
UoA	Unit of Assessment
UoC	Unit of Certification
VMS	Vessel Monitoring System
WCPFC	Western and Central Pacific Fisheries Commission
WGEMM	Working Group on Ecosystem Monitoring and Management
WGFSA	Working Group on Fish Stock Assessment
WGIMAF	Working Group on Incidental Mortality Associated with Fishing
WWF	World Wildlife Fund
YCS	Year Class Strength

# 1. Executive Summary

SCS Global Services (SCS) is an independent third-party certification body that has undertaken the MSC re-assessment of the Heard Island and McDonald Islands (HIMI) Toothfish Fishery in accordance with the MSC Principles and Criteria for sustainable fishing. This fishery was first certified in March 2012, and this is the 1<sup>st</sup> re-assessment. The re-assessment complies with the DAT of MSC Certification Requirements v1.3 (January 2013) and the guidance to the Certification Requirements v1.3 (January 2013) but applies CR v2.0 for process.

The team selected to undertake the re-assessment includes three team members that collectively meet the requirements for MSC assessment teams. These are:

- Dr. Sabine Daume Team Leader, P2 Expert
- Mr. Alexander Morison, P1 Expert
- Ms. Sascha Brand-Gardner, P3 Expert

The team met with fishery representatives, scientists and stakeholders in Hobart, Tasmania on 9-10<sup>th</sup> August, 2016. Documents were presented by fishery representatives and fisheries scientists. Client representatives were thorough in their approach and provided the assessment team with supporting documents. Where necessary, additional information was requested. The assessment covers two Units of Certification (UoC): Patagonian toothfish (*Dissostichus eleginoides*) caught by demersal trawl and demersal longline. The Unit of Assessment (UoA) does not extend to any other fisheries or fishing vessels.

The key strengths of the fishery include that it has already been certified as meeting the MSC Principle and Criteria for a sustainable fishery, and during this re-assessment no new condition was identified. Principle 1 achieved very high scores with an average of 96/100 due to the good stock status, welldeveloped and conservative harvest strategy, supported by a strong information and monitoring system. The comprehensive compliance and surveillance program together with robust cooperative arrangements with France ensures a high level of compliance and demonstrates a commitment to combat IUU fishing with a high score of 97/100.

In this re-assessment report, we provide the detailed rationales for scores assigned by the audit team for each of the Performance Indicators (PIs) under Principle 1 (Stock Status and Harvest Strategy), Principle 2 (Ecosystem Impact) and Principles 3 (Governance, Policy and Management System) of the MSC Standard. No PIs failed to reach the minimum scoring level of 60, and the average scores for each Principle were above 80 for both UoCs (for more details see Section 6.2). These findings support the conclusion reached by the assessment team that all Units of Certification are recommended for recertification according to the MSC Principles and Criteria for Sustainable Fisheries. In addition, no PIs scored below 80 and therefore no conditions were placed on the fishery at the re-assessment. Only one recommendation was made.

Specific emphasis has been placed on harmonization with the overlapping SARPC fishery but also all other CCMLAR and AFMA managed fisheries were considered under Principle 3. Section 4.1 provides the details.

# 2. Authorship and Peer Reviewers

The assessment team included one team leader (Dr. Sabine Daume) and two independent fisheries experts (Mr. Alexander Morison and Ms. Sascha Brand-Gardner). As outlined below, the assessment team meets the requirements of the MSC Certification Requirements v 1.3 (2013).

# Audit Team

Dr. Sabine Daume, SCS Global Services (SCS), Regional Director Australia and New Zealand

Dr. Daume is the Regional Director for the SCS Sustainable Seafood Program in Australia and New Zealand, which covers MSC, ASC and Fisheries Improvement programs. Since 2009, Dr. Daume has led numerous MSC evaluation audits on behalf of SCS, including several large and controversial assessments, and many in Australia. Dr. Daume is a marine biologist with special expertise in the biology and ecology of exploited marine resources with a particular emphasis on invertebrates. Dr. Daume has over 13 years' experience working closely with the fishing and aquaculture industry in Australia. She holds a PhD in marine biology from La Trobe University in Victoria, Australia and an MSc in Marine Biology and Marine Chemistry from Kiel University in Germany. Prior to joining SCS, Dr. Daume worked as a Senior Research Scientist at the Research Division of the Department of Fisheries in Western Australia. She has extensive experience working with diverse groups, often in remote marine environments. She has worked with industry personnel at all levels (divers, technicians, managers, executive officers), as well as policy makers and managers in government departments. Dr. Daume led the WA rock lobster and Heard Island and McDonald Islands (HIMI) icefish annual surveillance and re-assessment, the HIMI toothfish assessment in 2011 and Macquarie Island toothfish assessment in 2011, as well as numerous audits in USA, Canada, Mexico and Japan. Dr. Daume has been trained by the MSC to use the Risk Based Framework (RBF) and the most recent MSC Certification Requirements (v2.0 Oct. 2014). She is a certified lead auditor under the ISO 9001:2008 standard.

#### Alexander (Sandy) Morison, Morison Aquatic Sciences

Mr. Morison is a consultant specializing in fisheries and aquatic sciences. He has over 30 years' experience in fisheries science and assessment at state, national and international levels and has held senior research positions for state and national organizations in Australia. These include being chair of a range of fishery assessment groups including the Victorian Southern Rock Lobster Assessment Group. Mr. Morison has participated as part of a team undertaking MSC pre-assessments for several fisheries and has been the Principle 1 expert for the MSC certification assessments or surveillance audits of assessments of the Heard Island and McDonald Islands (HIMI) Icefish Fishery, the HIMI Toothfish Fishery, the Macquarie Island Toothfish Fishery, the Kyoto Danish Seine Fishery, the Western Australian Rock Lobster Fishery, the Lakes and Coorong Fishery, the Partner's to the Nauru Agreement (PNA) Purse Seine Skipjack Tuna Fishery, and the expedited Principle 1 assessment of the PNA Purse Seine Yellowfin Tuna Fishery. He was also the Principle 2 expert on the assessment of the Eastern Pacific Ocean Yellowfin and Skipjack Tuna Purse Seine Fishery. Mr Morison is also trained as a lead auditor for MSC assessments including the use of the Risk Based Framework and was lead auditor (and Principle 1 and Principle 2 expert) for the assessment of the American Samoan Yellowfin and Skipjack Tuna Fishery. In other recent project work Mr Morison was engaged by the WA Fisheries Department to review an overview report on the biology and stock status of indicator species in the Gascoyne Coast Bioregion. He has undertaken work for the Australian Department of Environment (and its predecessors) including an assessment of risks posed by fishing methods to the conservation values of proposed marine parks, refinement of the issues paper and recovery plan for freshwater sawfish, and facilitation of an Oceania regional workshop on countries' requirements for CITES listed sharks and rays. Mr Morison has also worked on an assessment of the ecological risks from Queensland's East Coast Trawl Fishery that looked at the full range of ecological components as well as a separate assessment of this fishery's vulnerability to climate change. He has particular expertise with fish age and growth and has been involved in the development and implementation of

harvest strategies for several fisheries. He has over 20 publications in peer-reviewed scientific journals (8 as senior author), 8 book chapters, and over 100 project reports, technical reports, client reports and papers in workshop and conference proceedings. The above positions encompass experience with the assessment of invertebrate, chondrichthyan and 7 teleost fisheries including commercial and recreational fisheries in freshwater, estuarine and marine habitats and fisheries operating in tropical, temperate and polar environments.

#### Ms. Sascha Brand-Gardner, Department of Fisheries Western Australia

Ms. Brand-Gardner is a fishery manager at the Department of Fisheries in Western Australia (WA). She holds an Honours degree in Marine Zoology from the University of Queensland and has 15 years of experience in fisheries policy, project management and liaison with the fishing and aquaculture industries in Australia. Prior to this, Sascha worked on several marine research projects related to endangered, threatened and protected species, fishery habitats and aquaculture. Sascha was part of the Western Rock Lobster Fishery management team which was the first fishery in the world to gain MSC sustainability certification and has extensive management experience in multi species fisheries including the marine aquarium, coral and specimen shell managed fisheries. Ms Brand-Gardner completed MSC fishery assessment training in Perth and was the Principle 3 expert for the MSC certification are seessment of the Australian Blue Grenadier Fishery in 2013. She is currently part of WA's Fisheries Certification Project team that has completed MSC pre-assessments of 50 commercial fisheries and certification of two prawn trawl fisheries and two crab fisheries.

### **Peer Reviewers**

#### Indrani Lutchman – Consultant

Indrani Lutchman is a marine biologist and fisheries scientist with 25 years experience of designing, leading and delivering projects relating to marine and fisheries conservation in the Europe, Caribbean, Antarctica, and UK Overseas Territories including Bermuda, Falklands Islands and Gibraltar. She has a long track record of working with stakeholders and policy markers high level negotiations of multilateral agreements at the United Nations, Food and Agriculture Organisation of the United Nations (FAO) and Regional Fisheries Management Organisations (RFMOs). She has well-established reputation with international and national NGOs and fishers and has successfully led multi-national policy research projects and interdisciplinary teams. Her expertise covers diverse aspects of fisheries and maritime policies and includes both desk-based research as well as the provision of strategic and political advice.

#### Dr. Neil Klaer - Fisheries consultant

Dr. Klaer has worked on fisheries policy advice to the Australian Federal Government and fisheries stock assessment for the past 25 years with the Australian Bureau of Rural Sciences to 1993 and CSIRO from 1993 to 2014. He has a BSc majoring in zoology from the University of Queensland and an MSc and PhD in applied ecology from the University of Canberra. Between 1988 and 2004 he provided stock projections to the international Commission for the Conservation of Southern Bluefin Tuna, and managed the scientific team responsible for management strategy evaluation and stock assessment for the Southern Bluefin Tuna fishery. Since 2004 he has assisted with the implementation of a formal harvest strategy framework for the Australian demersal Southern and Eastern Scalefish and Shark Fishery, developed automated systems to facilitate the assessment of more than 30 quota species or groups in the fishery, and provided stock assessments for various quota species mostly using either stock synthesis or data-poor assessment methods. He has developed or assisted in the development of ecosystem models (Ecosim and Atlantis) for the SE Australian shelf region, and the Southern Australian Small Pelagic Fishery. Since 2007 he has undertaken 18 independent reviews of US national fisheries stock assessments for the Center for Independent Experts, reviewed the Inter-Benchmark Protocol for stock assessment of sea bass in the Irish Sea, Celtic Sea, English Channel, and southern North Sea for the International Council for the Exploration of the Sea, participated as an invited expert by the Chilean Government in the development of stock biological reference points for all Chilean national fisheries and provided peer review of MSC certification for the NZ Hoki fishery, PNA Yellowfin fishery, and Unassociated Purse Seine Fishery for Skipjack and Yellowfin Tuna from Western and Central Pacific Ocean. He has 19 peer-reviewed scientific papers (as reported by Scopus, 8 as senior author) and more than 100 unpublished reports that have concentrated on seabird bycatch from longline fisheries, multispecies aspects of trawl fisheries, fisheries stock assessment and management strategy evaluation of harvest strategies including those for data-poor fisheries. He has been a private consultant since 2014.

# **3.** Description of the Fishery

# 3.1 Unit(s) of Certification and scope of certification sought

The Heard Island and McDonald Islands Toothfish Fishery (as described in the Unit of Certification in Table 1) is within scope of the MSC certification sought. In compliance with section 27.4 in Part C of CR V1.3 January 2013, SCS confirms that the Heard Island and McDonald Islands Toothfish Fishery conforms to the scope elements defining eligibility for full assessment against the MSC standard. The fishery is not being conducted under a unilateral exemption to an international agreement (CR 27.4.4.1) and is not using destructive fishing practices such as fishing with poisons or explosives (CR 27.4.4.2). The fishery does not engage in shark finning, has mechanisms for resolving disputes (CR 27.4.5), and has not previously failed assessment or had a certificate withdrawn (CR 27.4.7). Other eligible fishers have been clearly identified in the Unit of Certification Table below (CR 27.4.8), there are not IPI species (CR 27.4.14).

The Unit of Assessment includes the Patagonian toothfish (*Dissostichus eleginoides*) stocks caught by the up to 7 vessels that are SFR holders, using demersal trawl or demersal longline, fishing in the vicinity of Heard Island and McDonald Islands, Southern Ocean, within the Australian EEZ (Table 1).

Units of Assess	Units of Assessment: Defined as the species, location and gear assessed					
LIGA: Species:	Patagonian toothfish (Dissoctichus eleginoides)					
UoA: Geographical Area	Southern Ocean FAO 58					
UoA: Gear Type	Demersal trawl and demersal longline					
Further information: Stock	Vicinity of Heard Island and McDonald Islands, Southern Ocean, Australian EEZ					
Further information: Management System	Input controls: limited entry, gear restrictions. Output controls: TAC on main species and catch limits on bycatch species					
Unit of Certification: Defined a Assessment (defined as t	s the vessels allowed to use the MSC ecolabel for catch from the Unit of he species, location and gear assessed against the MSC standard).					
Client Group	Austral Fisheries Pty Ltd and Australian Longline Pty Ltd.					
Fishers in the UoC for the chosen stock	Whole fleet. Currently 5 vessels: <i>Atlas Cove, Corinthian Bay, Isla Eden, Antarctic Chieftain, Antarctic Discovery,</i> previously up to 6 vessels.					
Other Eligible Fishers that may join the certificate for the	No other eligible fishers.					
chosen stock	There is currently another toothfish fishery ( <i>Dissostichus eleginoides</i> ) in the area but it is managed by the French government. The other fishery, known as the Kerguelen Islands Toothfish fishery, is a bottom set longline fishery and is also MSC certified. Because the HIMI Toothfish Fishery and the Kerguelen Islands Toothfish Fishery are managed by different entities and have different client groups, they are not able to share the certificate based on differences in management schemes.					

#### Table 1: Unit of Assessment (UoA) and Unit of Certification (UoC).

# 3.2 Overview of the fishery

The Heard Island and McDonald Islands (HIMI) Toothfish Fishery was first certified in March 2012 and this is the first re-assessment of this fishery.

This fishery targets the Patagonian toothfish (*Dissostichus eleginoides*), and operates in the vicinity of Heard Island and the McDonald Islands in the Southern Ocean. The fishery extends from 13 nautical miles offshore to the edge of the 200 nautical mile Australian Exclusive Economic Zone (EEZ) around the islands. The islands and 12 nautical mile territorial sea is listed on the World Heritage List and forms part of the Heard Island and McDonald Islands Marine Reserve.

The HIMI Toothfish Fishery is a Commonwealth-managed fishery. Due to its location, it is under the jurisdiction of the Commission on the Conservation of Antarctic Marine Living Resources (CCAMLR), Australian Fisheries Management Authority (AFMA) and the Australian Antarctic Division (AAD) in accordance with the *Antarctic Marine Resources Conservation Act 1981*.

Statutory Fishing Rights (SFRs) govern access to the fishery. The fishing season is year-round for trawl (from 1 December to 30 November each year), and seasonal for longline (core season of 1 May to 14 September with season extension periods available from 1 April to 30 November). A Total Allowable Catch (TAC) is in place for toothfish, and there are also catch limits on the major bycatch species.

# 3.3 Principle One: Target Species Background

#### **SPECIES**

#### **Taxonomic classification**

Class: Actinopterigii Order: Perciformes Family: Nototheniidae Genus: *Dissostichus* Species: *eleginoides* 

#### **Biology**

#### Distribution and stock structure

The species is widely distributed from the slope waters off Chile and Argentina south of 30–35°S to the islands and shelf areas in sub-Antarctic waters of the Atlantic, Indian and Pacific Ocean sectors of the Southern Ocean. It occurs throughout the Kerguelen Plateau (in both the Australian and French EEZs), from shallow depths near the islands to at least 2500 m depth around the periphery of the plateau.

Considerable mitochondrial DNA heterogeneity has been found among populations of Patagonian toothfish from three southern ocean locations, Macquarie Island, HIMI and Shag Rocks/South Georgia suggesting they are genetically distinct even though there were no significant differences among these populations when comparing seven nuclear microsatellite loci. A further study of populations from the Indian Ocean sector of the Southern Ocean (Crozet Is., Prince Edward and Marion Is. and Kerguelen Is.) did not detect genetic differentiation among these populations or between any of these and the HIMI population. This, combined with results from tagging data which show movement of some fish from Heard Island to Kerguelen and Crozet Islands, suggests that a metapopulation of Patagonian toothfish may exist in the Indian Ocean sector.

#### Migration and movement

Ongoing tag and recapture work has found that the vast majority of Patagonian toothfish disperse only a very short distance, no greater than 15 nautical miles in most cases. This implies that juveniles and adults tend to be locally resident in the depth range of the HIMI fishing grounds. Since 2001, 257 fish (representing 4.6% of those recaptured after being tagged at HIMI) have also been recaptured by French longliners, mostly over the Kerguelen Plateau but also at the Crozet Islands (Welsford et al. 2015, WG-FSA-15/55), a distance of greater than 1000 nm across oceanic troughs over 4000 m deep and 390 nm wide. Numbers of tags recaptured in the French EEZ have been relatively stable at 23-32 tags per season since 2009, representing 6-12% of all tag recaptures observed (Welsford et al. 2015). Smaller numbers of fish that were tagged by the French fishery have been recaptured in HIMI waters (Table 1).

	Aus	stralian EEZ-H	IMI	French EEZ - Kerguelen		
Year	No. releases	No. AUS	No. FR	No. releases	No. FR	No. AUS
		recaptures	recaptures		recaptures	recaptures
1998	1067	98	-	-	-	-
1999	795	108	-	-	-	-
2000	1705	192	-	-	-	-
2001	1512	301	3	-	-	-
2002	1441	394	2	-	-	-
2003	2090	414	7	-	-	-
2004	820	380	5	-	-	-
2005	1621	426	7	-	-	-
2006	2253	314	17	484	1	-
2007	1589	330	17	2373	39	-
2008	1734	230	18	2693	103	-
2009	2315	229	23	4322	244	1
2010	1680	208	27	5305	357	2
2011	2319	278	32	5423	495	3
2012	2865	351	24	5027	658	1
2013	1963	335	27	5450	792	3
2014	2073	307	25	5423	813	4
2015*	3092	206	13	1623	315	0
Total	32934	5101	247	38123	3817	14

 Table 1. Number of tag released and recaptured by France and Australia using all gears. Commercial and surveys recaptures are included. \* Fishing season up to 31/07/2015 for Australia (from Welsford et al. 2015).

Modelling by Peron et al. (2016) of the average size of toothfish caught showed that, after accounting for gear and seasonal effects, it increases with increasing depth of the fishery (Figure 1). It is believed they move to deeper waters once sexual maturity is reached and that juveniles move into the fishery from shallower coastal waters. Peron et al. (2016) also modelled the spatial variation in predicted sex ratio and showed a strong pattern of sexual segregation with of the sex ratio favouring females in the Australian EEZ and favouring males in the north-west of the French EEZ (Figure 2). However it was noted that, similarly to the predictions for total length, model predictions were extrapolated outside of sampled locations in some areas, particularly on the southern and south-western parts of the Plateau.

Younger fish (less than about 600 mm TL) predominate on the plateau in depths less than 500 m, but no areas of local abundance have been discovered. As fish grow, they move to deeper waters, and are recruited to the trawl fishery on the plateau slopes in depths of 450 to 800 m. Here there are several areas of local abundance that constitute the main trawling grounds where the majority of fish caught are between 500 and 750 mm TL. Very few fish greater than 850 mm are caught by the trawl fishery. Trawlers generally catch toothfish that are 3 to 6 years old and around 2 to 3 kilograms in weight. Larger fish are seldom caught in the trawl fishery, and it is assumed that they move into deeper water (>1000 m depth) and canyons which are less accessible to trawl gear but where they are caught by the longline fishery. Longlines generally catch toothfish that are 7 to 15 years old fish and 5 to 7 kilograms in weight. This

fishery mostly operates between 1000 and 2000 m depth but few fish caught are >1000 mm TL, even though the maximum size is more than twice this length.



Figure 1. Prediction map of female Patagonian toothfish median total length when caught with commercial longlines by the French fishery in the French EEZ (top of the map) and Australian fishery in the Australian EEZ (bottom of the map). Bathymetry contours (400 m, 1000 m, 2000 m and 3000 m) are displayed in black. The 2300 m isobath corresponding with the lower limit of the fishing depth is highlighted in bold. Dots correspond to cells where fishing occurred (from Peron et al. 2016).





#### Reproduction and Recruitment

Welsford et al. (2012) have summarised the available information as indicating that the large and yolky eggs of Patagonian toothfish are pelagic, floating up into the top 700 m of the water column after fertilisation, and are mostly encountered over deep (>2200 m) oceanic waters (Evseenko et al., 1995; Kellermann, 1989). Eggs hatch several months after spawning and the pelagic larval phase is thought to be up to 8 months and limited to the upper 200 m of the water column at the early stages, while larger larvae tend to be found closer inshore (Evseenko et al., 1995; Koubbi et al., 1990; North, 2002). This long period between spawning and settlement to a demersal juvenile stage provides a long period for potential dispersal of larvae.

Welsford et al. (2012) found toothfish at HIMI increase gonad size and spawn throughout the late autumn/ winter months (May-August), and appear to concentrate spawning activity on slopes to the northwest, west and south of HIMI at 1700 - 1900m depth. Strong biases in sex ratios of the catch at length were found, with size classes above 1000 mm dominated by females. They also reported that a large number of females of all size classes had low gonad weights as a proportion of body weight and low macroscopic stages even during the spawning season, suggesting that a substantial proportion of the mature female population did not spawn every year. Welsford et al. (2012) also identified that several areas on the deep slope to the west and south of HIMI supported spawning activity, and concluded that these data, as well as the fact that large areas of apparently suitable habitat remain to be sampled, indicated that it was likely

that spawning within the Australian EEZ made an important contribution to the overall spawning output of the populations on the Kerguelen Plateau.

Around the Kerguelen Islands spawning occurs between late April/May and mid-July for females but begins later for males (end of May), and is still occurring at the beginning of August (Lord et al. 2006). The proportion of larger and more mature fish increased from east to west (Lord et al. 2006) suggesting that spawning takes place in the western areas. There are some indications that in South Georgia, Patagonian toothfish release their eggs near the slope at depths of 800 – 1000m (Agnew *et al.*, 1999). Larvae and postlarvae are encountered in pelagic layers around South Georgia (North, 2002) and over the southern part of the Patagonian Shelf (Ciechomski & Weiss, 1976).

The reported sizes at which 50% of fish become sexually mature varies by region and males have been found to mature at significantly smaller sizes than females. For HIMI toothfish, 50% of females were mature at 1000 mm and 50% of males were mature at 915 mm (Welsford et al. 2012). Most fish captured by longlines are therefore immature. Around the Kerguelen Islands, however, the size at which 50% of fish were mature was estimated as being 63 cm for males and 85 cm for females (Lord et al. 2006). At South Georgia, however, these sizes were 78.5cm +/- 0.5cm total length for male and 98.2 cm +/- 1cm for female fish and there was also evidence that a significant proportion of sexually mature fish (25 to 43 %) do not come into spawning condition each year (Everson and Murray 1999). These sizes correspond to an age of 7-10 years for males and 10-12 years for females (Horn 2002). Welsford et al. (2012) considered that, although it is possible that there are genuine differences in size-at-maturity between these populations, a more likely explanation for these reported differences, is inter-annual variability in the portion of the population that participate in spawning in any one year.

#### Growth and Natural Mortality

Patagonian toothfish grow to over 2.2 m long and live to a maximum of at least 51 years of age (Welsford et al. 2015 – WG-FSA 15/55). The longevity of Patagonian toothfish, and hence the estimates of growth obtained from otoliths, has been validated using the bomb radiocarbon chronometer and through tag and recapture studies.

As elsewhere, Patagonian toothfish females grow faster and reach larger maximum sizes than males at HIMI (Welsford et al. 2011).

The natural mortality of Patagonian toothfish around HIMI has been estimated by Candy et al. (2011) to be 0.155 using catch-at-age and aged mark-recapture data from the main trawl ground.

#### Diet

Patagonian toothfish is an opportunistic carnivore whose feeding habits vary with age and depend on the local availability of food items. In the southwest Atlantic Garcia de la Rosa *et al.* (1997) reported Patagonian toothfish to be a mixed-species carnivore, feeding primarily on fish and secondarily on crustaceans and cephalopods. The diet changes with fish size and with depth as fish grow and move to deeper water, with juveniles feeding pelagically principally on krill in coastal waters, and fish making up a larger proportion of the diet as they migrate to deeper waters. Adults are mainly benthic feeders but capable of undertaking feeding migrations to pelagic waters. Around Macquarie Island toothfish have been found to prey on a broad range of species, including demersal fish and crustaceans and mesopelagic fish and cephalopods, suggesting that they are opportunistic predators (Goldsworthy *et al.* 2002), but here dietary composition was not related to fishing depth or fish size. While information is collected by observers on stomach contents and feed of toothfish, there have been no specific research programs

investigating the diets of toothfish in the HIMI area and it is assumed that here, as elsewhere, they are also general carnivores feeding in benthic and mesopelagic habitats.

#### Predators

Patagonian toothfish are not a key low trophic species.

Killer whales (*Orcinus orca*) and sperm whales (*Physeter macrocephalus*) have been observed to remove Patagonian toothfish from commercial fishery long lines around South Georgia Island. Feeding by killer whales around South Georgia has been estimated to depress longline CPUE by up to 50% for individual hauls and the overall additional tonnage taken by whales was estimated to be about 3.6% per year (Clark and Agnew 2010). It is unlikely that Patagonian toothfish also form part of the natural diet of these cetaceans. Killer whales are unable to dive to the lower depths at which long lines are set and at which adult Patagonian toothfish occur and are only capable of stripping long lines as they are harvested closer to the surface. There have been no incidences of killer whale interactions in the HIMI toothfish region since the fishery began in 1996, however sperm whales have recently begun to take toothfish from lines, at low levels. The presence of sperm whales is not associated with reduced catch rates to the same extent, although they are thought to gather in areas of high toothfish concentrations in other parts of the world.

#### The HIMI fishery

Commercial fishing by Australian operators was first permitted by AFMA in 1995, but did not commence until March 1997. Until recently fishing in the HIMI region had been limited to a maximum of three Australian boats at any one time and is subject to stringent management arrangements. The fishery now only limits the number of trawlers in the fishery to three. Statutory Fishing Rights (SFRs) for quota govern access to the fishery.

The fishery extends from 13 nautical miles offshore to the edge of the 200 nautical mile Australian Exclusive Economic Zone (EEZ) around the Islands. The fishery lies in Statistical Division 58.5.2 of CCAMLR which has a strong influence over the management of the fishery. The area within 13 nautical miles of the islands is protected from fishing. The islands and 12 nautical mile territorial sea is listed on the World Heritage List and forms part of the Heard Island and McDonald Islands Marine Reserve. In addition, the islands are on the Register of the National Estate as the only unmodified example of a Sub-Antarctic Island ecosystem. AFMA Direction No. HIMIFD 11 closes waters between 12 and 13 nautical miles to fishing providing an additional 1nm buffer. One of the largest Marine Protected Areas in the world also exists in the HIMI region and is closed to fishing. The Marine Reserve incorporates over 39% of all waters shallower than 1,000 metres in the HIMI EEZ.

The permitted fishing methods are demersal longlining, demersal trawling and traps, however trapping has only taken place on a trial basis, and has not been assessed for the purpose of MSC certification at this point in time.

Annual catches in the regulated fishery have generally exceeded 2000 t and were over 3500 t from 1997/98 to 1999/2000 (Table 2). The estimated IUU catches were large between 1996/97 and 2002/03 and exceeded those of the regulated fishery in some of those early years but have been zero since 2006/07. The fishery began as a trawl fishery but in recent seasons longline catches have become predominant and pots have also been trialled. The longline fishery was active from April to November in 2015.

	Catch limit					Estimated
Season	(t)		Reported ca	atch (t)		IUU (t)
		Longline	Pot	Trawl	Total	
1997	3800	0	0	1927	1927	7117
1998	3700	0	0	3765	3765	4150
1999	3690	0	0	3547	3547	427
2000	3585	0	0	3566	3566	1154
2001	2995	0	0	2980	2980	2004
2002	2815	0	0	2756	2756	3489
2003	2879	270	0	2574	2844	1274
2004	2873	567	0	2296	2864	531
2005	2787	621	0	2122	2744	265
2006	2584	659	68	1801	2528	74
2007	2427	601	0	1787	2387	0
2008	2500	835	0	1445	2280	0
2009	2500	1168	10	1287	2464	0
2010	2550	1213	30	1215	2459	0
2011	2550	1383	34	1148	2564	*
2012	2730	1356	0	1361	2717	*
2013	2730	2074	40	563	2677	*
2014	2730	2642	0	108	2750	*
2015**	4410	2530	0	145	2675	*

#### Table 2. Catch history for Patagonian toothfish in Division 58.5.2. (CCAMLR 2015a – Fishery report)

\* - IUU catch not estimated since 2010 but AFMA consider it to be in the range of 0-50 t for the last 5 years.

\*\* season not complete, active from April to November in 2015

#### Stock assessment

The assessment of the HIMI fishery is an integrated assessment model that is implemented in CASAL (C++ Algorithmic Stock Assessment Laboratory; Bull et al. 2012) and provides estimates of model parameters, based on abundance estimates from a random stratified trawl survey (RSTS), longline tag-release data from 2012-2014 and longline tag-recapture data from 2013-2015, and auxiliary commercial composition data to aid with the estimation of year class strength and selectivity functions of the trawl, longline and trap sub-fisheries. The most recent assessment (Ziegler and Welsford 2015) incorporated (a) new fishery observations up to 2015 including new ageing data from the 2014-2015 RSTS and commercial fishery from 2009-2014, (b) tag-releases from 2014 and tag-recaptures from 2014 (complete) and 2015 (partial), (c) an updated growth model, (d) changes in priors for survey catchability q, unfished spawning biomass B 0 and year class strength, and (e) a split of the trawl sub-fishery into two periods.

The 2015 assessment model estimated a smaller estimate of the virgin spawning stock biomass B<sub>0</sub> than that obtained in 2014, with an Markov Chain Monte Carlo (MCMC) estimate of 87 077 tonnes (95% CI: 78 500-97 547 tonnes). Estimated Spawning Stock Biomass (SSB) status in 2015 was 0.64 of unfished

levels (95% CI: 0.59-0.69). Using the base case model, a catch limit of 3,405 tonnes was calculated as satisfying the CCAMLR decision rules (see below). Similar to the 2014 assessment, the stock was projected to remain above the target level for the entire projection period (Figure 3). The estimates of year-class strength provided by the assessment show substantial inter-annual variability but are trendless, with both high and low levels of recruitment in recent years but overall no indication that recruitment has been impaired (Figure 4). The posterior distributions from MCMC results (Figure 5) indicate that there is a high degree of certainty that the stock has always been above target levels.

The assessment is reviewed by AFMA's Sub-Antarctic Resource Assessment Group (SARAG) prior to being submitted to CCAMLR's Working Group on Fish Stock Assessment (WG-FSA). Comments from both groups are taken into account before final results are submitted as catch recommendations to AFMA.

Sensitivity analyses that have been undertaken produced similar or higher levels of SSB relative to unfished status (Table 2). There are, however, other sources of uncertainty that are also potentially important. These include the effect of the differential distributions of males and females around the whole Kerguelen/HIMI Plateau, the impact of assessing only the HIMI stock, the effect of an unknown proportion of females not spawning each year, and the potential for there to have been a significant IUU catch prior to 1997.

Table 2. MPD results of Model 6 and sensitivity analyses, with estimates of unfished spawning stock biomass B 0 in tonnes, SSB status in 2015, and R 0 (mean recruitment in millions that gives rise to B 0 ), the number of estimated parameters (N Para), and the components of the total objective function. \* Objective function cannot be compared to that of the other models (from Ziegler and Welsford 2015).

Sensitivity run	$B_0$	SSB	$R_{\theta}$	N	Objective Function					
		status		Para	Survey	Catch-at	Tag	meanYCS	Other	Total
Reference: Model 6	88 020	0.64	6.59	47	1012	2004	76	2	10	3104
Survey index and survey proportions-at-length & age	87 360	0.70	6.54	47	506*	2002	48	1	14	2572*
Natural mortality $M = 0.13$	126 518	0.67	5.20	47	1033	1980	68	39	98	3218
Steepness $h = 0.5$	91 227	0.64	6.82	47	1015	2004	78	2	10	3110
Steepness $h = 0.9$	86 952	0.64	6.51	47	1011	2003	76	2	11	3103



Figure 3. Projected SSB status relative to  $B_0$  for the assessment base case using MCMC samples and future random lognormal recruitment from 2011-2050 with annual constant catches. Boxplots represent the distribution of the estimates across 1000 projection trials. Dotted lines show the 50% and 20% status levels used in the CCAMLR decision rules (from Ziegler and Welsford 2015).



Figure 4. Estimated YCS for the base case assessment showing 95% confidence bounds obtained from the MCMC sample (from Ziegler et al. 2015).



Figure 5. MCMC posterior distribution of B<sub>0</sub>, SSB status in 2015, and survey catchability q (black), and prior distributions (blue) for the base case. Vertical dashed lines indicate the MPD estimates (from Peron et al. 2016).

#### **Harvest Strategy**

The elements of a harvest strategy, as defined by the MSC, are monitoring, stock assessment, harvest control rules and management actions, which may include an explicit or implicit management procedure and be tested by Management Strategy Evaluation (CR 1.3).

The monitoring in place is described below in the section on Information. The stock assessment is described above and includes estimates of the current biomass based on the survey data and projections to estimate catch levels that would comply with the harvest control rules.

The harvest control rules used for Patagonian toothfish are those prescribed by CCAMLR. As described in Ziegler and Welsford (2015), once the assessment is agreed catch projection trials were then undertaken that account for uncertainty surrounding parameter estimates of the model as well as future recruitment variability. In order to integrate across uncertainty in the model parameters, Monte Carlo Markov Chain (MCMC) samples were used for CASAL's projection procedure to obtain 1000 random time series samples of estimated numbers of age-1 recruits for the period from 1982-2010, corresponding to Year-Class Strength (YCS) estimates from 1981-2009. The median of the square root of the variance of the yearly numbers of these age-1 recruits from 1992-2010 provided a robust estimate of the  $\sigma$  R for recruitment required for the lognormal random recruitment generation.

The estimated coefficients of variation (CVs) were used to generate the random recruitment from 2011 until the end of the 35-year projection period. Based on this sample of projections for spawning stock biomass, long-term catch limits were calculated following the CCAMLR decision rules: Choose a yield  $\gamma$  1, so that the probability of the spawning biomass dropping below 20% of its median pre-exploitation level over a 35-year harvesting period is 10% (depletion probability). Choose a yield  $\gamma$  2, so that the median escapement of the spawning biomass at the end of a 35-year period is 50% of the median pre-exploitation level. Select the lower of  $\gamma$  1 and  $\gamma$  2 as the yield.

Although they are not identified as such the first reference point is essentially a limit reference point and the second a target reference point.

The management action that follows from the assessment is that the CCAMLR Scientific Committee recommends a TAC to the CCAMLR Commission that meets these harvest control rules, the Commission adopts this recommendation, and AFMA implements this recommendation through its normal regulatory processes.

These reference points have been specifically constructed to meet the objectives of CCAMLR. Although based on reference points originally designed for krill they have been specifically adapted to be appropriate for Patagonian toothfish as a large predator that is unlikely to constitute much of the diet of whales, seals and birds, by reducing the target biomass from the 75% of unfished levels to 50% (Constable et al. 2000). The choice of a 35 year reference period as the basis for projections is reasonable for a species with a maximum age in excess of 50 years.

Precaution is built in to this harvest strategy in three ways. Firstly, the choice of the target of 50% of unfished levels is conservative, being above the 40% level generally recognized as the best default estimate of the biomass at maximum sustainable yield ( $B_{MSY}$ ) and the default level that is set in Australia's Commonwealth Harvest Strategy Policy (DAFF 2007). Secondly, the use of constant catch projections in both reference points will produce more conservative catches than projections that allow updating of catches to reflect any forecast changes in biomass over the projection period. Thirdly, the choice of a long projection period for evaluating catches that will only apply for two years is precautionary because the range of projections will progressively widen and this uncertainty in turn requires a lower constant catch to meet the limit reference point in particular.

### Information and monitoring

The range of information collected to support the assessment and harvest strategy includes the annual fishery-independent trawl surveys across the area of the fishery which is used to provide an index of abundance, monitoring the size and age composition of the surveyed population, monitoring of the retained catch and fishing effort which is used to calculate standardised CPUE series, an ongoing tagging program and monitoring of tag recaptures, a vessel monitoring system, and 100% observer coverage. The use of these data in the stock assessment is described in Ziegler and Welsford (2015).

### **The French fishery**

The following information on the French fishery for Patagonian toothfish is provided because of the shared nature of the stock.

Patagonian toothfish occurs throughout the Kerguelen Islands shelf, from shallow waters (<10 m) to at least 2 000 m depth. As fish grow, they move to deeper waters and (in the Australia EEZ)are recruited first to the trawl fishery on the slopes of the shelf and subsequently to the longline fishery in deeper waters. A general east–west deep-sea movement of adult fish occurs and spawning is restricted to the westerly zone early in winter each year (Lord et al., 2006).

The declared catches of that species represent about 5,000 tons per year since 1993/1994 but an IUU fishery was particularly significant from 1997 to 2004 (Table ). Today, the commercial fishery is restricted to bottom long-line fishing. Six French fishing companies consisting of 7 vessels have obtained

the licenses to fish the Patagonian toothfish in the EEZ. The IUU fishery is currently considered to be minimal. Catch limits were introduced in 2005 but annual catches have exceeded these limits in eight of ten years and in total by 2.4% over this period.

This fishery has also been MSC certified (MacAlister Elliott and Partners Ltd, 2013) and has been subject to surveillance audits in 2014 (MacAlister Elliott and Partners Ltd, 2014) and 2015 (ME Certification Ltd, 2015). More detail about this fishery can be found within these assessment reports.

				Catch	Estimated
Season	Reported catch (t)			limit (t)	IUU (t)
	Longline	Trawl	Total		
1988	0	892	892		
1989	0	1311	1311		0
1990	0	1243	1243		0
1991	26	2982	3008		0
1992	679	7079	7758		0
1993	243	3354	3597		0
1994	749	4632	5381		0
1995	1467	4129	5596		0
1996	1233	3478	4710		833
1997	1048	4012	5059		6094
1998	1747	2967	4714		7156
1999	2062	2669	4730		1237
2000	3046	3093	6139		2600
2001	2593	2153	4747		4550
2002	3976	178	4154		6300
2003	5291	0	5291		5518
2004	5171	0	5171		536
2005	5073	0	5073	4832	268
2006	4911	245	5156	4882	144
2007	5201	0	5201	5000	451
2008	4850	0	4850	5000	720
2009	5238	0	5238	5100	0
2010	4915	235	5151	5100	22
2011	5235	0	5235	5100	*
2012	4903	0	4903	5100	*
2013	5377	0	5377	5100	*
2014	5326	0	5326	5100	*
2015**	2884	0	2884	5100	*

Table 3. Catch history for Patagonian toothfish around Kerguelen Island (Division 58.5.1). (CCAMLR 2015b – Fishery report)

\* - IUU catch not estimated.

\*\* - Data up to the end of July 2015.

# 3.4 Principle Two: Ecosystem Background

All species that are affected by the fishery and are not part of the Unit of Certification are considered under Principle 2. This includes species that are retained for sale or personal use (assessed under Performance Indicator 2.1), bycatch species that are discarded (Performance Indicator 2.2), and species that are considered endangered, threatened or protected by the government in question or are listed by the Convention of International Trade of Endangered Species (CITES) (Performance Indicator 2.3). This section contains an evaluation of the total impact of the fishery on all components in P2 and includes both observed and unobserved fishing mortality. Unobserved mortality may occur from illegal, unregulated or unreported (IUU) fishing, biota that are injured and subsequently die as a result of coming in contact with fishing gear, ghost fishing, waste, or biota that are stressed and die as a result of attempting to avoid being caught by fishing gear. This section also considers impacts on marine habitats (Performance Indicator 2.4) and the ecosystem more broadly (Performance Indicator 2.5).

#### Ecosystem

The Circumpolar Current flows across the Antarctic continental shelf, the deep ocean and subantarctic islands, resulting in one of the most highly productive regions for polar plants and animals, and valuable toothfish, icefish and krill fisheries.

The Southern Ocean has unique and distinct ecosystems. Phytoplankton biomass is generally low, despite high concentrations of macronutrients; this is at least partly due to the lack of the micronutrient iron (Rintoul et al, 2010). The Southern Ocean food web is characterized by Antarctic krill (*Euphausia superba*), a keystone species which supports large populations of higher predators, including pinnipeds, cetaceans, penguins, fish and marine birds.

The Kerguelen Plateau is an elevated region of sea floor in the southern Indian Ocean approximately equidistant from Africa and Australia. The plateau extends for more than 2,200 km in a northwest-southeast direction, with depths from 1 to 4 km. The Kerguelen Islands are isolated land masses lying on the Kerguelen Plateau, located along the Antarctic Convergence Zone, where the icy waters of the Southern Ocean meet the warmer waters of the Indian Ocean.

The location of the islands is therefore a significant factor in their role as a breeding site for birds and seals in this sector of the southern Indian Ocean, with penguins, petrels and seals representing significant components of the islands' ecosystem and surrounding waters.

An international collaborative research voyage, the Kerguelen Axis or 'K-Axis' voyage, has recently been completed to study the physical, biological and chemical conditions across the Kerguelen Plateau (2016). The Australian vessel *Aurora Australis* coordinate with three other research vessels conducting additional or complementary research in the region – the French ship *Marion Dufresne*, the Japanese *Umitaka Maru* and Australia's new national research vessel *Investigator*. There was also some oceanographic input from the US vessel *Roger Revelle*.

The voyage primarily focused on:

- 1. the distribution of Antarctic krill and determine the species' northern limits.
- 2. examine the relationships between planktonic species, including phytoplankton, zooplankton and krill, with different habitat characteristics and
- 3. assess phytoplankton productivity and food web structure in three habitat areas of the K-Axis

Researchers at the Antarctic Climate and Ecosystem Cooperative Research Centre (ACE) – CRC are working with national and international collaborators to develop a model for quantifying and assessing Southern Ocean habitats, species and foodwebs. The geographical focus of the ACE - CRC's work is on the Indian and West Pacific Sectors of the Southern Ocean, where scientists are providing international leadership in the development of ecosystem models to simulate future changes to food webs, and help determine the major drivers of change. The project will provide governments and management agencies with the best available forecasts when evaluating conservation and resource management strategies.

The Heard Island and McDonald Islands (HIMI) toothfish fishery operates on the Kerguelen plateau, and is active in a relatively small portion of the ecosystem. As noted above, the area within 13 nm of the HIMI is protected from fishing, and out to 12 nm the area is World Heritage listed and forms part of the Heard Island and McDonald Islands Marine Reserve.

The Reserve has been assigned, under the EPBC Act, to the IUCN Category 'strict nature reserve' and is managed by the Australian Antarctic Division of the Department of the Environment and Energy. An additional buffer zone of 1nm (prohibits fishing between 12 and 13nm) is provided by AFMA Direction HIMIFD 11.

One of the largest Marine Protected Areas in the world also exists in the HIMI region, preventing fishing. The Marine Reserve incorporates over 39% of all waters shallower than 1000 metres in the HIMI EEZ, and the area has now been increased to cover 71,000 km<sup>2</sup> (AAD 2014).

### **Overview of Non-target Catch Bycatch: Retained and Discard Species**

Bycatch consists of the incidental catch of non-target species that may or may not be landed. Under MSC Guidelines (CR v. 1.3, GCB 3.8.2), the discarded species are designated "bycatch" (PI 2.2.1 - 2.2.3) while the species that are retained for sale or are required to be kept due to management arrangements are considered "retained" (PI 2.1.1 - 2.1.3). Species that are caught or affected by the fishery that are considered endangered, threatened or protected (ETP) are considered separately (PI 2.3.1 - 2.3.3). Seabirds and marine mammals are covered under those PIs.

The Scoring Guidepost (SG) 60 and SG 80 in the Default Assessment Tree refer to "main" species in the retained species and "main" species in the bycatch. Main species are those that comprise 5% or more of the total catch by weight or if they are classified as vulnerable. The SG 100 considers all species, regardless of the percent of the total catch. Prior to scoring Principle 2, the Assessment Team decided whether a species would be considered a "main" retained species or "main" bycatch species following MSC guidance (CR v1.3, GCB 3.5.2).

Only Grey rock cod (*Lepidonotothen squamifrons*) and Grenadiers species (*Macrourus* spp.) were considered "main" for the purpose of this assessment under retained (PI 2.1.1-2.1.3) for longline and trawl respectively (Table 4, grey shaded cells).

Table 4. Total catch (t) and percentage of total catch of main retained species taken from trawl and longline in the HIMI toothfish fishery from 2010-2015. Shaded cells indicate main\* species following MSC guidance (CR v1.3, GCB 3.5.2).

	Trawl										
			% weight of total catch								
Season	Total catch all species (t)	Grenadiers spp.	Grey rockcod	Antimora rostrata	Mackerel Icefish	Unicorn Icefish	Sleeper shark	Jellyfish	Starfish		
2014/15	205.74	2.26	1.16	0.00	0.02	0.62	0.00	0.03	0.10		
2013/14	79.84	0.00	2.53	0.00	0.02	0.20	0.00	0.00	0.00		
2012/13	552.89	0.00	8.02	0.00	0.00	1.33	0.00	0.05	0.01		
2011/12	1362.52	0.12	2.62	0.00	0.00	2.91	0.00	0.00	0.03		
2010/11	1146.70	0.02	2.33	0.00	0.00	2.04	0.00	0.00	0.00		
2009/10	1246.55	0.16	3.82	0.00	0.00	2.29	0.00	0.00	0.00		
				Long	gline						
2014/15	4072.59	7.45	0.00	0.42	0.00	0.00	0.00	0.00	0.28		
2013/14	2637.71	6.68	0.00	0.19	0.00	0.00	0.00	0.00	0.29		
2012/13	2116.18	7.38	0.00	0.07	0.00	0.00	0.00	0.00	0.21		
2011/12	1355.87	6.57	0.00	0.27	0.00	0.00	0.00	0.00	0.19		
2010/11	1316.73	11.26	0.00	0.31	0.00	0.00	0.00	0.00	0.45		
2009/10	1216.45	8.19	0.00	0.11	0.00	0.00	0.00	0.00	0.19		

\*main species are classified by MSC as those species of which the catch is  $\geq$ 5% of the total catch by weight, or  $\geq$ 2% of the total catch by weight for 'less resilient' species or species considered at risk (CR v 1.3).

The Commonwealth Bycatch Policy was reviewed in 2012 (Welsford *et al.* 2012). It reported that fish bycatch has generally remained low and steady (although an increase in unicorn icefish and grey rock cod has been observed in the HIMI trawl fisheries around 2012/13 but has since been dropped likely due to a shift in effort to longlining. By-catch levels continue to be monitored by observers (2 observers on 100% of vessels) and reported to CCAMLR. No by-catch species was caught in quantities approaching the catch limit

All species caught in the fishery were the subject of an ecological risk assessment (ERA) and ecological risk management (ERM) process (AFMA 2009a, b). This process addressed the benthic trawl for icefish and toothfish. After completion of the risk assessment and risk management steps, a residual risk assessment was conducted which identified sleeper sharks and skates in the demersal subfishery as potential risks (AFMA 2009 a, b). None of these species were judged to be urgent issues, as there are extensive measures in place to ensure there is sufficient protection. The ecological risk assessment (ERA) considered 17 bycatch species for the longline sector (Bulman et al. 2007). In the ERA, together with the residual risk assessment, one skate species was identified as being at high risk in the demersal longline fishery which was not confirmed with the level 3 SAFE assessment in the longline sector. These skate species are widely distributed across the Plateau and no depletion of these species is evident (Nowara et al. 2009, 2016). The ERA review for the fishery commenced in 2016, and expected to be finalized in early 2017.

#### Bait

Squid (*Nototodarus sloanii* or *Illex argentinus*), jack mackerel (*Trachurus symmetricus*) and in some years sardine are used as bait in the longline fishery. Squid is either imported from New Zealand (*Nototodarus sloanii*) or from Argentinean waters (*Illex argentines*). The team considered squid a main bait species (> 90% of total bait used). The total amount of bait use in the longline toothfish fishery at HIMI is approximately 300-500 tonnes per year. In addition, mackerel and sardines are used in much smaller amounts of around 20-23 tonnes each (M. Exel and M. McNeill pers.com).

In most years squid was sourced from an Argentinian squid fishery, most likely Argentine shortfin squid (Illex argentines). This fishery has shown large (up to a factor of 5) interannual variations over the last decade and was thought to have had a temporary collapse around 2009, but has recovered since 2011. Catches range between 200,000 and 1,000,000 t, so the use of <500 t product in one year from this fishery will not have a detrimental effect on the source populations.

The New Zealand squid fishery is managed under quota which was around 160,000 t in 2016 of which 62,452 t was caught. Based on the biology of squid and the long-term sustainability of the New Zealand squid fishery, the use of <500 t product from this fishery annually will not have a detrimental effect on the source populations.

#### **Bycatch (Discarded Catch)**

Large sharks, starfish, sponges, crabs, coral and algae are the discarded components of the bycatch and form a negligible part of the overall catch. A total bycatch limit of 50 t on any one species applies to all teleost species, crabs and sharks. These limits have not been breached in any year. The CCAMLR Conservation Measure 33-02 (2015) requires vessels to move at least 5 miles away from a site for at least 5 days if a vessel catches equal to, or greater than, 5 t for Unicorn icefish *Channichthys rhinoceratus*, 3 t for all Grenadier species (*Macrourus* spp.) combined, or 2 t for Grey rockcod (*Lepidonotothen squamifrons*), or 2 t of *Somniosus* spp., or 2 t of skates and rays.

None of the bycatch of any one species is >5% of the total catch by weight or has value to the fisher. Generally, the discarded bycatch of any particular species or species group caught by either trawl or longline is less than <1.5% (Table 4). Southern Sleeper Shark, *Somniosus antarcticus*, which is an extremely large dogshark, *Bthyraja eatonii* (Eaton's Skate) and *Bathyraja irrasa* (Kerguelen Sandpaper Skate) that gets caught by longline methods. These large sharks and skates are released if captured, but the survival rate once they are released is uncertain. Therefore, these species have been considered as a main bycatch species following MSC guidance (CR v1.3, GCB 3.5.2) due to their vulnerability. Many of the corals, starfish, sponges and algae form a very minor component of the bycatch but they are not identified to species level. Table 5: Percentage of total catch of main discarded species taken from trawl and longline in the HIMI toothfish fishery from 2010-2016. These species are considered main following MSC guidance (CR v1.3, GCB 3.5.2) due to their vulnerability.

		Trawl	
Season	Eaton's Skate (Bathyraja eatonii)	Kerguelen Sandpaper Skate (Bathyraja irrasa)	Sleeper shark (Somniosus antarcticus)
2015/16	2.86	0.09	0.00
2014/15	0.14	0.04	0.00
2013/14	0.35	0.11	0.00
2012/13	0.57	0.12	0.00
2011/12	0.37	0.06	0.00
2010/11	0.33	0.06	0.00
2009/10	0.48	0.09	0.00
		Longline	
2015/16	0.47	1.42	0.16
2014/15	0.03	0.40	0.18
2013/14	0.12	0.96	0.11
2012/13	0.19	1.06	0.22
2011/12	0.06	0.82	0.10
2010/11	0.09	1.04	0.00
2009/10	0.01	0.80	0.19

### Endangered, Threatened and Protected (ETP) Species

The fishery does interact with some ETP species. In particular, they have interacted with seabirds (Cape petrels, giant petrels and a rockhopper penguin), and seals (Antarctic fur seal - *Arctocephalus gazelle* and Elephant seal - *Mirounga leonine*).

Table 6. Number of seabing	rd and marine mamr	nal mortalities fro	om trawl and longline	e in the HIMI toot	hfish fisher
from 2009/10-2014/15.					
	Seabi	rds	Marine Ma	Marine Mammals	
Season	Trawl (no)	II (no)	Trawl (no)	II (no)	

	Seabilius			
Season	Trawl (no)	LL (no)	Trawl (no)	LL (no)
2014/15	0	1	0	6
2013/14	0	1	0	3
2012/13	1	0	0	8
2011/12	0	2	0	2
2010/11	0	1	0	0
2009/10	0	2	0	0

Seabird bycatch in the fishery remains low; no seabird mortalities have been reported in the trawl fishery since 2012/13 and between 0 and 2 seabirds per year in the longline sector (Table 6). There has been no observed marine mammal interaction in the trawl since 2010 while fur seal mortalities have been observed in the longline sector of the fishery particularly in recent years when efforts shifted to longlining (Table 4).

#### Sperm whale depredation

Incidents of depredation (direct impacts), involving sperm whales (*Physeter microcephalus*) have been reported in several Patagonian toothfish (*Dissostichus eleginoides*) longline fisheries in the Southern Ocean, however at Heard Island, this has only been seen from 2011, and incidents have been observed in every season thereafter (Welsford and Arangio, 2015). This recent study found that strong seasonal pattern to sperm whale presence, with depredation events confined to early in the season (April-July). Further work is planned to monitor depredation behaviour across the Kerguelen Plateau and explore options for long term mitigation. This Australian Research Council (ARC) funded collaborative study will also investigate the trophic effects of depredation on ecosystems.

#### Management measures for non-target species

AFMA requires that all species in the HIMI fishery that cannot be returned to the water alive be retained (AFMA 2009c). Discarding of dead animals is prohibited. Sharks and ray species caught in the fishery which are in adequate condition are returned alive to the water. Sharks and ray species that are not likely to survive, other species like Grenadiers (*Macrourus* sp.) and unicorn icefish (*Channichthys rhinoceratus*), and benthic invertebrates like starfish are ground into offal. Offal is discarded outside the fishing zone so as not to attract seabirds to the fishing operation.

All species caught in the fishery have TACs of 50 t, unless otherwise specified. This limit is based on CCAMLR advice, and taken to be a precautionary limit (Phillips and Ansell 2008). Unicorn icefish, grey rock cod, skates and rays, and grenadiers have a specific upper catch limit. The limits for unicorn icefish and grey rock cod is based on a stock assessment done in the late 1990s (Constable *et al.* 1998), however the stock assessment for unicorn icefish (Maschette and Dell 2015) and grey rock cod (Maschette et al. 2015) has been recently updated and no updates to limits were required.

A strategy for mitigating all bycatch in the fishery is in place, which includes a requirement for vessels to move at least 5 nm away from a site for at least 5 days, if a vessel catches  $\geq$ 5 tonnes for *Channichthys rhinoceratus*,  $\geq$ 3 t for all *Macrourus* spp. combined, or  $\geq$ 2 t for *Lepidonotothen squamifrons*, or  $\geq$ 2 t of *Somniosus* spp., or  $\geq$ 2 tonnes of skates and rays (CCAMLR Conservation Measure 33-02 (2015). There is also an extensive Marine Reserve set up to protect non-target species. There is also a domestic Bycatch and Discard Workplan which was reviewed (Welsford *et al.* 2012) as part of a broader review of the Commonwealth Bycatch Policy in 2012.

CCAMLR has developed conservation measures (Conservation Measure 25-03) for seabirds and marine mammals which provide guidance on mitigation measures for reducing interaction rates, along with a resolution (resolution 22/XXV) outlining its international standards in this respect for seabirds. The HIMI fishery is required to comply with these measures by the management agency (AFMA), with no reported compliance issues reported thus far. A new voluntary industry move on provisions for sperm whales has also been enacted in the longline fishery, which ensures the next line shot is 50 miles away, if sperm whale

depredation is detected. A new study will be looking at the whale behaviour across the whole Kerguelen Plateau with the overall aim to develop strategies for long term mitigation (Welsford and Arangio, 2015).

#### **Habitat Impacts**

A comprehensive study conducted by Welsford *et al.* (2014) included an assessment of the current status of benthic habitats by combining data on the fishing footprint with estimates of taxa-specific vulnerability to different gear types and modelled distributions of habitats and taxa. A risk categorisation framework was then applied that allowed the seascape around HIMI to be categorised and the level of protection afforded by the Marine Reserve to be quantified.

The researchers concluded that the great majority of vulnerable organisms live on the seafloor in depths less than 1200 m. This range overlaps with the depths targeted by the trawl fishery, however due to the fact that the majority of trawling has focussed on a few relatively small fishing grounds, less than 1.5% of all the biomass in waters less than 1200 m were estimated to have been damaged or destroyed.

Furthermore, the HIMI Marine Reserve, established in 2003, is estimated to contain over 40% of the biomass of the groups of benthic organisms considered as most vulnerable to demersal fishing at HIMI. Overall, an estimated 0.7% of the seafloor area within the EEZ at HIMI has had some level of interaction with demersal fishing gear) between 1997 and 2013.

The study also identified a small area as of Category II risk to the east of Heard Island near the boundary of the EEZ. The study recommended that 6200 square kilometres of the Conservation Zone be added to the Reserve on the basis that its waters were of high conservation value. The boundaries of the Reserve were expanded on 28 March 2014, and the Reserve's area increased to 71,000 square kilometres (AAD 2014).

#### **Ecological Risk Assessment (ERA)**

The ERA for the HIMI Fishery followed an Ecological Risk Management (ERM framework developed by AFMA. The methodology applied is a set of screening or prioritization steps that work towards a fully quantitative ecological risk assessment (Hobday *et al.* 2007, Smith *et al.* 2007). Each step of the methodology, or Level, potentially screens out issues that are of low concern. The Scoping stage screens out activities that do not occur in the fishery. Level 1 screens out activities that are judged to have low impact, and potentially screens out whole ecological components as well. Level 2 is a screening or prioritization process for individual species at risk from direct impacts of fishing. The Level 2 methods combine information on productivity and exposure to fishing to assess potential risk. Due to the precautionary approach to uncertainty, there will be more false positives than false negatives at Level 2, and the list of high risk species should not be interpreted as all being at high risk from fishing. Level 2 is a screening process to identify species that require further investigation by using Level 3 methods, a modeling process, which does assess absolute levels of risk.

After completion of the risk assessment and risk management steps, a residual risk assessment was conducted which identified three skate species (*Bathyraja irrasa, B. murrayi,* and *B. eatonii*) in the HIMI demersal trawl subfishery as potential risks (AFMA 2009a, AFMA 2009f). It is also noted in the report

that fishing mortality (F) may be overestimated using the Sustainability Assessment for Fishing Effects (SAFE) Level 3 method (Zhou *et al.* 2009). These skate species are widely distributed across the Plateau and no depletion of these species is evident (Nowara *et al.* 2009). In addition, none of these species were judged to be at risk of overfishing at the current fishing level and there are extensive measures in place to ensure there is no major impact on them (Zhou *et al.* 2009).

# 3.5 Principle Three: Management System Background

### Area of Operation and Relevant Jurisdictions

The Heard Island and McDonald Islands (HIMI) are an external territory of Australia and are located on the Kerguelen Plateau in the southern Indian Ocean about 4,000 kilometres southwest of Perth. The HIMI Toothfish Fishery extends from 13 nautical miles (nm) offshore to the edge of the 200 nm Australian Exclusive Economic Zone (EEZ) around the Islands. The fishery lies in Statistical Division 58.5.2 of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) which has a strong influence over the management of the fishery. CCAMLR is made up of 25 participating member countries, including Australia.

The HIMI Toothfish Fishery is a Commonwealth managed fishery, managed by the Australian Fisheries Management Authority (AFMA) in close cooperation with the Australian Antarctic Division (ADD) in accordance with CCAMLR Conservation Measures, the *Antarctic Marine Resources Conservation Act 1981* and the *Fisheries Management Act 1991* (FMA).

Out to 12 nm the area is listed on the World Heritage List and forms part of the Heard Island and McDonald Islands Marine Reserve which is managed by the Commonwealth Department of the Environment and Energy. A new management plan for the Reserve, the Heard Island and McDonald Islands Marine Reserve Management Plan 2014 -2024 was approved by the Minister for the Environment in 2014. The plan was made under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). AFMA Direction No. HIMIFD 11 closes waters between 12 and 13 nm to fishing providing an additional 1 nm buffer zone to the Marine Reserve.

The HIMI Toothfish Fishery could be considered to be a "shared stock" as there may be some level of interaction by fish across the boundary, where they may also be fished by French vessels operating in the French EEZ around Kerguelen Island.

#### **Recognised Interest Groups**

Group recognized as having an interest in the HIMI toothfish fishery are:

AFMA (including members of the SouthMAC and SARAG)

The Department of the Environment and Energy, in particular the Australian Antarctic Division of the Department.

The Department of Agriculture and Water Resources

Scientists from the Commonwealth Scientific and Industrial Research Organisation (CSIRO) CCAMLR, its Scientific Committee and associated working groups

Terres Australes et Antarctiques Francaises (TAAF) (Responsible for sovereignty in the French sub-Antarctic islands)

Museum National d'Histoire Naturelle (MNHN) (French stock assessment and management) Fishers with access rights to the fishery

### **Consultations leading to the Formulation of the Management Plan**

The HIMI toothfish fishery is managed under the *Heard Island and McDonald Islands Fishery Management Plan 2002* (the HIMI Management Plan) and was developed in accordance with the requirements of sections 17 and 17A of the FMA which specifies the consultation that must be conducted in development of a statutory management plan for Commonwealth managed fisheries.

The FMA requires that AFMA make public through a notice in the Commonwealth of Australia Gazette and in newspapers, its intention to determine a management plan, make a copy available for public comment and invite comment on the plan. AFMA is also required to maintain a register of persons or organisations, complied by way of public invitation to register, who are to be notified when AFMA publishes a notice advising that it intends to determine a management plan. The draft management plan was developed in consultation with the SouthMAC which includes members from AFMA, AAD, the fishing industry and a conservation organization. The draft was then provided for public comment in accordance with the above procedures.

The same requirements apply to any subsequent amendment of the management plan. For example, the HIMI Management Plan was last amended in 2012. The proposed Plan amendment was considered and recommended by the SouthMAC and SARAG. Following approval from the AFMA Commission, the draft amendment was released for public comment for a period of one month. To inform the community, AFMA placed notices in The Australian newspaper, in the Gazette and in AFMA's fortnightly newsletter, AFMA Update. AFMA also wrote to all those on a register of persons concerned about plans of management under section 17A of the FMA.

### **On-going Consultations with Interest Groups**

As part of AFMA's partnership approach to fisheries management, it has established Management Advisory Committees (MACs) for each major fishery that it manages. MACs are AFMA's main point of contact with client groups in each fishery and play an important role in helping AFMA to fulfil its legislative functions and pursue its objectives. The Committees provide advice to the AFMA Commission on a variety of issues, including on-going measures required to manage the fishery, the development of management plans and research priorities and projects for the fishery. The MACs are intended to complement the work of fishery managers by providing a broader perspective on management options and a wide range of expertise. MACs provide a forum where issues relating to a fishery are discussed, problems identified and possible solutions developed. The outcomes of these deliberations determine the recommendations that the MAC will make to the Commission.

AFMA's legislation limits the number of members on a MAC to seven, in addition to the Chairperson and an AFMA officer. Increasingly, and where appropriate, AFMA has included a broader range of interest groups in this consultative process. The Commission decides on a fishery-by-fishery basis the range of wider community interests that should be reflected on the MAC. As a general rule, revised membership arrangements are considered upon expiry of terms of appointment of existing members.

The MAC that covers the management of the HIMITF, along with other Antarctic and subAntarctic fisheries under Australian jurisdiction, is SouthMAC. The seven statutory members of SouthMAC comprise two from industry, one from the conservation community (currently from the Tasmanian Conservation Trust), a research member, and one from AAD (policy branch). In addition, the MAC membership includes the AFMA manager responsible for the fishery, an Executive Officer and an independent Chair. Observers may also attend meetings of the MAC.

Resource Assessment Groups (RAGs) have been established by AFMA to provide independent advice on fishery and stock status and to achieve transparency in the collection and analysis of data for fisheries management purposes. The HIMITF stock assessment process is reviewed by SARAG which provides advice to SouthMAC and the AFMA Commission. SARAG is currently composed of an independent Chair and an executive officer and seven members including four government scientists (two from AAD and two from CSIRO), the AFMA manager and two industry members. Observers may also attend these meetings.

The operation, roles and responsibilities of MACs and RAGs are specified by AFMA in Fisheries Management Paper No. 1 (AFMA 2015) and Fisheries Administration Paper No. 12 (AFMA 2014) respectively. Both papers have been amended recently to provide clarity around declarations of interests and interpretation of conflicts of interest.

SARAG meets several times a year and SouthMAC meets twice a year, including immediately after the annual meeting of CCAMLR, to consider any Conservation Measures (CMs) agreed by CCAMLR. The most recent SouthMAC meeting was held in February 2016 and the SARAG meeting in September 2016.

A CCAMLR Fisheries Review meeting is held regularly and is primarily concerned with monitoring the operation and implementation of the Research Plan for the HIMI fisheries. Its role in relation to the HIMITF relates predominantly to over-sight of the research program, as well as monitoring bycatch and the random stratified trawl surveys (RSTS). The meeting involves industry, AAD, AFMA and the Department of Agriculture and Water Resources.

Conservation groups have a standing invitation to attend, and groups such as WWF have participated actively in the work of the meeting.

In addition to the MAC and Resource Assessment Group (RAG), the CCAMLR Consultative Forum, including government agencies, industry and non-government conservation agencies meets three times each year. These meetings are formally recorded and records distributed to participants. Some of the information discussed is considered confidential, and these meeting records are not made more publicly available.

An annual workshop prior to a SARAG meeting is held for scientists, managers, policy makers, scientific observers and industry participants, including skippers, to prove a forum for informal exchange of information. Members of the CCAMLR Consultative Forum are invited to the workshops.

A joint workshop between Australia and France was held in 2010 when all current research was presented. AAD and the French Museum have organised another Australian/France Kerguelen Plateau Symposium for November 2017.

### **Planned Education and Training for Interest Groups**

There are no specific education and training programs planned for interest groups. However, the extensive range of consultation mechanisms used in the fishery provide opportunities for interest groups, including fishers and conservation groups, to engage in and form a better understanding of the management and conduct of the fishery.

### Non-fishery Uses or Activities and Arrangements for Liaison and Coordination

An Australian, MSC-certified fishery for Mackerel Icefish also operates in the waters around HIMI. However, the fishing grounds for toothfish are different than those for mackerel icefish. Toothfish is now increasingly taken by longline while mackerel icefish is only taken by demersal and midwater trawl. Both the mackerel icefish and toothfish fisheries are managed by AFMA under the same management plan and have the same consultative arrangements.

Similarly, a French MSC certified fishery for Patagonian toothfish operates on the Kerguelen Plateau in the French EEZ. There are compliance and research collaborative arrangements between the two countries as well as an MSC harmonization process that has been completed.

The islands lie within one of the most biologically pristine area in the world and provide crucial breeding habitat for a range of birds and marine mammals, thus attracting tourism. Tour ships must obtain permits and must remain within specified visitor zones. However, given the remoteness of the Islands they are only occasionally visited by tour ships (AAD 2015).

#### **Formulation of the Management Plan**

AFMA, AAD and CCAMLR are the key decision-making bodies for the HIMITF. The fishery is managed by AFMA in accordance with the FMA. In addition, AAD, a division of the Commonwealth Department of the Environment and Energy, manages the fishery in accordance with the requirements of other domestic legislation, in particular the EPBC Act, and also in conjunction with the requirements of the *Antarctic Marine Living Resources Conservation Act 1981*, which implements Australia's obligations under CCAMLR. All aspects of the fishery management system including the research, surveys, stock assessments, harvest strategies, and management controls are controlled by AFMA and AAD. The Commonwealth Department of Agriculture and Water Resources provides overarching policy guidance to AFMA.

#### **Commission for the Conservation of Antarctic Marine Living Resources**

The CCAMLR process requires interested and responsible nations to come together in an annual multilateral forum to debate various scientific, fishing and conservation interests and issues and negotiate agreements on management measures that are enforceable and acceptable to all parties. Like all such international negotiations, specific issues may be used as bargaining chips to secure preferred outcomes for national delegations. However, crucially, CCAMLR operates by consensus and this decision-making framework has worked well for CCAMLR over a long period of time. The scientific and conservation requirements of ecosystem-based resource conservation and management are considered to be paramount by CCAMLR, and CCAMLR has a notable record of agreeing to key measures, such as binding and sustainable catch limits, in line with the advice to the Commission from its Scientific Committee (SC).

The CCAMLR SC is supported by several constituent working groups that focus on specific areas of science (in particular the Working Group for Fish Stock Assessments (WGFSA), Working Group on Ecosystem Monitoring and Management (WGEMM) and Working Group on Statistics, Assessment and Monitoring (WGSAM). This hierarchical approach (management advice flows up from the working groups to the SC to the Commission) means that technical advice is fed into the system at a level where national agendas are potentially less influential. Other than a focus on a specific geographic area and/or fish stock, such as HIMI in the case of Australia, the working group participants are not constrained in their scientific activities and the techniques they use by their country of origin. In addition, the content of the working groups' reports, which are a matter of public record, are a product solely of the participants, or higher level bodies such as the Commission, that is not subject to the approval of the convener/chair (in the case of editorial changes) or the participants (in the case of any substantive changes reflecting matters of accuracy).

CCAMLR sets CMs that are applied by AFMA in managing the HIMITF (see Figure 6). CCAMLR also establishes an annual TAC for toothfish in the HIMI fishery. This is set taking into account

stock assessments conducted by Australia and the outcomes of peer review of those assessments in CCAMLR's WGFSA and SC.



Figure 6. Decision making and consultative processes for determining Conservation Measures for the HIMITF (source: AFMA 2013)

# **Australian Antarctic Division**

AAD manages Australian government activity in Antarctica, provides transport and logistic support, maintains Australian research stations, and conducts and manages scientific research programs both on land and in the Southern Ocean. In this capacity, AAD manages both the land area of HIMI and the territorial sea as a Marine Reserve. Given its location in the Southern Ocean (i.e. within the Antarctic Convergence) AAD also carries out scientific research and provides management advice on fisheries within the AFZ around HIMI. AAD's Policy Coordination branch is responsible for developing policies, supporting Australian positions internationally, promoting the Antarctic program, ensuring environment protection requirements are met, and administering Australian Antarctic and Sub-Antarctic territories.

Scientists from AAD undertake a stock assessment (see above) for Patagonian toothfish every second year as part of their core work.

# **Australian Fisheries Management Authority**

AFMA, established in 1992, undertakes the day to day management of the fisheries in the Australian Fishing Zone (AFZ). For administrative purposes, AFMA manages more than 20 fisheries that are identified by species, fishing method and/or area. The Australian Commonwealth model of fisheries management has a number of features that distinguish it from other countries, the most prominent of which is the partnership approach with industry
and other stakeholders. Under this model, the involvement of industry is recognized as being vital to successful fisheries management.

While responsibility for the implementation of fisheries management decisions and AFMA's day-to-day business affairs resides with the Chief Executive Officer, AFMA's operations are overseen by seven Commissioners. The Commissioners are appointed on the basis of their high level of expertise in one or more of the fields of fisheries management, fishing industry operations, science, natural resource management, economics, business or financial management, law, public sector administration or governance. Commissioners cannot hold any executive position in a fishing industry association, nor can they have a controlling interest or executive role in any entity holding a Commonwealth fishing concession. The Commission is responsible for setting the policy framework and for ensuring that adequate resources and expertise are available to meet AFMA's legislative obligations. The outcomes of board meetings are reported to stakeholders as well as to the public through the AFMA website.

SouthMAC considers the conservation measures, including the TAC set by CCAMLR for toothfish, and makes a recommendation to the AFMA Commission on adoption of these measures. The Commission makes the final decision on implementation of these measures.

Fisheries Administration Paper 12 clarifies key decision-making processes associated with the delivery of scientific advice in the pursuit of AFMA's legislative objectives. This includes the interactive processes, respective roles and responsibilities between the AFMA Commission, Resource Assessment Groups (RAGs) and Management Advisory Committees (MACs) (see Figure 6 sourced from AFMA, 2014). Unless delegated by the Commission, all committees/groups are advisory rather than decision making.

The process for setting the TAC for example, starts with scientists from AAD and SARAG providing target species and bycatch data which is used to conduct a biennial integrated stock assessment which is peer reviewed by the CCAMLR WGFSA and then sent to the CCAMLR SC and onto the CCMLAR Commission. The TAC is set based on management advice from CCAMLR. Once the TAC is established, the advice is sent to AFMA management, South MAC and finally to the AFMA Commission to publish a Determination and implement the TAC and associated CMs. The HIMITF is on a two year assessment cycle and thus CCAMLR decides on the TAC every 2 years. However, CCAMLR will review the reported bycatch annually and AFMA reviews the fishery every season.

### **Objectives for the Fishery**

The HIMI Management Plan specifies the objectives for the fishery, consistent with those in the FMA, as:

- a. to manage the fishery efficiently and cost-effectively for the Commonwealth; and
- b. to ensure that the exploitation of the resources of the fishery and the carrying on of any related activities are conducted in a manner consistent with the principles of

ecologically sustainable development and the exercise of the precautionary principle, and in particular, the need to have regard to the impact of fishing activities on nontarget species and the long-term sustainability of the marine environment; and

- c. to maximise economic efficiency in the exploitation of the resources of the fishery; and
- d. to ensure AFMA's accountability to the fishing industry and to the Australian community in management of the resources of the fishery; and
- e. to reach Government targets for the recovery of the costs of AFMA in relation to the fishery; and
- f. to ensure, through proper conservation and management, that the living resources of the AFZ are not endangered by over-exploitation; and
- g. to achieve the best use of the living resources of the AFZ; and
- h. to ensure that conservation and management measures in the fishery implement Australia's obligations under international agreements that deal with fish stocks, and other relevant international agreements.

Article II of the Convention for the Conservation of Antarctic Marine Living Resources specifies the objectives of the Convention as follows:

1. The objective of this Convention is the conservation of Antarctic marine living resources.

2. For the purposes of this Convention, the term 'conservation' includes rational use.

3. Any harvesting and associated activities in the area to which this Convention applies shall be conducted in accordance with the provisions of this Convention and with the following principles of conservation:

a). prevention of decrease in the size of any harvested population to levels below those which ensure its stable recruitment. For this purpose its size should not be allowed to fall below a level close to that which ensures the greatest net annual increment;

b). maintenance of the ecological relationships between harvested, dependent and related populations of Antarctic marine living resources and the restoration of depleted populations to the levels defined in sub-paragraph (a) above; and

c). prevention of changes or minimisation of the risk of changes in the marine ecosystem which are not potentially reversible over two or three decades, taking into account the state of available knowledge of the direct and indirect impact of harvesting, the effect of the introduction of alien species, the effects of associated activities on the marine ecosystem and of the effects of environmental changes, with the aim of making possible the sustained conservation of Antarctic marine living resources.

These objectives encompass both ecosystem-based and precautionary management. The precautionary approach was adopted by CCAMLR in the mid-1990s and includes the objective of maintaining a stock at a proportion of its pre-exploitation abundance such that:

4. Escapement of the spawning stock must be sufficient to avoid the likelihood of declining recruitment

5. Abundance under exploitation must maintain a sufficient resource for the needs of dependent species (usually predators).

When these two objectives are articulated they give rise to biological reference points that form the basis of decision rules. The CCAMLR decision rules are:

that the probability of the spawning biomass dropping below 20% of its median pre-exploitation level over a 35-year harvesting period is 10% (depletion probability); and.

that the median escapement of the spawning biomass at the end of a 35-year period is 50% of the median pre-exploitation level.

These reference points have been specifically constructed to meet the objectives of CCAMLR.

### **Fisheries Regulations to Meet Objectives**

The HIMI Management Plan provides the overarching framework for regulating the HIMITF. This is supported by the Fisheries Management (Heard Island and McDonald Islands Fishery) Regulations 2002, directions made by AFMA under the HIMI Management Plan and specific conditions on SFRs, through which CCAMLR CMs applying to the fishery are implemented.

The primary regulatory measures in the fishery is the setting of a single TAC and its allocation as ITQs to a limited number of operators. This is supported by a range of reporting and other obligations on SFR holders, gear controls, temporal closures, 100% observer coverage and limits on bycatch. A summary of the regulatory measures that apply to the HIMITF is provided in Table 7.

Management Plan	Supporting instruments
Bycatch arrangements	Regulations
Fishery assessment plan requirements Total allowable catch provisions	Gear restrictions (mesh sizes, bobbins etc. restrictions)
Quantity of fish that may be taken including overcatch provisions Granting of SFRs Boat nomination Environmental requirements including	Contingency arrangement under certain events Boat and gear marking Packing and unloading requirements CCMLAR inspection requirements Observer requirements
<ul> <li>Reporting of gear loss</li> <li>No poultry or brassicas are to be discarded from the boat</li> <li>Nil offal overboard</li> <li>Restrictions on the use of plastic nackaging bands</li> </ul>	Directions Area closures (territorial waters, buffer zone) Minimum quota holding requirements for trawl operations Conditions on SFRs
<ul> <li>Limited light at night</li> <li>Reporting of death or serious injury of seabird and marine mammals</li> <li>Obligations on holders of SFRs to minimize bycatch, carriage of observers and requirement to comply with regulations and fishery assessment plan</li> <li>Contingency arrangements for breakdown of meal plant, disposal of fish meal and injury or death of seabird or marine mammal</li> <li>Schedules -Fishing area, target species and additional species subject to doclaration by</li> </ul>	Seasons Seabird bycatch mitigation measures Bycatch restrictions Bycatch move on provisions CCAMLR catch reporting requirements Observer obligations Injury or death of seabird or marine mammal Environmental obligations (including CCAMLR Conservation Measures) Vessel Monitoring System obligations Reporting obligations
AFMA.	Transhipping and carrying requirements

### Table 7. Regulatory framework in the HIMTF (AFMA 2012a).

#### **Access Rights**

The HIMITF is a limited entry fishery. Statutory Fishing rights (SFRs) for toothfish, allocated under the HIMI Management Plan, are held by 4 SFR owners. These SFRs take the form of individual transferable quota, representing a share in the annual TAC.

### **Review and Audit of the Management Plan**

The HIMI Management Plan provides (Section 7 (2), (3) and (4)) that:

- AFMA and the MAC must, at least once every 5 years, assess the effectiveness of the Management Plan including the measures taken to achieve the objectives of this Management Plan by reference to the performance criteria mentioned in subsection (1).
- AFMA must include in its annual report for a financial year a statement of the extent to which the performance criteria mentioned in subsection (1) were met in the year.
- Each year, the MAC must assess the extent to which performance criteria mentioned in subsection (1) have been met in that year.

The effectiveness of some elements of the management plan is also subject to review by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) and the Department of the Environment and Energy. ABARES conducts an annual assessment of the status of stocks and the economics of fisheries managed by AFMA. The Department of the Environment and Energy has conducted regular, five-year reviews of the HIMITF under the Guidelines for the Ecologically Sustainable Management of Fisheries. The processes for this external review has recently changed with a decision by the Government that the maximum period of accreditation of a fishery under the EPBC Act be extended from five to ten years for low-risk fisheries. The List of Exempt Native Species has recently been amended to include fish taken in the HIMITF, thereby extending export approval until October 2026.

### **Fishery Research Plan**

The current research plan for the HIMITF is the Antarctic Fisheries Strategic Research Plan 2014/15 – 2018/19 (AFMA 2015b). The plan was developed by AFMA in consultation with SARAG and SouthMAC. The plan identifies areas of high priority research and provides for research to underpin stock assessment, collection of fishery and biological data and to assess ecological aspects of the fishery. An annual call for research applications addressing the priorities in the strategic research plan is made and applications are assessed for funding either from the AFMA Research Fund or the Fisheries Research and Development Corporation.

The strategic research plan is used to develop the fishery assessment plan (FAP) which is a requirement of the HIMI Management Plan and details the formal collaboration between industry and research providers. The FAP is developed every 2 years to ensure that an adequate program of monitoring takes place in the fishery in order to provide reliable stock estimates for target species and to monitor the direct impact on non-target species and the ecosystem.

# 4. Evaluation Procedure

## 4.1 Harmonised Fishery Assessment

For this assessment, harmonisation is required with the overlapping Kerguelen Islands (SARPC Client Group) Patagonian toothfish (*Dissostichus eleginoides*) fishery under French management which was certified after the HIMI fishery in 2013. Harmonisation is also required with the HIMI Mackerel Icefish, Australian Blue Grenadier, Northern Prawn, Walkers Seafood and the Macquarie Island toothfish fisheries as it relates to the same AFMA management system (see Table 8 below for details).

**Principle 1:** Required for overlapping target stock Patagonian toothfish (*Dissostichus eleginoides*). According to the guidance released by the MSC in December 2015, all PIs under Principle 1 need to be harmonized.

In assigning scores to the HIMI fishery we have also considered the French SARPC fishery which was certified after the Australian fishery and with different scores and conditions for several P1 Performance Indicators. Most weight has been given to the assessment of the HIMI fishery, however, as there is now evidence that there is only a minor level of movement of fish between the two areas and there are separate spawning areas. This means that the status of the stock component exploited by the HIMI fishery.

The HIMI fishery scores have been amended where it was considered appropriate to reflect the scores assigned for the French fishery. We consider that the HIMI and SARPC fisheries are harmonised for Principle 1 to the extent that the impacts on the whole stock have been taken into account. The differences that remain are considered to be justified as they pertain to the fishery-specific aspects of their harvest strategies and these differences do not threaten the achievement of P1 outcomes. Therefore, as required by Cl3.1, having differences in the conditions between the Australian and French fisheries would not "undermine the integrity of MSC fishery assessments". Separate scoring of these fishery-specific aspects of the harvest strategies is also consistent with the approach for fishery-specific management arrangements under P3.

**Principle 2**: According to the MSC guidance, harmonisation is not required. The fisheries even with the same gear type may still have different bycatches and habitat impacts and management. It should thus not be expected that their scores will be fully harmonised for any of the components in P2.

**Principle 3:** Harmonisation should also be considered in the case of any overlapping parts of the fishery management systems as it relates to the AFMA and CCAMLR system.

Table 8: Fisheries in the MSC System Considered for Harmonization.

Fishery	Status	Principles for Harmonization	Conformity Assessment Body
1 SARPC Patagonian toothfish ( <i>Dissostichus</i> <i>eleginoides</i> ) under French management	Certified, 3 <sup>rd</sup> surveillance audit	Principle 1 (see below for details) P 3 (related to CCAMLR management system only)	ME Certification
2. HIMI Mackerel Icefish	Recertified	P 3 (related to CCAMLR AFMA management system)	SCS Global Services
3. Australia Blue Grenadier	Certified, 1 <sup>st</sup> surveillance audit	P 3 (related to AFMA management system)	SCS Global Services
4.Northern Prawn	Certified, 4 <sup>th</sup> surveillance audit	P 3 (related to AFMA management system)	MRAG
5. Walkers Seafood	Certified, 1stsurveillance audit	P 3 (related to AFMA management system)	ME Certification
6. Macquarie Island Toothfish	In Re-assessment	P 3 (related to AFMA management system)	SCS Global Services

A specific harmonisation meeting was organized with the assessment team of ME certification after the onsite of the 3<sup>rd</sup> annual surveillance of the SARPC Fishery on the 11<sup>th</sup> November 2016 focusing on Principle 1 scores. The outcomes of that meeting were applied to the findings of the 4<sup>th</sup> annual surveillance report of the HIMI fishery (see also below under summary previous assessment conditions).

PI	Fishery 1	Comments
1.1.1	SARPC	Tagging data now indicates that the HIMI fishery exploits a
		component of the stock that has a relatively low level of mixing
		with that exploited by the SARPC fishery. For this PI, therefore,
		the assigned score, the cited reference points, and current stock
		status, reflect the stock assessment for the HIMI fishery.
		The SARPC fishery, however, is also assessed to be at a similar
		level so an unconditional pass would be assigned even if this
		fishery was given additional weight in the scoring.
1.1.2	SARPC	CCAMLR reference points are used for the HIMI fishery. These are
		applied independently of the SARPC fishery which, as noted
		above, exploits a component of the stock that has a relatively low
		level of mixing with that exploited by the HIMI fishery.
		The SARPC fishery, however, also applies the CCAMLR reference
		points so an unconditional pass would be assigned even if this
		fishery was given additional weight in the scoring.
1.2.1	SARPC	In assigning a score for the HIMI fishery we have also considered
		the French fishery which, since the original assessment was

### Table 9: Alignment of Scores for Harmonisation

		completed, had been assessed as meeting all the SG80 requirements, but none of the SG100 requirements. Most weight has been given here to the scores for the HIMI fishery, however, as there is now evidence that there is only a minor level of movement of fish between the two areas and there are separate spawning areas. This means that the status of the stock component exploited by the HIMI fishery is mostly affected by the harvest strategy used for this fishery. The HIMI fishery would be scored at 95 (two of three SG100 scoring issues are met) but the score has been reduced to 90 to reflect the lower score for the French fishery.
1.2.2	SARPC	In assigning a score for the HIMI fishery we have also considered the French fishery which, since the original assessment was completed, had been assessed as not meeting the first of the SG80 requirements because the harvest control rule was not well defined. Most weight has been given here to the scores for the HIMI fishery, however, as there is now evidence that there is only a minor level of movement of fish between the two areas and there are separate spawning areas. This means that the status of the stock component exploited by the HIMI fishery is mostly affected by the harvest strategy and harvest control rule used for this fishery. The HIMI fishery would be scored at 100 but the score has been reduced to 95 to reflect the lower score for the French fishery. As noted in Section 4.1, we consider that the HIMI and SARPC fisheries are harmonised for this PI to the extent that the impacts on the whole stock have been taken into account. The differences that remain are justified as they pertain to the fishery-specific aspects of their harvest strategies and these differences do not threaten the achievement of P1 outcomes. Therefore, as required by CI3.1, having differences in the conditions between the Australian and French fisheries would not "undermine the integrity of MSC fishery assessments". Separate scoring of these fishery-specific aspects of the harvest strategies is also consistent with the approach for fishery-specific management arrangements under P3.
1.2.3	SARPC	The information available for the HIMI fishery is comprehensive and has been deemed sufficient to meet all SG100 requirements. The information available for the SARPC fishery had been scored as sufficient only to meet SG80 requirements. As for other PIs we have assigned a greater weight to the scores for the HIMI fishery but have reduced the overall score to 95 to reflect the lower score for the SARPC fishery
1.2.4	SARPC	In assigning a score for the HIMI fishery we have also considered the French fishery which, since the original assessment was completed, had been assessed as not meeting the first of the SG80 requirements because the WG-FSA considered that the

	stock assessment was appropriate for the HCR only in the short
	term, after which a more robust stock assessment would be
	required. Thus, unlike the HIMI fishery, the condition on the
	French fishery was based on its preliminary nature and was not
	associated with the need for a broader scope for the assessment.
	Most weight has been given here to the scores for the HIMI
	fishery, however, as there is now evidence that the connectivity
	between the two areas is not great. This means that the status of
	the stock component exploited by the HIMI fishery is best
	reflected in the results of the stock assessment used for the HIMI
	fishery.
	The HIMI fishery would be scored at 90 but the score has been
	reduced to 85 to reflect the lower score for the French fishery. As
	noted in Section 4.1. we consider that the HIMI and SARPC
	fisheries are harmonised for this PI to the extent that the impacts
	on the whole stock have been taken into account. The differences
	that remain are justified as they pertain to the fishery-specific
	aspects of their harvest strategies and these differences do not
	threaten the achievement of P1 outcomes. Therefore, as required
	by CI3.1 baying differences in the conditions between the
	Australian and French fisheries would not "undermine the
	integrity of MSC fishery assessments" Senarate scoring of these
	fishery-specific aspects of the harvest strategies is also consistent
	with the approach for fichery specific management arrangements
	under D2
	unuer PS.

PI	This	Fishery	Fishery	Fishery	Fishery	Fishery	Fishery	Comments
	assessment	1	2	3	4	5	6	
3.1.1	100	80	100	100	100	85	100	Despite the unconditional pass assigned in each fishery, the Fishery 1 reduced score primarily related to the TAAF management framework as the regulators of France's southern and Antarctic Islands (i.e. dispute resolution mechanisms have never been tested in TAAF fisheries). Fishery 5 concluded that the dispute resolution mechanism had been tested and proven at the national (AFMA) level but not at the regional level through the Western and Central Pacific Fisheries Commission (WCPFC). These issues are not relevant to this assessment. The CAB for fishery 5 also noted that the legal rights of customary fishers were absent from national fisheries legislation although acknowledged that they are recognized through the <i>Native</i> <i>Title Act 1993</i> .
3.1.2	100	85	100	100	100	85	100	Fishery 5 was scored lower due to the apparent absence of formal reporting of the AFMA Commission decision making and queried whether AFMA facilitated effective engagement beyond individuals and entities with known interest in fisheries management. This assessment identified examples that demonstrated this is not the case. The Fishery 1 assessment noted limited consultation with the vessel owners and that both the information used and

								process for setting the TAC is
								unclear. Neither of these
								discrepancies affects the
								outcome of this assessment.
3.1.3	100	100	100	100	100	90	100	Fishery 5 scored lower as a
								result of the WCPFC long term
								objectives, including the
								precautionary approach, not
								been fully operationalized.
								Neither of the above issues are
								relevant to this assessment.
3.1.4	90	80	90	90	100	90	90	This PI for Fishery 1 resulted in a
								CAB recommendation that
								seeks to ensure the procedures
								and criteria for allocating
								variable amounts of quota
								between vessels annually is
								reviewed and published to
								ensure they do not contribute
								to unsustainable fishing
								practices. The score of 90 for
								Fisheries 2, 3 and 6 was
								assigned noting that although
								the fishery was subject to
								regular internal and external
								review, incentives were not
								explicitly considered. Fishery 5
								scored 90 on this due to some
								issues relating to consensus-
								based decision-making in the
								WCPFC to ensure unsustainable
								fishing practices were avoided.

## **4.2** Previous assessments

This fishery was first certified in March 2012 and this is the first re-assessment. Five conditions were raised during the previous assessment, three in Principle 1 (for Performance Indicators 1.2.1, 1.2.2 and 1.2.4), one in Principle 2 (Performance Indicator 2.4.3) and one in Principle 3 (Performance Indicator 3.1.2). The Principle 1 conditions were closed out during the 4<sup>th</sup> annual surveillance audit in 2016, the Principle 2 condition was closed out during the second surveillance audit in 2014, and the Principle 3 condition was closed out during the third surveillance audit in 2015.

## Table 10. Summary of Previous Assessment Conditions

Condition	Closed?	Justification
<b>PI 1.2.1.</b> By the 4 <sup>th</sup> annual	Closed	Closed during fourth annual surveillance audit.
surveillance audit the client shall		Revised score: 90.
ensure that the assessment is		
appropriate for the stock and		The 2015 surveillance audit of the SARPC fishery
specifically that it accounts for		(MEC 2015) reported that the TAAF had published a
fishing impacts on the entire known		Management Plan for the fishery in the TAAF
range of the stock including the		Official Journal in August 2015 (TAAF, 2015). They
proportion found and fished in the		reported that "the management plan documents
French zone.		brings together all recent regulatory changes. The
		plan sets out an ambitious objective of the
		estimated toothfish stock biomass in Kerguelen to
		stabilise at 60% above the initial biomass (B 0),
		which is higher than the CCAMLR (and HIMI fishery)
		objective of 50% and may not be achievable in near
		future."
		As noted, there is no condition on this Pi for the
		same the LUNA fishery which was imposed for
		persolved deficiencies with the baryest strategy for
		the SARPC fishery, should be closed for the
		following reasons
		• The SARPC fishery has been certified by
		MSC without a condition on this PL so it has
		been accepted as meeting the SG80
		requirements of this PI.
		It is unreasonable to maintain a condition
		on the HIMI fishery that concerns the HS for
		the SARPC fishery when no similar
		condition has been imposed on that fishery.
		Requirements for harmonisation also
		suggest that the condition on the HIMI
		fishery should be closed.
		• The CCAMLR Working Group on Fish Stock
		Assessment (WG-FSA) has accepted that
		"Although the long-term precautionary
		yield was not calculated, the current the
		catch limit set for 2015/16 by France of 5
		300 tonnes satisfied the CCAMLR decision
		rules" (WG-FSA 2015, paragraph 4.42). It
		has accepted this assessment as the basis
		for management advice for several years.
		Therefore the body responsible for
		reviewing the results of the assessment of
		this fishery has concluded the current TACs

	-
for the French fishery is not leading to	
catches that would threaten the	
sustainability of the target stock.	
<ul> <li>Projections made in the 2016 stock</li> </ul>	
assessment (Sinegre and Duhamel 2016)	)
also support this position.	
Harmonisation with the French fishery	
There is no condition for this PI for the French	
fishery. Closing this condition will align the score	S
for both fisheries and achieve full harmonisation	
<b>PI 1 2 2</b> By the A <sup>th</sup> appual Closed Closed during fourth appual surveillance audit	<u>.</u>
surveillance audit the client shall Revised score: 95	
ansure that the hervest central rules	
This condition on the UNAL ficher was imposed.	
take into account the main	
uncertainty in the assessment. This because of a lack of knowledge of the linkages	
can be achieved once the stock between the stocks in the Australian and the Fre	nch
assessment has been updated to EEZs and the view that the current harvest contr	ol
incorporate the identified rules applied to the HIMI fishery did not take this	S
interactions between toothfish uncertainty into account. The concern was that	
across the Kerguelen Plateau. The stocks of toothfish within the Australian EEZ cou	ld
client shall provide evidence that the become depleted by fishing in the French EEZ if t	hat
harvest control rule application will was not adequately constrained.	
also explicitly account for the	
distribution of future catches of Originally, the condition required that the client	
Patagonian toothfish in both the	
Australian and Franch zones	
Australian and French zones.	
Australian and the French Lenger. This was a man	
Australian and the French Zones. This was a more	e 
prescriptive requirement than would be accepta	ble
under recent instructions about setting condition	าร
(e.g. if following CR 1.3 - 27.11.1.2). The original	
rationale also indicated an expectation that	
meeting the condition would require a joint	
plateau-wide stock assessment and catch sharing	g
arrangements to be in place.	5
As noted in previous surveillance audits knowled	dop
of the distribution of snowning grounds has	-8C
improved with concrete ensuring locations	
Improved with separate spawning locations	
identified within each EE2 (Weisford et al. 2014).	•
The use of the plateau habitats by Patagonian	
toothfish has also been modelled (Peron and	
Welsford 2014). Furthermore tagging work, whice	:h is
ongoing and has increased, has demonstrated th	at
there is very little fish movement around the wh	ole
plotony with loss than $\Gamma(t)$ of fish to are disting	
plateau with less than 5% of fish tagged in the	

(Welsford et al. 2015). Such movement will be incorporated in the Australian assessment model in 2017, but given that it is at such low levels, not currently accounting for it is considered to be a low risk in the short to medium term (Dirk Welsford
personal communication November 2016). Movement within the French EEZ is also considered to be negligible (Sinegre and Duhamel 2016).
Since the last surveillance audit collaboration among the relevant Australian and French science groups has continued. The assessment of the stock within the French EEZ has continued to improve and is consistent in approach to that for the Australian fishery. Assessments of both fisheries are evaluated by CCAMLR's WGFSA. This group requested a range of improvements to the Australian assessment in 2013 and these were delivered in 2015 through a structured program that has been described in previous surveillance reports (SCS 2014, SCS 2015). The assessment of the French fishery remains at an earlier stage of development but it provides estimates of the level of catch that would meet the CCAMLR decision rules (Sinegre and Duhamel 2016). As noted under the update for PI 1.2.1, WG-FSA has accepted that the current catch limit set for 2015/16 by France satisfied the CCAMLR decision rules (WG-FSA 2015, paragraph 4.42).
Also, in reviewing progress against this condition we note the view expressed last year that separate assessments may be a more conservative approach than one based on the assumption of a single shared stock.
Overall, we consider that the issue of uncertainty about the linkage between the toothfish in the Australian and French EEZs is no longer a major issue for the HCR that is applied to the Australian fishery. The Australian HCR requires (and the assessment clearly demonstrates) that catches are in full compliance with CCAMLR objectives. And as catches within the French EEZ are also determined to be within CCAMLR requirements there is very little likelihood of the total combined catch putting the status of the stock as a whole at risk. The HCR for the HIMI fishery is otherwise compliant with

MSC requirements, and arrangements for the
SARPC fishery do not hinder the achievement of
CCAMLR objectives for the stock as a whole, so
there are no longer any main sources of uncertainty
that are not taken into account.
Thus, we consider the condition to be closed.
In doing so we note that this has been achieved by an approach that is different to that originally envisaged in the condition. It has not required a joint assessment or catch sharing arrangements. It has been sufficient that catches in each fishery are sufficiently precautionary by being consistent with CCAMLR objectives. Such a result is an example of what was anticipated by updated MSC requirements and guidance (CR v 1.3 and 2.0) which indicates that conditions should not specify the means by which desired outcomes need be achieved.
<u>Harmonisation with the French fishery</u> Conditions were imposed on both fisheries for this PI but the rationales differed. Although the condition for the HIMI fishery was based on scoring issue b not being met, for the SARPC fishery the condition was based on scoring issue a not being met. Therefore, closing this condition for the HIMI fishery should not have any direct implications for the condition on the SARPC fishery. The assessment of the SARPC fishery has judged this PI to require a condition and the most recent audit (MEC 2015) assessed the condition as being still open.
We note that MSC Interpretation of harmonisation requirements for fisheries (16 December 2015) states that "P1 always considers the impacts of all fisheries on a stock, so any fisheries which have the same P1 species (stocks) should be harmonised." We consider that the HIMI and SARPC fisheries are harmonised for this PI to the extent that the impacts on the whole stock have been taken into account. The differences that remain are justified as they pertain to the fishery-specific aspects of their harvest strategies and these differences do not threaten the achievement of P1 outcomes. Therefore, as required by CI3.1, having differences
in the conditions between the Australian and

		French fisheries would not "undermine the integrity
		of MSC fishery assessments" Senarate scoring of
		these fishery-specific aspects of the harvest
		strategies is also consistent with the approach for
		fichery chasific management arrangements under
<b>DI1 2.4</b> Duthe 4 <sup>th</sup> encuel	Classed	PS.
<b>PI 1.2.4.</b> By the 4 <sup>th</sup> annual	Closed	Closed during fourth annual surveillance addit.
surveillance audit, the client shall		Revised score: 85.
ensure that the assessment is		This could the course of the line base of the course she c
appropriate for the stock and		Inis condition was originally imposed because the
specifically that it accounts for		assessment was judged as not being appropriate for
fishing impacts on the entire known		the stock in that it did not account for fishing
range of the stock including the		impacts on the entire known range of the stock
proportion found and fished in the		including the proportion found and fished in the
French zone.		French zone.
		As for Condition 2, there was an expectation that,
		for this deficiency to be overcome, a joint plateau-
		wide stock assessment would be required.
		Following similar logic to that used above for
		Condition 2, however, we now argue that the
		assessment can be considered as appropriate for
		the stock, given the evidence now available that the
		catch limits for the SARPC fishery also meeting
		CCAMLR objectives. The WG-FSA has also accepted
		this position for several years. Thus, there is now no
		need for the assessment of the HIMI fishery to
		extend its scope to more explicitly the catches by
		the French fishery. As noted above, there is only
		minimal movement of fish between the two zones
		but the next assessment of the HIMI fishery will be
		explicitly incorporating data on such movement
		from the Australian to the French FF7
		We therefore consider this condition to be closed.
		Harmonisation with the French fishery
		A condition was also imposed on the SARDC fishery
		but as for PI 1.2.2. although conditions were
		imposed on both ficheries for the same scoring
		inclus the rationales differed. The rationals for the
		condition on the SARRC fickers uses that the WC
		Condition on the SARPC lisnery was that the WG-
		FSA considered that the stock assessment was
		appropriate for the HCR only in the short term (until
		next season), after which a more robust stock
		assessment would be required. Thus, unlike the
		HIMI fishery, the condition on the French fishery
		was based on its preliminary nature and was not

		associated with the need for a broader scope for the assessment. Therefore, closing the condition on the HIMI fishery should not have any direct implications for the condition on the SARPC fishery. The assessment of the SARPC fishery has judged this PI to require a condition and the most recent audit (MEC 2015) assessed the condition as being still open.
		As noted above, MSC Interpretation of harmonisation requirements for fisheries (16 December 2015) states that "P1 always considers the impacts of all fisheries on a stock, so any fisheries which have the same P1 species (stocks) should be harmonised." Nevertheless, we consider that the HIMI and SARPC fisheries are also harmonised for this PI to the extent that the impacts on the whole stock have been taken into account. The differences that remain are justified as they pertain to the fishery-specific aspects of their harvest strategies and these differences do not threaten the achievement of P1 outcomes. Therefore, as required by CI3.1, having differences in the conditions between the Australian and French fisheries would not "undermine the integrity of MSC fishery assessments". Separate scoring of these fishery-specific aspects of the harvest strategies is also consistent with the approach for fishery-specific management arrangements under P3.
<b>PI 2.4.3.</b> By the 1 <sup>st</sup> annual surveillance audit, the client shall provide evidence that the nature of the impacts of the fishery on different habitat types is known and that monitoring is continuing to detect any increase in risk. The client shall include the results of the ongoing study on habitat impacts in	Closed	Closed during second annual surveillance audit. Revised score: 85. Report investigating habitat impacts has now been published, with results clearly indicating a low risk of there being significant impacts from the fishery to the benthic habitats. Ongoing monitoring from the AFMA vessel monitoring system is occurring to monitor the fishery's footprint.
<b>PI 3.1.2.</b> By the third annual surveillance audit, the client shall provide information that demonstrates consultation processes in all the management systems providing opportunities for all interested and affected parties to be involved.	Closed	Closed during third annual surveillance audit. Revised score: 100. Additional information about the French consultative process became available through the MSC Public Certification Report for the French fishery. The audit team considered that the SARPC assessment constitutes the necessary information to demonstrate that consultation processes in all

	the management systems provide opportunity for
	all interested and affected parties to be involved.

## **4.3 Assessment Methodologies**

This assessment was conducted by SCS Global Services, an accredited MSC certification body. The fishery was assessed using the MSC Certification Requirements Version 1.3, January 14 2013 and the reporting template used in this report is also V1.3. The default assessment tree was used without adjustments. MSC Fisheries Certification Requirements v2.0 (October 2014) was used for process only.

### **Stakeholder Identification and Engagement Process**

Stakeholders were identified as per the SCS Stakeholder Engagement Procedure, which includes requesting a list of potential stakeholders and contact information from the client, evaluating overlap from stakeholder lists from other clients, and consulting with the team and identified stakeholders for their input on any additional stakeholders.

Stakeholder announcements were posted to the MSC website for each milestone of the fishery assessment. In addition to this, stakeholders were informed via email of the different milestones of the fishery assessment and when they would have an opportunity to make comments no longer than four days from the start of the consultation period. These milestones are when the fishery enters full assessment, when peer reviewers are proposed, when the Public Comment Draft Report is available for comment and when the objection period begins. These communications also included a link to the fishery assessment on the MSC website and a copy of the stakeholder comment form and MSC guide to stakeholders.

The general steps followed during the assessment were:

### Announcement of Re-Assessment and Team Selection (7 July 2016)

At this first step of the assessment process, SCS submitted the announcement that the fishery had entered assessment. The notification also included the nomination of the team and the announcement of the onsite assessment dates (9-10<sup>th</sup> August 2016 in Hobart, Tasmania). No stakeholder submissions were received.

### Input on Fishery Performance (July-August 2016)

SCS requested that the applicants compile and submit written information to the assessment team illustrating the fishery's compliance with the required performance indicators (PIs). At the same time, SCS requested that stakeholders submit their views on the fishery management system's functions and performance. Stakeholders were identified as per the SCS Stakeholder Engagement Procedure.

### Meetings with Industry, Managers, and Stakeholders (August 2016)

SCS planned for an onsite meeting and conducted meetings with industry, fishery managers, and fishery scientists on the 9<sup>th</sup> and 10<sup>th</sup> August in Hobart, Tasmania. Stakeholders were invited to meet with the

assessment team. Additional documentation was requested from the client and the management agency after the meeting.

### Scoring the Fishery (August 2016 – January 2017)

The assessment team reviewed and discussed the available information and determined preliminary scores on the last day of the onsite visit using the required MSC methodology and the default assessment tree, without any direct input from the client group or stakeholders.

### Drafting Report (August 2016 - February 2017)

The assessment team in collaboration with the SCS representative on the team, Dr. Daume, drafted the report in accordance with MSC-required process. Before the client draft report was completed, the team participated in two rounds of discussions to review and finalise the scores. The draft was finalised in January 2017 and submitted to the client for review.

### Peer Review (March-April 2017)

SCS, as required, released an announcement on 3<sup>rd</sup> March 2017 of potential peer reviewers soliciting comment from stakeholders on the merit of the selected reviewers. No negative stakeholder comments were received and two peer reviewers were confirmed. The peer review was conducted during March-April 2017.

### Request for additional information (22 March – 28 April 2017)

SCS, as required, released an announcement on 22<sup>nd</sup> March 2017 to request any new information relating to the fishery that the team should consider in the assessment, following CR v 2.0 7.3.4.1. Stakeholders were also informed by email but no new information was received.

### Release of Public Comment Draft Report PCDR (2<sup>nd</sup> May 2017)

SCS released the draft report for public comment, soliciting stakeholder response through posting on the MSC website and direct email to known stakeholders.

### **Final Report TBD**

**Public Certification Report TBD** 

## 4.4 Evaluation Processes and Techniques

## 4.4.1 Site Visits

The assessment team selected sites and interviewees based on information needed to assess management operations of the unit of assessment. The client group and other relevant stakeholders helped identify and contact fisheries management, research, compliance, and habitat protection personnel and agency representatives. Before the site visit and meetings were conducted, an audit plan was provided to the client and relevant stakeholders. The on-site meetings took place in Hobart, Tasmania between August 9-10<sup>th</sup>.

### Table 11: Audit Plan: Key Meetings and Locations

Meeting number	Date	Location	Торіс
1	9 <sup>th</sup> -10 <sup>th</sup> August 2016	Hobart, Tasmania	Discussion of issues relating to P1,
			P2 and P3 Performance Indicators.

### Table 12: 2016 Meeting Attendees

Name	Organization and Title
Dr. Sabine Daume	Lead auditor and P2 Expert, SCS
Mr. Alexander (Sandy) Morison	P1 Expert, Consultant SCS
Sascha Brand-Gardner	P3 Expert, Consultant SCS
Martin Exel*	Client Representative, Austral Fisheries
Rhys Arangio*	Austral Fisheries
Dirk Welsford*	Stock Status and Harvest Strategy, AAD
Jo Fisher*	Management, AFMA

\*attended remotely

### **Stakeholder Consultations and Due Diligence**

Stakeholders were identified and contacted as per the SCS Stakeholder Engagement Procedure (described in Section 4.3 of this report). SCS worked in advance of the fishery entering full assessment, to compile an extensive stakeholder list used for emailing announcements and assessment progress to stakeholders. This list contained individuals and organizations spanning the government, private, and non-profit sectors.

## 4.4.2 Evaluation Techniques

The assessment team received a detailed submission of documents related to the fishery and its management system from the client prior to the onsite meeting. Further documents were requested from the client as well as AFMA, AAD and CSIRO throughout the initial stages of the assessment process and before the client draft report was finalised.

#### **Media Announcements**

At the start of the process a list of stakeholders was created based on individuals and organizations previously engaged in MSC assessments in the region. Several names were added throughout the process while the team became aware of their interest. All public announcements were sent separately by email to the whole list of identified stakeholders.

#### Documentation

One of the most significant, and difficult, aspects of the MSC certification process is ensuring that the assessment team gets a complete and thorough grounding in all aspects of the fishery under evaluation. In even the smallest fishery, this is no easy task as the assessment team typically needs information that is fully supported by documentation in all areas of the fishery from the status of stocks, to ecosystem impacts, through management processes and procedures.

Under the MSC program, it is the responsibility of the applying organizations or individuals to provide the information required proving the fishery or fisheries comply with the MSC standards. It is also the responsibility of the applicants to ensure that the assessment team has access to any and all scientists, managers, and fishers that the assessment team identifies as necessary to interview in its effort to properly understand the functions associated with the management of the fishery. Last, it is the responsibility of the assessment team to make contact with stakeholders that are known to be interested, or actively engaged in issues associated with fisheries in the same geographic location.

AAD and CSIRO scientists were key in providing many of the scientific analyses, figures as well as operational and regulatory information, and were helpful and cooperative throughout the process.

#### **Scoring Process**

The scoring methodology followed the procedure described in Section 27.10 of the MSC Certification Requirements v1.3.

The Assessment Team member responsible for each Principle led the discussion on that Principle and drafted the scores and rationales to justify the score for that Principle. Other team members also asked questions or responded in turn during the onsite meeting and helped facilitate communication between the team and the client and scientists of the fishery. Scoring was initiated during the site visit and completed iteratively through phone calls, emails and skype teleconferences between June and September 2016. Following the onsite visit, the team compiled a list of requested documents that were conveyed by the client coordinator, to the relevant parties. These materials were returned to the team

leader and disseminated to the team by the team leader. In cases where consensus cannot be reached, the scoring process calls for the scores to be decided by the team leader with consideration of the recommendation of the pertinent Principle expert. This was not the case with any of the performance indicators during this assessment.

The scoring elements considered under each of the Principles are outlined in Table 13. None were considered data deficient or requiring the use of the RBF for the assessment.

### **Decision rules for final outcome**

The decision rule for MSC certification is as follows:

- No PIs score below 60 (cannot receive certification)
- The aggregate score for each Principle, rounded to the nearest whole number, is 80 or above
- The aggregate score for each Principle is calculated by taking the average score for each section followed by the average of all the section scores (see Table 14).

Scoring was completed by consensus through team meetings and exchanging rationales by email and draft score and report sharing.

Component	Scoring elements	Main/not main	Data-deficient or not
Target species	Patagonian Toothfish	NA	Not data deficient
	(Dissostichus eleginoides)		
<b>Retained species</b>	Grenadiers	Not main	Not data deficient
	Grey rock cod (Lepidonotothen	Main	Not data deficient
	squamifrons)		
	Macrourids	Not main	Not data deficient
	Rajids	Not main	Not data deficient
Bycatch	Bathyraja murrayi	Main	Not data deficient
	B. eatonii	Main	Not data deficient
ETP	Seabirds	NA	Not data deficient
	Marine mammals	NA	Not data deficient

#### Table 13A: Scoring elements - Trawl

\*main species are classified by MSC as those species of which the catch is ≥5% of the total catch by weight, or if they are particularly vulnerable.

#### Table 13B: Scoring elements - Longline

Component	Scoring elements	Main/not main	Data-deficient or not
Target speciesPatagonian Toothfish (Dissostichus		NA	Not data deficient
	eleginoides)		
<b>Retained species</b>	Grenadiers	Main	Not data deficient
	Grey rock cod (Lepidonotothen squamifrons)	Not main	Not data deficient

	Macrourids	Not main	Not data deficient
	Rajids	Not main	Not data deficient
Bait	New Zealand squid (Nototodarus gouldii and Nototodarus sloanii)	Main	Not data deficient
	Illex argentines	Main	Not data deficient
Bycatch	Bathyraja murrayi	Main	Not data deficient
	B. eatonii	Main	Not data deficient
	Sleeper shark (Somniosus antarcticus)	Main	Not data deficient
ETP	Seabirds	NA	Not data deficient
	Marine mammals	NA	Not data deficient

\*main species are classified by MSC as those species of which the catch is ≥5% of the total catch by weight, or if they are particularly vulnerable.

# 5. Traceability

## **5.1Eligibility Date**

The target eligibility date is the date of the re-certification of the fishery and is expected in July 2017.

## (REQUIRED FOR PCR ONLY)

The report shall include:

- The actual eligibility date.
- The rationale for any difference in this date from the target eligibility date

## **5.2Traceability within the Fishery**

### A description of the tracking, tracing and segregation systems within the fishery.

For the toothfish fishery, all landings are recorded and reported. The monitoring, control and surveillance system in place in the fishery comprises;

- In-port monitoring of Australian port unloads by an AFMA authorised officer(s) to ensure compliance with CCAMLR Conservation Measure 10-03 and the CCAMLR catch documentation required by Conservation Measure 10-05;
- Unloading of vessels outside of Australia are monitored by Port State authorised officers, under agreement with AFMA, to ensure the vessels' compliance with the reciprocal Port State measures as contained in CCAMLR Conservation Measure 10-03, in addition to AFMA issuing the relative Port State a 'port access letter' confirming that the product has been taken legally and in compliance with all CCAMLR conservation measures. In-port monitoring of overseas unload verification and validation is also undertaken by Port State authorised officers to ensure compliance with CCAMLR catch documentation requirements;
- Completion of the CCAMLR toothfish Catch Documentation Scheme (CDS) paperwork for unloading and export of all toothfish product (which is done electronically by government officials from the flag state, port state and import/export states to avoid any illegal substitution of toothfish);

- Completion of shot-by-shot daily logbooks and submission of that data to AFMA, AAD and CCAMLR in accordance with Conservation Measures 23-01 and 23-02;
- Outright (100%) observer coverage providing shot by shot biological, ecological and management information on the fishery (including specific tasks for monitoring vessel compliance, any interactions with seabirds or marine mammals, fishery bycatch and target species biology);
- Automatic satellite Vessel Monitoring System to record the position of the vessels at all times from departure from port until return to port, to ensure the boat has not fished in any regions closed to fishing (these data are provided directly to both AFMA and CCAMLR for monitoring purposes and verification of fishing logs).

### An evaluation of the possibility of vessels fishing outside the Unit of Certification.

When fishing in the HIMI fishery, vessels do not fish in other locations during that trip unless prior approval has been provided by AFMA. There are a number of pieces of evidence that establish the location where fishing has taken place. These consist of:

- Line records for each line noting when it was shot, including location and number of fish hauled. These are hand written and then transferred to an electronic log, and verified by the observers as well as the satellite Vessel Monitoring System. Data is sent to AFMA, who then forward it to CCAMLR every ten days, and monthly.
- Electronic Dissostichus Catch Document (eDCD) created for every trip contains, amongst other information, a field for Area Caught, Vessel, Species, Declared Weight, Scaled Weight, dates vessel fished, etc. This record is signed off by a representative from the fishing company (e.g. Austral Fisheries) and by the authorized officer in the port of unloading (e.g. Mauritius Fisheries Officer, or Cold Store representative in Mauritius if unloaded there, or AFMA officers if unloaded in Australia).
- 3. Master's Declaration signed by the Captain declares the location of fishing and confirms that the vessel has not called at any other port.
- 4. Vessel Monitoring System (VMS) data exists for every trip recording positions of the boats hourly from the time the boat leaves port, until the boat returns to port.
- 5. Where the boat fishes in a separate fishery during a single trip, the fish are separated in the fish hold, and verified and validated by the AFMA observer. This is then taken into account when unloading takes place by the authorized officers, with weights and quantities validated for each of the separate regions.
- 6. There are always two full time observers on any trip to the HIMI fishery, recording positions, catch, biological information, seabird and marine mammal sighting and verifying the accuracy of vessel reporting requirements.

An evaluation of the opportunity for substitution of certified fish with non-certified fish prior to and at the point of landing. A description of the at-sea processing of catch.

• All toothfish from this fishery are processed and frozen at sea. In some cases, further grading and packing of the product is performed in a registered export facility on shore.

- Total on Board (TOB) summary sheet contains information on all product hauled and processed per day with a running total on board count as well. This summary is broken down by product and byproduct grade, including number of fish/bags/blocks, product weight, tare weight and gross weight. Additionally, Fish to Galley, offal and "to crew" are recorded and validated by observers, and deducted from the quota allocation.
- Conversion Factors are provided by AFMA at the start of each season for each vessel, based on the average from that vessel in the previous season. These Conversion Factors are verified by the AMFA observer. An average tare weight (the weight of packaging plus any glazed water) per grade is calculated by the vessel and verified by the AFMA observer on board. These tare weights are multiplied by the number of bags/blocks on board, then deducted from the gross weight of product to determine the actual weight of fish caught, and ultimately deducted from the TAC.

Details of the use of transshipping in the fishery.

There is no transshipping in the fishery

Details on the number and/or location of points of landing.

The toothfish is landed predominantly at Port Louis in Mauritius, with occasional landings at the Port of Albany in Western Australia. Port Louis is 24 hours vessel steaming time closer to the fishing grounds than Albany, saving considerable expense and fuel costs over a year of activity for the fishing operators.

An evaluation of the robustness of the management systems related to traceability.

Austral Fisheries' and Australian Longline's management system is very robust with very little risk of potential mixing of certified with uncertified product.

## **5.3Eligibility to Enter Further Chains of Custody**

a. A conclusion and determination of whether the product will be eligible to enter further certified chains of custody

Toothfish landed by the registered vessels using either of the two gear types (demersal trawl and longline). Registered vessels are: Isla Eden, Atlas Cove, Corinthian Bay, Antarctic Chieftain and Antarctic Discovery. The vessel Janas has been operating in the fishery but is no longer active. Toothfish are processed at sea and on shore, are eligible to seek and secure MSC chain of custody certification in order to sell product derived from the fishery with the MSC claim. Toothfish at HIMI is predominantly caught by longline.

b. A list of parties, or category of parties, eligible to use the fishery certificates

Only Austral Fisheries Pty Ltd and Australian Longline Pty Ltd fishing for Patagonian Toothfish are eligible to use the fishery certificate.

c. A list of eligible points of landing

Toothfish gets landed in Port Louis in Mauritius, with occasional landings at the Port of Albany in Western Australia.

d. The point of change of ownership, from which Chain of Custody (CoC) certification is required.

CoC is required from the point of landing.

## 6. Evaluation Results

## **6.1 Principle Level Scores**

Final Principle Scores		
Principle	Trawl	Longline
Principle 1 – Target Species	96.3	96.3
Principle 2 – Ecosystem	94.0	93.0
Principle 3 – Management System	96.8	96.8

## 6.2Summary of Scores

Principle	Component	PI No.	Performance Indicator (PI)	Trawl	Longline
One	Outcome	111	Stock status	100	100
One	Outcome	112	Reference points	100	100
		113	Stock rebuilding	100	100
	Management	1 2 1	Harvest strategy	00	00
	Wandgement	1 2 2	Harvest control rules & tools	90	90
		122	Information & monitoring	100	100
		12.5	Assessment of stock status	85	85
Two	Retained species	211	Outcome	00	80
100		2.1.2	Management	90	95
		2.1.3	Information	95	90
	Bycatch species	2.2.1	Outcome	80	80
	- / • • • • • • • • • • • • • • • • • •	2.2.2	Management	95	95
		2.2.3	Information	100	100
	ETP species	2.3.1	Outcome	100	100
		2.3.2	Management	95	95
		2.3.3	Information	95	95
	Habitats	2.4.1	Outcome	100	100
		2.4.2	Management	100	100
		2.4.3	Information	85	85
	Ecosystem	2.5.1	Outcome	90	90
		2.5.2	Management	100	100
		2.5.3	Information	100	100
Three	Governance & policy	3.1.1	Legal & customary framework	100	100
		3.1.2	Consultation, roles &		
			responsibility	100	100
		3.1.3	Long term objectives	100	100
		3.1.4	Incentives for sustainable fishing	90	90
	Fishery specific mgt.	3.2.1	Fishery specific objectives	90	90
		3.2.2	Decision making processes	100	100
		3.2.3	Compliance & enforcement	100	100
		3.2.4	Research plan	90	90
		3.2.5	Mgt. performance evaluation	100	100

## **6.3Summary of Conditions**

There are no conditions proposed for this fishery.

## 6.3.1 Recommendations

**Recommendation 1, PI 2.2.1** (UoC 1 and UoC2): The assessment team recommends updating the ecological risk assessment (ERA) within the next certification cycle, and identifying if significant changes are occurring in the fishery. This will strengthen the score and provide a higher level of certainty that non-target species are within biologically based limits.

## 6.4Determination, Formal Conclusion and Agreement

## (REQUIRED FOR FR AND PCR)

## 7. References

- AAD (2005). *Heard Island and McDonald Islands Marine Reserve Management Plan*. Australian Australian Antarctic Division. Department of Environment and Heritage: 1-208.
- AAD (2015). Tourism: Frequently asked questions. Retrieved from: <u>http://www.antarctica.gov.au/about-antarctica/tourism/frequently-asked-questions</u>
- ACBP (2015) Australian Customs and Border Protection. Annual Report 2014-15.
- AFMA (2009a). Ecological risk management report for the Heard Island and McDonald Islands Fishery, demersal trawl sub-fishery. Australian Fisheries Management Authority. December 2009. Canberra, Australia.
- AFMA (2009b). Ecological risk management report for the Heard Island and Mc Donald Islands Fishery, midwater trawl sub-fishery. Australian Fisheries Management Authority. December 2009. Canberra, Australia.
- AFMA (2009c). Australian Fisheries Management Authority Annual Report 08/09. AFMA, Canberra, Australia.
- AFMA (2009d). Annual Status Report, Heard Island and Mc Donald Islands Fishery. Australian Fisheries Management Authority. July 2009. Canberra, Australia.
- AFMA (2010a). Australian Fisheries Management Authority Cost recovery impact statement February 2004. Available at: <u>http://www.afma.gov.au/wp-content/uploads/2014/04/AFMA-Cost-Recovery-Impact-Statement-20101.pdf</u>
- AFMA (2010b) Annual Status Report for the Macquarie Island Toothfish Fishery (submitted to DoEE for EPBC Act assessment) <u>http://www.afma.gov.au/wp-</u> <u>content/uploads/2010/06/Macquarie-Island-Toothfish-Fishery-Annual-Status-Report-2010.pdf</u>
- AFMA (2011a). Antarctic Fisheries Strategic Research Plan 2011-2015. Available at: <u>http://www.afma.gov.au/wp-content/uploads/2014/12/Antarctic-fisheries-Five-Year-Strategic-</u> Research-Plan-2011-to-20151.pdf
- AFMA (2011b) Ecological Risk Management Report for the MITF demersal longline sub-fishery.
- AFMA (2012a). Submission for the re-assessment of the Heard Island and McDonald Islands Fishery. Retrieved from <u>http://www.environment.gov.au/system/files/pages/ab12982f-fba5-42c4-87c9-fb6b69fcf811/files/submission-2012.pdf</u>.
- AFMA (2012b). Status Report for the Heard Island and McDonald Islands Fishery. Prepared by AFMA for consideration by the Department of Sustainability, Environment, Water, Population and Communities.

- AFMA (2013) Status Report Heard Island and McDonald Islands Fishery. Prepared by AFMA for consideration by the Department of Sustainability, Environment, Water, Population and Communities.
- AFMA (2014a). Resource Assessment Groups Roles, Responsibilities and Relationship with the AFMA Commission. *Fisheries Administration Paper No. 12*. Retrieved from <a href="http://www.afma.gov.au/wp-content/uploads/2014/09/Fisheries-Administration-Paper-12-RAGs.pdf">http://www.afma.gov.au/wp-content/uploads/2014/09/Fisheries-Administration-Paper-12-RAGs.pdf</a>
- AFMA (2014b). Status Report Heard Island and McDonald Islands Fishery. Prepared by AFMA for consideration by the Department of Sustainability, Environment, Water, Population and Communities.
- AFMA (2014c). Australian Fisheries Management Authority Annual Report 2013-14. AFMA, Canberra, Australia.
- AFMA (2014d). Heard Island and McDonald Islands Fishery 2014/15 Season Fishery Assessment Plan.

AFMA (2014e) Fisheries Administration Paper No. 12. Resource Assessment Groups – Roles, Responsibilities and Relationship with the AFMA Commission.

AFMA (2015a). Fisheries Management Paper 1. Management Advisory Committees. Retrieved from http://www.afma.gov.au/wp-content/uploads/2014/09/FMP-1-30-Oct-15.pdf.

AFMA (2015b) Antarctic Fisheries Strategic Research Plan 2014/15 – 2018/19. Available at: <u>http://www.afma.gov.au/wp-content/uploads/2014/02/6.-Five-Year-Strategic-Research-Plan-2014-5-to-2018-9-FINAL-May-2015.pdf</u>

AFMA (2016a) National Compliance Operations and Enforcement Program 2016 – 2017.

- AFMA (2016b) Heard Island and McDonald Islands Fishery Assessment Plan 2015/16 and 2016/17 Seasons.
- Australian National Audit Office (2009) Management of Domestic Fishing Compliance <u>https://www.anao.gov.au/work/performance-audit/management-domestic-fishing-compliance</u>
- Bull, B., Francis, R.I.C.C., Dunn, A., McKenzie, A., Gilbert, D.J., Smith, M.H., Bian, R. and D. Fu (2012)
   CASAL (C++ algorithmic stock assessment laboratory): CASAL user manual v2.30-2012/03/21.
   NIWA Technical Report 135. Available from http://www.niwa.co.nz/our-science/fisheries/tools/casal.
- Department of Agriculture, Fisheries and Forestry (DAFF)- Australia (2003). Looking to the Future: A review of Commonwealth Fisheries Policy. Canberra, Australia.
- Department of Finance and Deregulation (2005). Australian Government Cost Recovery Guidelines. Finance Circular 2005/09.Canberra, Australia.
- Casper R.M., Sumner M.D., Hindell M.A., Gales N.J., Staniland I.J. and Goldsworthy S.D. (2010). The influence of diet on foraging habitat models: a case study using nursing Antarctic fur seals. *Ecography*, 33:748–759. doi:10.1111/j.1600-0587.2009.06155.

- CCAMLR (2008a). Fishery Report: *Champsocephalus gunnari* Heard Island (Division 58.5.2). Convention on the Conservation of Antarctic Marine Living Resources. Kingston, Tasmania, Australia.
- CCAMLR (2008b). Performance Review Panel 2008. CCAMLR Performance Review Panel Report, 1 September 2008. Kingston, Tasmania, Australia.
- CCAMLR (2010). Ecosystem Approach. Convention on the Conservation of Antarctic Marine Living Resources. Kingston, Tasmania, Australia.
- CCAMLR (2011). Report of the thirtieth Meeting of the Commission, Hobart, Australia, 24 October- 4 November 2011. Available at: <u>http://www.ccamlr.org/pu/e/e\_pubs/cr/11/all.pdf</u>
- CCAMLR-SC (2011). Report of the Thirtieth Meeting of the Scientific Committee for the Conservation of Antarctic Marine Living Resources. Hobart , Australia October 2015.
- CCAMLR-SC (2015). Report of the Thirty Fourth Meeting of the Scientific Committee for the Conservation of Antarctic Marine Living Resources. Hobart, Australia October 2015.
- Clark, J.M. and Agnew, D.J. (2010). Estimating the impact of depredation by killer whales and sperm whales on longline fishing for toothfish (*Dissostichus eleginoides*) around South Georgia. CCAMLR Science, Vol. 17 (2010): 163–178
- Constable A.J. and Welsford, D. (2011). Developing a precautionary ecosystem approach to managing fisheries and other marine activities a HIMI in the Indian Sector of the Southern Ocean. In Duhamel, G. and Welsford, D (Eds). (2011). The Kerguelen Plateau Marine Ecosystem and Fisheries. Proceedings of the first international symposium on the Kerguelen Plateau, 14-126 April 2010.
- Commonwealth of Australia (2014). Heard Island and McDonald Islands Marine Reserve Management Plan 2014-2024: Department of Environment, Canberra: 1-88.
- Constable A.J., Williams R. and de la Mare W.K. (1998). Assessment of by-catch in trawl fisheries at Heard and McDonald Islands. *CCAMLR Science* 5:231-243.
- Deagle, B.E., Gales, N.J., Evans, K., Jarman, S.N., Robinson, S., Trebilco, R. and Hindell, M.A. (2007). Studying Seabird Diet through Genetic Analysis of Faeces: A Case Study on Macaroni Penguins (*Eudyptes chrysolophus*). *Plos One* vol. 9, pp. 1–10.
- Department of Agriculture, Fisheries and Forestry (DAFF)- Australia (2003). <u>Looking to the Future: A</u> <u>review of Commonwealth Fisheries Policy</u>. Canberra, Australia.
- Department of Finance and Deregulation (2005). *Australian Government Cost Recovery Guidelines. Finance Circular 2005/09*.Canberra, Australia.
- Duhamel G. and Welsford D. (eds) (2011). The Kerguelen Plateau, marine ecosystem and fisheries. Proceedings of Scientific Symposium, Concarneau, 14-16 April 2010. Société Francaise d'Ichtyologie. 304p.
- Hobday A. J., Smith A., Webb H., Daley R., Wayte S., Bulman C., Dowdney J., Williams A., Sporcic M., Dambacher J., Fuller M. and Walker T. (2007). Ecological Risk Assessment for the Effects of Fishing: Methodology. Report R04/1072 for the Australian Fisheries Management Authority, Canberra.
- Kuhn K.L. & Gaffney P.M. (2006). Preliminary assessment of population structure in the mackerel icefish (*Champsocephalus gunnari*), *Polar Biology*, vol. 29, pp. 927–35.

- MacAlister Elliott and Partners (2013). MSC Public Certification Report Fishery for toothfish (*Dissostichus eleginoides*) by SARPC in Kerguelen. MacAlister Elliott and Partners Ltd. Lymington UK.
- MacAlister Elliott and Partners (2014). Surveillance Visit Report for SARPC Kerguelen Toothfish Fishery (*Dissostichus eleginoides*). Certificate Code MEP-F-018. Surveillance Year 2. MacAlister Elliott and Partners Ltd. Lymington UK.
- Maschette and Dell (2015). An updated assessment of unicorn icefish (*Channichthys rhinoceratus*) in Division 58.5.2, based on results from the 2015 random stratified trawl survey. WG-FSA-15/50. Commission for the Conservation of Antarctic Marine Living Resources pp.24.
- ME Certification (2015). Marine Stewardship Council (MSC) 2<sup>nd</sup> Annual Surveillance Audit. Fishery for tootfish (*Dissostichus eleginoides*) around Kerguelen. ME Certification Ltd Lymington UK.
- Meyer L., Constable A. & Williams R. (2000). Conservation of marine habitats in the region of Heard Island and McDonald Islands. Final report on stage 1 to Environment Australia. Australian Antarctic Division. Kingston, Tasmania, Australia: 1-80.
- Nowara G.B. (2009). Report on a random stratified trawl survey to estimate distribution and abundance of *Dissostichus eleginoides* and *Champsocephalus gunnari* in the Heard Island region (division 58.5.2) for 2008 and 2009. Australia Antarctic Division. Department of the Environment, Water, Heritage and the Arts. Kingston, Tasmania, Australia.
- Nowara G.B., Welsford D.C., Lamb T., Gasco N., Pruvost P. and Duhamel G. (2009). Distribution and abundance of skates on the Kerguelen Plateau (CCAMLR division 58.5.1 and 58.5.2). Australian Government Antarctic Division. Kingston, Tasmania, Australia. WG-FSA-09/43. Agenda Item No 6.2.
- Nowara G.B., Lamb, T.D. & Welsford D.C. (2014). The 2014 annual random stratified trawl survey in the waters of Heard Island (Division 58.5.2) to estimate the abundance of *Dissostichus eleginoides* and *Champsocephalus gunnari*, WG-FSA-14/11, report to the CCAMLR Working Group on Fish Stock Assessment, Hobart.
- Nowara G.B., Lamb T.D. & Welsford D.C. (2015). The annual random stratified trawl survey in the waters of Heard Island (Division 58.5.2) to estimate the abundance of *Dissostichus eleginoides* and *Champsocephalus gunnari*, WG-FSA-15/11, report to the CCAMLR Working Group on Fish Stock Assessment, Hobart.
- Patterson H. & Skirtun M. (2014). Chapter 26: Heard Island and McDonald Islands Fishery. in Gerogeson, L., Stobutzki, I. & Curtotti, R. (eds) 2014. *Fishery status report 2013-14*. ABARES, Canberra.
- Patterson H, & Skirtun M. (2015). Heard Island and McDonald Islands Fishery. pp 415-423 In: Patterson,
   H., Georgeson, L., Stobutzki, I. & Curtotti, R. (eds) 2015, Fishery status reports 2015, Australian
   Bureau of Agricultural and Resource Economics and Sciences, Canberra.
- Patterson, H, and Savage J (2016). Fishery status reports 2016. Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. <u>http://data.daff.gov.au/data/warehouse/9aam/fsrXXd9abm\_/fsr16d9abm\_20160930/00\_FishSt\_atus2016\_1.1.0.pdf</u>
- Péron, C. and Welsford, D. (2014). Updated models of the habitat use of Patagonian toothfish (*Dissostichus eleginoides*) on the Kerguelen Plateau around Heard Island and the McDonald

Islands (Division 58.5.2). Report submitted to the CCAMLR Working group on Fish Stock Assessment (WG-FSA 14).

- Péron, C., Welsford, D.C., Ziegler, P., Lamb, T.D., Gasco, N., Chazeau, C., Sinegre, R. & Duhamel, G. (2016)
   Modelling spatial distribution of Patagonian toothfish through life-stages and sex and its
   implications for the fishery on the Kerguelen Plateau. Progress in Oceanography 141: 81-95.
- Phillips K. & Ansell, E. (2009). Heard Island and McDonald Islands Fishery. Ch. 27 in Wilson D, Curtotti,
   R., Begg G, & Phillips, K. (eds) (2009), Fishery status reports 2008: status of fish stocks and
   fisheries managed by the Australian Government, Bureau of Rural Sciences & Australian Bureau
   of Agricultural and Resource Economics, Canberra.
- Sainsbury K. (2008). *Best Practice Reference Points for Australian Fisheries*. A Report to Australian Fisheries Management Authority and the Department of the Environment and Heritage.
- Sinegre R and Duhamel G (2016). Updated stock assessment of Patagonian toothfish (*Dissostichus eleginoides*) in the vicinity of Kerguelen Islands (division 58.5.1). WG-FSA-16/54.
- Smith T., Hobday A., Webb H., Daley R., Wayte S., Bulman C., Dowdney J., Williams A., Sporcic M.,
   Dambacher J., Fuller M., Furlani D., Walker T. (2007). Ecological Risk Assessment for the Effects of
   Fishing: Final Report R04/1072 for the Australian Fisheries Management Authority, Canberra.
- SouthMAC (2011). *Minutes Sub-Antarctic Fisheries Management Advisory Committee SouthMAC 30*, 1 December 2011. Retrieved from <u>http://www.afma.gov.au/wp-</u> <u>content/uploads/2014/09/SouthMAC-30-minutes.pdf</u>
- SouthMAC (2012). *Minutes Sub-Antarctic Fisheries Management Advisory Committee SouthMAC 31*, 28 November 2012. Retrieved from <u>http://www.afma.gov.au/wp-</u> <u>content/uploads/2014/09/SouthMAC-31-minutes-for-comment.pdf</u>

SouthMAC (2015).

- Van Wijk, E.M, Rintoul, S.R., Ronai, B.M., Williams, G.D. (2010). Regional circulation around Heard and McDonald Islands and through the Fawn Trough, central Kerguelen Plateau. Deep-Sea Research
- Welsford, D. and Arangio, R. (2015) Spatial and temporal patterns of sperm whale (*Physeter macrocephalus*) depredation on Australian longline vessels in the Patagonian toothfish (*Dissostichus eleginoides*) fishery at Heard Island and McDonald Islands (CCAMLR Division 58.5.2). CCAMLR WG-FSA-15/53.
- Welsford, D., Lamb, T and Hay, I (2012). Appendix 4. Antarctic Fisheries: Heard Island and McDonald Islands Patagonian toothfish and mackerel icefish fisheries. pp 29-40 In: Tuck G.N., Knuckey, I. and Klaer, N.L. (2013). Informing the review of the Commonwealth Policy on Fisheries Bycatch through assessing trends in bycatch of key Commonwealth fisheries. Fisheries Research and Development Corporation final report 2012/046. 240 pp.
- Welsford D., Ewing G.P, Hibberd T., Constable A.J., & Kilpatrick R. (2014). Demersal fishing interactions with marine benthos in the Australian EEZ of the Southern Ocean: An assessment of the vulnerability of benthic habitats to impact by demersal gears. Final Report FRDC Project 2006/042. 258 pp.

- Ziegler P and Welsford D. (2015). An Integrated Stock Assessment for the Heard Island and the McDonald Islands Patagonian toothfish (*Dissostichus eleginoides*) fishery (Division 58.5.2). WG-FSA 15/52.
- Zhou S., Fuller M., & Smith T. (2009). *Rapid quantitative risk assessment for fish species in seven Commonwealth fisheries*. Australian Fisheries Management Authority. Canberra, Australia. Chapter 8: 49-106.

# **Appendix 1. Scoring and Rationales**

## **1.1 Performance Indicator Scores and Rationale**

## **Procedure for Scoring and Rationales**

After the team compiled and analysed all relevant information, each UoA was scored against the Performance Indicator Scoring Guideposts (PISGs) in the final assessment tree (the structure of PIs and scoring guideposts that make up the evaluation). The team discussed the evidence in detail before agreeing on a final score for each PI. A brief explanation of the MSC scoring process is provided below and is explained in more detail in MSC Fisheries Certification Requirements and Guidance v2.0 (2014). The team first assesses each PI against each scoring issue at the SG60 level. If one or more of the SG60 scoring issues is not met, the UoA fails and no further scoring is required.

If all the SG60 scoring issues are met the PI will achieve a minimum score of 60, and the team proceeds to assess each scoring issue against the SG80 level. In order to achieve an 80 score, all of the SG60 scoring issues and all of the SG80 scoring issues must be met. If not all scoring issues are met at SG80 the PI is given an intermediate score in increments of 5 (65, 70 or 75), which reflects overall performance against the SG80 scoring issues:

- The PI will score 65 when performance is slightly above 60 (few scoring issues are met at SG80 but most are not)
- The PI will score 70 when performance is mid-way between SG60 and SG80 (some scoring issues are met at SG80 and some are not)
- The PI will score 75 when performance is almost at SG80 (most scoring issues are met at SG80 and few are not)

If one or more of the SG80 scoring issues is not met, the PI is assigned a condition. Only if all of the SG80 scoring issues are met will the team proceed to assess the PI against the SG100 scoring issues. If not all scoring issues meet SG80 then the SG100 scoring issues are not scored.

In order to achieve a 100 score, all of the SG60, SG80 and SG100 scoring issues must be met. If all of the SG60 and SG80 scoring issues are met, but not all of the SG100 scoring issues are met, then the PI is given an intermediate score in increments of 5 (85, 90 or 95) which reflects overall performance against the SG100 scoring issues:

- The PI will score 85 when performance is slightly above 80 (few scoring issues are met at SG100 but most are not)
- The PI will score 90 when performance is mid-way between SG80 and SG100 (some scoring issues are met at SG100 and some are not)
- The PI will score 95 when performance is almost at SG100 (most scoring issues are met at SG100 and few are not)

When there is only one scoring issue for a PI then it may be 'partially scored' in increments of 5 if the requirements are partially met.

In Principle 1 or 2 the team scores PIs are comprised of differing scoring elements (species or habitats) that comprise part of a component affected by the UoA. If any single scoring element fails to meet SG80 then then overall score for that element shall be less than 80 and a condition is raised (regardless of whether other elements may be at SG100). The PI is given a score which reflects the number of elements at each SG rather than being a numerical average.

## Principle 1

Under Principle 1, seven performance indicators (PIs) are used that are grouped into two key aspects of a fishery's performance: 1) The current status of the target stock resource with three PIs; and 2) Harvest Strategy (Management) with four PIs. The PIs under (1) consider the impact of the fishery on the target species, and particularly whether the stock is at sustainable levels. In contrast, the PIs under (2) consider the tools, measures or strategies that are being used specifically to manage the impact of the fishery on the target species.

PI 1.1	.1	The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing			
Scoring	Scoring Issue         SG 60         SG 80         SG 100			SG 100	
а	Guidepost	It is likely that the stock is above the point where recruitment would be impaired.	It is highly likely that the stock is above the point where recruitment would be impaired.	There is a high degree of certainty that the stock is above the point where recruitment would be impaired.	
	Met?	Y	Y	Υ	
	Justification	The most recent stock a the latest fishery independata, concluded that the 0.64 of unfished levels ( unfished levels (the poir impaired) throughout th catch (Figure 3). Estimat model also provide no in thus a high degree of ce recruitment would be in The assessment of the F this portion of the stock fishery (and other data of HIMI assessment or har also have been within th although this fishery is a likely to be above the point This meets the requirem	YYock assessment (Ziegler and Welsford 2015), that inco idependent survey results and other more recently col at the Patagonian toothfish stock in the Australian EEZ /els (95% CI: 0.59-0.69) and that it would remain above e point at which recruitment might be expected to bec out the 35 year projection period under the proposed of timates of year-class strength provided by the assessment on indications that recruitment has been impaired. The of certainty that the stock is above the point at which be impaired.the French fishery (Sinegre and Duhamel 2016) indicates stock is also at a relatively high level. Although catches data on the French fishery) are not explicitly considered in the requirements of the CCAMLR FSA-WG has considered him the requirements of the CCAMLR decision rules. The y is also targeting the same stock, it is also considered he point where recruitment would be impaired.		
b	Guidepost		The stock is at or fluctuating around its target reference point.	There is a high degree of certainty that the stock has been fluctuating around its target reference point, or has been above its target reference point, over recent years.	
PI 1.1.1		The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing			
-------------------	---------------------------------	---	--------------------------	---	--------
	Met?		Υ	Y	
		The estimated trend in SSB since the fishery began (Figure 3) and the posterior distribution from the MCMC results (Figure 5) both provide strong evidence that the Patagonian toothfish stock in Australian waters has never fallen below target levels (Ziegler and Welsford 2015).			
		TACs have always been set in accordance with the quite conservative CCAMLR decision rules and catches have not exceeded these limits. IUU fishing is now also considered to be minimal.			
	Justification	The assessment of the French fishery (Sinegre and Duhamel 2016) indicates that this portion of the stock is also at a relatively high level. Although catches by this fishery (and other data on the French fishery) are not explicitly considered in the HIMI assessment or harvest strategy, the CCAMLR FSA-WG has considered them to also have been within the requirements of the CCAMLR decision rules. Thus, although this fishery is also targeting the same stock, it is also considered highly unlikely to have depleted the combined stock to below target levels. The annual status report produced by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) continues to classify the HIMI toothfish fishery as being 'not overfished' and 'not subject to overfishing' (Patterson and Skirtun 2015). This meets the requirements of the SG 80 and SG 100 levels.			
References		Patterson and Skirtun 2015; Ziegler and Welsford 2015; Sinegre and Duhamel 2016			
Stock S	itatus relat	ive to Reference Points			
		Type of reference point	Value of reference point	Current stock status relat reference point	ive to
Target referer	nce point	Current SSB relative unfished levels (B <sub>0</sub> )	0.5 B <sub>0</sub>	Above: SSB = 0.64 B <sub>0</sub>	
Limit re point	eference	Current SSB relative unfished levels (B <sub>0</sub> )	0.2 B <sub>0</sub>	Above: SSB = 0.64 B <sub>0</sub>	
OVERA			:		100
CONDI	CONDITION NUMBER (if relevant):				

PI 1.1.2	Limit and target reference points are appropriate for the stock		
Scoring Issue	SG 60	SG 80	SG 100

PI 1.1	.2	Limit and target reference	points are appropriate for t	he stock
а	Guidepost	Generic limit and target reference points are based on justifiable and reasonable practice appropriate for the species category.	Reference points are appropriate for the stock and can be estimated.	
	Met?	Y	Υ	
	Justification	The reference points use constructed to meet the points originally designe appropriate for Patagon The choice of a 35 year of for a species with a max The status of the stock r the assessment is updat This meets the requirem	ed for Patagonian toothfish objectives of CCAMLR. Alt d for krill they have been s ian toothfish. reference period as the ba imum age in excess of 50 y elative to these reference ed. ments of the SG 60 and SG 8	h have been specifically though based on reference specifically adapted to be sis for projections is reasonable years. points is estimated whenever 80 levels.
b	Guidepost		The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity.	The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity following consideration of precautionary issues.
	Met?		Υ	Y

PI 1.1	.2	Limit and target reference	points are appropriate for t	he stock		
		The limit reference point is set at 20% of $B_0$ , a level at which there is not an appreciable risk of impairing reproductive capacity.				
		This meets the requirem	nents of the SG 80 level.			
		The method of determining future catches ensures that there is a high degree of certainty that TACs will not lead to an appreciable risk of impairing future recruitment. Nevertheless, in the original MSC assessment report (SCS 2012), the Australian limit reference point was assessed as not explicitly taking into account some relevant precautionary issues such as the lack of understanding of the spawning areas and sources of recruitment to the Patagonian toothfish population within the HIMI area. Since that assessment there has been research work completed which has provided a greater understanding of the spawning dynamics of Patagonian toothfish in the HIMI region (Welsford et al. 2012). It identified the presence of spawning fish within the HIMI region and provided evidence that there is likely to be more than one spawning site for the combined HIMI-Kerguelen stock. This study also reviewed previous work on the reproductive biology of Patagonian toothfish and highlighted the extended 8 month duration of the larval phase which provides a long period for potential dispersal of larvae, reducing any likely dependence on local spawning sources.				
		In the original MSC assessment report, there was also concern that the HIMI fishery was the only one setting TACs based on outcomes of a stock assessment and at levels that were clearly within requirements for the long-term security of the target stock. Since that time, there has been substantial collaborative work to develop a comparable assessment of the French fishery and, although this is not yet used as the basis for TAC setting, it has been developed sufficiently to allow the CCAMLR FSA-WG to determine that the catch limits for the French fishery are likely to allow the within CCAMLR requirements.				
	tification	Therefore, the limit reference point is now considered to be at a level at which there is no appreciable risk of impairing reproductive capacity following consideration of precautionary issues.				
	snf	This meets the requirem	ents of the SG 100 level.			
C	Guidepost		The target reference point is such that the stock is maintained at a level consistent with B <sub>MSY</sub> or some measure or surrogate with similar intent or outcome.	The target reference point is such that the stock is maintained at a level consistent with $B_{MSY}$ or some measure or surrogate with similar intent or outcome, or a higher level, and takes into account relevant precautionary issues such as the ecological role of the stock with a high degree of certainty.		
	Met?		Y	Υ		

PI 1.1.2		Limit and target reference points are appropriate for the stock	
	Justification	reference point is precautionary so there is a high degree of certainty that it will achieve the required management objectives. Although there are no estimates of $B_{MSY}$ for this fishery, the level at which the target is set (0.5 B <sub>0</sub> ) is at least consistent with (and is likely to be above) a target of $B_{MSY}$ . Patagonian toothfish are known not to be a key food source for predators so there is no need for additional precaution on this account. This meets the requirements of the SG 80 and SG 100 levels.	
d	Guidepost	For key low trophic level stocks, the target reference point takes into account the ecological role of the stock.	
	Met?	Not relevant	
	Justification	Patagonian toothfish is not a key low trophic level species.	
References		SCS 2012; Welsford et al. 2012	
OVERA	LL PERFOR	RMANCE INDICATOR SCORE:	100
CONDI	TION NUM	1BER (if relevant):	

PI 1.1.3		Where the stock is depleted, there is evidence of stock rebuilding within a specified timeframe		
Scoring Issue		SG 60	SG 80	SG 100
а	Guidepost	Where stocks are depleted rebuilding strategies, which have a reasonable expectation of success, are in place.		Where stocks are depleted, strategies are demonstrated to be rebuilding stocks continuously and there is strong evidence that rebuilding will be complete within the specified timeframe.
	Met?	Not relevant		

PI 1.1.3		Where the stock is depleted, there is evidence of stock rebuilding within a specified timeframe		
		Not relevant. Stocks are not rebuilding		
	Justification			
b	on Guidepost Stade	A rebuilding timeframe is specified for the depleted stock that is the shorter of 30 years or 3 times its generation time. For cases where 3 generations is less than 5 years, the rebuilding timeframe is up to 5 years. Not relevant Not relevant. Stocks are	A rebuilding timeframe is specified for the depleted stock that is the shorter of 20 years or 2 times its generation time. For cases where 2 generations is less than 5 years, the rebuilding timeframe is up to 5 years.	The shortest practicable rebuilding timeframe is specified which does not exceed one generation time for the depleted stock.
	Justificatio			
C	Guidepost	Monitoring is in place to determine whether the rebuilding strategies are effective in rebuilding the stock within a specified timeframe.	There is evidence that they are rebuilding stocks, or it is highly likely based on simulation modelling or previous performance that they will be able to rebuild the stock within a specified timeframe.	
	Met?	Not relevant		
		Not relevant. Stocks are	not rebuilding	
	Justification			
Refere	nces			

PI 1.1.3	Where the stock is depleted, there is evidence of stock rebuilding within a specified timeframe		
OVERALL PERFORMANCE INDICATOR SCORE:			
CONDITION NUMBER (if relevant):			

PI 1.2.1		There is a robust and precautionary harvest strategy in place			
Scoring Issue		SG 60	SG 80	SG 100	
A	Guidepost	The harvest strategy is expected to achieve stock management objectives reflected in the target and limit reference points.	The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.	The harvest strategy is responsive to the state of the stock and is designed to achieve stock management objectives reflected in the target and limit reference points.	
	Met?	Υ	Υ	Υ	
	Justification	The harvest strategy that contains all of the require control rules, and manage It is designed to meet st together to achieve this assessed component of of data sources that will fishery-independent sur The management object articulated in the precau mid-1990s and include to pre-exploitation abunda 1. escapement of the sp declining recruitment, a 2. abundance under exp of dependent species (u The undertaking of annu- and the adoption of a re- certainty, indicate that to achieve these objectives This meets the requirem	it is used for the Australian red elements (monitoring, gement actions that follow ock management objective . The strategy is also respo- the stock, as catch limits a reflect stock status includ vey of abundance. tives that the harvest strat- utionary approach that wa he objective of maintainin ince as specified in the refe awning stock must be suff nd loitation must maintain a sually predators). ual biomass surveys as the elatively low exploitation ra- the elements of this harves suments of SG60, SG80 and So	<ul> <li>Patagonian toothfish Fishery stock assessment, harvest v the agreed rules.</li> <li>es and its elements work insive to the state of the re determined based on a range ing the results of the annual</li> <li>egy is designed to achieve are s adopted by CCAMLR in the g a stock at a proportion of its erence points:</li> <li>icient to avoid the likelihood of</li> <li>sufficient resource for the needs</li> <li>basis for setting TACs each year, ate with a high degree of st strategy are designed to</li> <li>G100.</li> </ul>	

PI 1.2.1		There is a robust and precautionary harvest strategy in place			
В	Guidepost	The harvest strategy is likely to work based on prior experience or plausible argument.	The harvest strategy may not have been fully tested but evidence exists that it is achieving its objectives.	The performance of the harvest strategy has been fully evaluated and evidence exists to show that it is achieving its objectives including being clearly able to maintain stocks at target levels.	
	Met?	Y	Y	Ν	
	Justification	There is evidence from the monitoring of stock status and the fishery, and the outputs of the stock assessment that use these data, that stocks have been maintained above target levels throughout the history of the fishery. These provide good evidence that the harvest strategy for the HIMI fishery is achieving its objectives. The harvest strategy for this fishery has not, however, been fully evaluated. Given the scale of the fishery and the sophistication of the assessment, an evaluation in the form of an MSE is a reasonable expectation to meet the SG 100 requirements. This meets the requirements of the SG 60 and SG 80 levels but not of the SG 100 level.			
c	Guidepost	Monitoring is in place that is expected to determine whether the harvest strategy is working.			
	Met?	Y			
	Justification	As outlined in the backg place that provides both on the stock. These sour provide the synthesized of whether the harvest s This meets the requirem	round, there is a compreh o fishery-dependent and fis rces of information feed in overview of the status of strategy is working. ments of the SG 60 level.	ensive monitoring program in shery-independent information to the stock assessment which the stock and the main indicator	
d	Guidepost			The harvest strategy is periodically reviewed and improved as necessary.	
	Met?			Y	

PI 1.2	.1	There is a robust and prec	autionary harvest strategy in	n place	
	Justification	The Australian harvest strategy was reviewed to check that it complied with the requirements of Australia's Harvest Strategy Policy which was introduced in 2007. Also, given that the harvest strategy has maintained the biomass of Patagonian toothfish above target levels, additional reviews have not been necessary. This meets the requirements of the SG 100 level.			
e	Guidepost	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree c certainty that shark finr not taking place.	of hing is
	Met?	Not relevant	Not relevant	Not relevant	
	Justification	Sharks are not a target species			
References SCS 2012; SCS 2016					
OVERA	LL PERFOR	MANCE INDICATOR SCORE	:		
Consid	eration of t	he French Fishery:			
In assigning a score for the Australian fishery we have also considered the French fishery which, since the original assessment was completed, had been assessed as meeting all the SG80 requirements, but none of the SG100 requirements. Most weight has been given here to the scores for the HIMI fishery, however, as there is now evidence that there is only a minor level of movement of fish between the two areas and there are separate spawning areas. This means that the status of the stock component exploited by the HIMI fishery is mostly affected by the harvest strategy used for this fishery. The HIMI fishery would be scored at 95 (two of three SG100 scoring issues are met) but the score has been reduced to 90 to reflect the lower score for the French fishery.			90		
CONDI		BER (if relevant):			

PI 1.2.2	There are well defined and effective harvest control rules in place		
Scoring Issue	SG 60	SG 80	SG 100

PI 1.2.2		There are well defined and effective harvest control rules in place			
a	Guidepost	Generally understood harvest rules are in place that are consistent with the harvest strategy and which act to reduce the exploitation rate as limit reference points are approached.	Well defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.		
	Met?	Y	Y		
	Justification	There are well defined harvest control rules in place for the Australian fishery for Patagonian toothfish that are consistent with the harvest strategy. The catches that these rules allow will reduce as the stock approaches the target reference point. Should the stock fall below this target and approach the limit reference point, the rules would further reduce catches and could lead to the fishery being closed. It is therefore clear that they will act to reduce the exploitation rate as a LRP is approached. This meets the requirements of the SG 60 and SG 80 levels.			
b	Guidepost		The selection of the harvest control rules takes into account the main uncertainties.	The design of the harvest control rules takes into account a wide range of uncertainties.	
	Met?		Y	Y	
	Justification	YYThe MCMC projections that are used to determine constant catches that would be consistent with the harvest control rules incorporate uncertainty in all model parameters including recruitment variability, growth, survey catchability, and fishery selectivity. Uncertainty is further taken into account by the requirement that catches meet the requirements of the CCAMLR control rules over a 35 year projection period, even though the TACs would be in place for only one or two years.This meets the requirements of the SG 80 level.In the initial assessment, it was concluded that the Australian harvest control rules did not take into account a key uncertainty arising from the lack of knowledge of the nature of any inter-dependencies between the Patagonian toothfish population in the HIMI area and the population fished by the French around the Kerguelen Islands. As outlined in the fourth surveillance report (SCS 2016), this uncertainty has now been resolved and the precautionary features of the harvest control rules (which are those used by CCAMLR) can now be considered to take a wide range of uncertainties into account.			

PI 1.2.2 There are well defined and effective harvest control rules in place		lles in place			
с	Guidepost	There is some evidence that tools used to implement harvest control rules are appropriate and effective in controlling exploitation.	Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules.	Evidence clearly shows tools in use are effectiv achieving the exploitati levels required under th harvest control rules.	that the e in on าย
	Met?	Y	Y	Y	
	Justification	The key tool used to imp the fishery. Compliance that record set by set ca coverage. These provide TAC (beyond a small adr year's quota) and theref control rules are effectiv required levels. The results of the stock evidence is clear that the levels required under th This meets the requirem	blement the harvest contro with the TAC is monitored tch and effort details and e strong evidence that catc ninistrative allowance that fore that the tools used to ve in controlling the exploi assessments and RSTS add e tools in use are effective e harvest control rules.	of rules is the TAC that is through compulsory log through 100% observer hes have never exceeded t was deducted from the implement these harvest tation level from this fish confidence to this and t in achieving the exploita nd SG 100 levels.	set for books d the next t ery to he tion
Refere	nces	SCS 2012; SCS 2016; We	lsford et al. 2012		
OVERA	LL PERFOR	MANCE INDICATOR SCORE:			
Conside In assig since th SG80 re	eration of t ning a scor ne original equiremen	the French Fishery: re for the Australian fishery v assessment was completed, ts because the harvest contr	we have also considered the had been assessed as not me ol rule was not well defined.	French fishery which, eeting the first of the	
Most w eviden separat fishery	Most weight has been given here to the scores for the HIMI fishery, however, as there is now evidence that there is only a minor level of movement of fish between the two areas and there are separate spawning areas. This means that the status of the stock component exploited by the HIMI fishery is mostly affected by the harvest strategy and harvest control rule used for this fishery. <b>95</b>				
The HII score for are har accoun their ha Therefor French of thes fishery	The HIMI fishery would be scored at 100 but the score has been reduced to 95 to reflect the lower score for the French fishery. As noted in Section 4.1, we consider that the HIMI and SARPC fisheries are harmonised for this PI to the extent that the impacts on the whole stock have been taken into account. The differences that remain are justified as they pertain to the fishery-specific aspects of their harvest strategies and these differences do not threaten the achievement of P1 outcomes. Therefore, as required by CI3.1, having differences in the conditions between the Australian and French fisheries would not "undermine the integrity of MSC fishery assessments". Separate scoring of these fishery-specific aspects of the harvest strategies is also consistent with the approach for fishery-specific management arrangements under P3.				
CONDI	CONDITION NUMBER (if relevant):				

PI 1.2.2		There are well defined and effective harvest control rules in place			
PI 1.2	.3	Relevant information is co	ollected to support the harve	est strategy	
Scoring	g Issue	SG 60	SG 80	SG 100	
а	Guidepost	Some relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy.	Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data is available to support the harvest strategy.	A comprehensive range of information (on stock structure, stock productivity, fleet composition, stock abundance, fishery removals and other information such as environmental information), including some that may not be directly related to the current harvest strategy, is available.	
	Met?	Y	Y	Υ	
	Justification	As outlined in the first assessment of the fishery (SCS 2012) and updated in the background, published papers and reports from AFMA, AAD and CCAMLR indicate that there is a comprehensive range of information available that is relevant to and supports the Australian harvest strategy. A wide range of other information about the ecosystem is also available (e.g. see papers in Duhamel and Welsford 2011). This meets the requirements of the SG 60, SG 80 and SG 100 levels.			
b	Guidepost	Stock abundance and fishery removals are monitored and at least one indicator is available and monitored with sufficient frequency to support the harvest control rule.	Stock abundance and fishery removals are regularly monitored at a level of accuracy and coverage consistent with the harvest control rule, and one or more indicators are available and monitored with sufficient frequency to support the harvest control rule.	All information required by the harvest control rule is monitored with high frequency and a high degree of certainty, and there is a good understanding of inherent uncertainties in the information [data] and the robustness of assessment and management to this uncertainty.	
	wet	Y	Y	Ť	

PI 1.2.2		There are well defined and effective harvest control rules in place			
		All the information required by the Australian Harvest Strategy is monitored annually.			
		There is excellent information available on all fishery removals from the stock which, within the Australian zone, are exclusively taken by the fleets seeking certification. The information collected includes set-by-set records in logbooks, 100% observer coverage, size and age composition of the catch, tagging and recanture data, and inspection of all landings			
	The stock assessment and other reports of the SARAG and the relevant CC groups indicate that there is a good understanding of the inherent uncertathe data that are collected and used.			AMLR inties in	
	ustification	The robustness of the assessment to this uncertainty is examined by a combination of sensitivity tests and by the outputs of the MCMC projections. The choice of a conservative HCR for determining acceptable catch levels is also a means for ensuring that management actions are robust to this uncertainty.			
	-	This meets the requirem			
L	Guidepost		information on all other fishery removals from the stock.		
	Met?		Y		
		Catches by the French fishery are also monitored and reported annually CCAMLR.			eas
	stification	fisheries, but no IUU fishing vessels have been detected since 2004 inside the Australian Exclusive Economic Zone adjacent to HIMI or the French EEZ surrounding the Kerguelen Islands (Patterson and Skirtun 2015).			
	лГ	This meets the requirem	ents of the SG 80 level.		
Refere	nces	Duhamel and Welsford 2	2011; Patterson and Skirtu	n 2015; SCS 2012	
OVERA		MANCE INDICATOR SCORE:			100
CONDI		BER (if relevant):			

PI 1.2.4	There is an adequate asse	There is an adequate assessment of the stock status		
Scoring Issue	SG 60	SG 80	SG 100	

PI 1.2.4		There is an adequate assessment of the stock status			
а	Guidepost		The assessment is appropriate for the stock and for the harvest control rule.	The assessment is appropriate for the stock and for the harvest control rule and takes into account the major features relevant to the biology of the species and the nature of the fishery.	
	Met?		Υ	Υ	
	Justification	In the first assessment of considered to be approp proportion found and fis Surveillance Report (SCS deficiency to be overcom required. More recent evidence fr and Duhamel 2016) indi- meeting CCAMLR object for advice in the short te fish between the two zo HIMI fishery will be expl Australian to the French We conclude, therefore fishery to extend its scop assessment can be consi account the major featu of the fishery. This meets the requirem	of this fishery (SCS 2012), the priate for the stock only be shed in the French zone. A 2016), there was originall ne, a joint plateau-wide st from the latest assessment cates that the catch limits ives. This has been accept erm (WG-FSA 2015). There nes (Welsford et al. 2015) icitly incorporating data on EEZ. that there is now no need pe to include the catches be idered as appropriate for t res of the biology of Patage	he stock assessment was not cause it did not cover the s outlined in the Fourth ly an expectation that, for this ock assessment would be of the French fishery (Sinegre for the SARPC fishery are also ed by the WG-FSA as the basis is only minimal movement of but the next assessment of the n such movement from the for the assessment of the HIMI oy the French fishery. The the stock, and that it takes into gonian toothfish and the nature	
b	Guidepost	The assessment estimates stock status relative to reference points.			
	Met?	Υ			
	Justification	The assessment for the Australian fishery estimates stock status through the CASAL assessment model which provides estimates of current biomass and current biomass relative to unfished levels. Projections of this assessment are used to identify future catches which are consistent with the reference points. This meets the requirements of the SG 60 level.			

PI 1.2.4		There is an adequate assessment of the stock status			
C	Guidepost	The assessment identifies major sources of uncertainty.	The assessment takes uncertainty into account.	The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a probabilistic way.	
	Met?	Y	Y	γ	
	ustification	The major sources of un range of documents pre The assessment has take of outputs to a range of projections that also cor One of the uncertainties (for other PIs) concerned Australian and French El through the use of the R fishing elsewhere on the Stock status is evaluated Markov Chains (MCMC) catches that satisfy the o	certainty have also been i sented to SARAG and CCA en this uncertainty into ac plausible values for mode nsider such uncertainties. Is that was a focus of condi d linkages between the to EZs. This uncertainty is tak STS, the results of which se plateau. d relative to the reference sampling that provide the decision rules.	dentified and are recorded in a MLR's FSA-WG. count. It explores the sensitivity I parameters and makes tions in the original assessment othfish found within the en into account to some extent should reflect the impacts of points using Monte Carlo probabilistic estimates of	
d	<b></b>	This meets the requirem		The assessment has been	
	Guidepost			tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.	
	Met?			Ν	
	Justification	There is an ongoing program of review of assessment assumptions and approaches by the AAD staff and aspect of the assessment model have been updated to address recommendations from CCAMLR. As outlined in the background section, some sensitivity analyses have also been undertaken but here has, however, been no testing in the form of retrospective analyses or simulation testing that might have been undertaken to explore any systematic biases in the model. Additional sources of uncertainty to which the assessment has not been shown to be robust include the effect of the differential distributions of males and females around the whole Kerguelen/HIMI Plateau, the impact of assessing only the HIMI stock, the effect of an unknown proportion of females not spawning each year, and the potential for there to have been a significant IUU catch prior to 1997. We therefore consider that the assessment of the fishery has not been tested in the way that similar integrated assessments elsewhere have been tested.			

PI 1.2.4		There is an adequate assessment of the stock status			
e	st		The assessment of	The assessment has be	en v poor
	epos		to peer review.	reviewed.	y peer
	Guid				
	Met?		Y	N	
	Justification	The assessment is regula processes of CCAMLR. T as the group includes ex of the assessment have been no external peer re Nevertheless, for assess internal review as it is a system. This meets the requirem	arly reviewed both by SAR here is a level of external i perienced scientific staff f also been published in pee eview of the assessment a ment against this scoring i part of the normal process	AG and by the scientific review provided by the F rom several countries. As er-review journals but the s a whole. ssue we consider this to ses of the fishery manage t not of the SG 100 level.	SA-WG spects ere has be an ement
References SCS 2012; SCS 2016					
OVERA	LL PERFOR	MANCE INDICATOR SCORE	:		
Consid	eration of t	he French Fishery:			
In assigning a score for the Australian fishery we have also considered the French fishery which, since the original assessment was completed, had been assessed as not meeting the first of the SG80 requirements because the WG-FSA considered that the stock assessment was appropriate for the HCR only in the short term, after which a more robust stock assessment would be required. Thus, unlike the HIMI fishery, the condition on the French fishery was based on its preliminary nature and was not associated with the need for a broader scope for the assessment.					
Most weight has been given here to the scores for the HIMI fishery, however, as there is now evidence that the connectivity between the two areas is not great. This means that the status of the stock component exploited by the HIMI fishery is best reflected in the results of the stock assessment used for the HIMI fishery.					85
The HIMI fishery would be scored at 90 but the score has been reduced to 85 to reflect the lower score for the French fishery. As noted in the Fourth Surveillance Report (SCS 2016), we consider that the HIMI and SARPC fisheries are harmonised for this PI to the extent that the impacts on the whole stock have been taken into account. The differences that remain are justified as they pertain to the fishery-specific aspects of their harvest strategies and these differences do not threaten the achievement of P1 outcomes. Therefore, as required by Cl3.1, having differences in the conditions between the Australian and French fisheries would not "undermine the integrity of MSC fishery assessments". Separate scoring of these fishery-specific aspects of the harvest strategies is also consistent with the approach for fishery-specific management arrangements under P3.					
CONDI	CONDITION NUMBER (if relevant):				

# Principle 2

There are five components that need to be assessed under Principle 2, with each consisting of three Performance Indicators (PIs) each. The first PI of each component is focused on the outcome status, the second one concerns the management and the third one relates to the information available. The five components are: 1) Retained Catch; 2) Bycatch (not retained); 3) Endangered, Threatened or Protected Species; 4) Impacts on the Habitats; and 5) Impacts on the Ecosystem.

PI 2.1.1		The fishery does not pose a risk of serious or irreversible harm to the retained species and does not hinder recovery of depleted retained species			
Scoring Issue		SG 60	SG 80	SG 100	
а	Guidepost	Main retained species are likely to be within biologically based limits (if not, go to scoring issue c below).	Main retained species are highly likely to be within biologically based limits (if not, go to scoring issue c below).	There is a high degree of certainty that retained species are within biologically based limits and fluctuating around their target reference points.	
	Met?	Y	Y	Υ	
	Justification	Management requires includes fishing for ice mammals and seabirds. upon return to port. M species, are caught in together with other min fishing zone because the Total by-catch in the too catch. Rockcod is consi- because in one recent s Macrouridae comprise a 2014/15 season in the species. The team determined th and SG 100 is met bed determined biologically for these species sugges could be overestimated certainty that retained s	that all species are retai fish and toothfish, to re Only mackerel icefish is facrouridae or Grenadiers both the trawl and long for species ground into fis ey are deemed unsuitable othfish trawl fisheries is ge dered a main species foll eason (2012/13) it was 89 opproximately up to 2% of trawl sector respectively hat the fishery meets all of cause the catch limits w based limits for these spec ts that fishing mortality is using this method. Ther pecies are within biologica	ned in the HIMI fishery, which educe interactions with marine retained whole and can be sold s, a large and diverse family of line sectors of the fishery, and hmeal and discarded outside the for sale. nerally less than 10% of the total owing MSC guidance (CR v 1.3) % (>5%) of total catch by weight. the total catch by weight for the r and are therefore not a main the components for SG 60, SG 80 ere based on assessments that cies. The level 3 SAFE assessment sustainable and also notes that F efore, there is a high degree of ally based limits.	

### PI 2.1.1 – UoC Trawl

PI 2.1.1 The fishery does not pose a risk of seriou and does not hinder recovery of deplete			a risk of serious or irreversik ery of depleted retained spe	ole harm to the retained species ecies
b	Guidepost			Target reference points are defined for retained species.
	Met?			Ν
	Justification	There are no reference passessment of the retain their target reference po	points for retained species led species to indicate that pints. This does not meet t	and there is no quantitative t they are fluctuating around the requirement of SG100.
C	Guidepost	If main retained species are outside the limits there are measures in place that are expected to ensure that the fishery does not hinder recovery and rebuilding of the depleted species.	If main retained species are outside the limits there is a partial strategy of demonstrably effective management measures in place such that the fishery does not hinder recovery and rebuilding.	
	Met?	NA	NA	
	Justification	The main species are wit	thin biologically based limi	ts
d	Guidepost Stad	If the status is poorly known there are measures or practices in place that are expected to result in the fishery not causing the retained species to be outside biologically based limits or hindering recovery.		

PI 2.1.1		The fishery does not pose a risk of serious or irreversible harm to the retained species and does not hinder recovery of depleted retained species		
	Justification	The status of the retained species are well known.		
References				
OVERA	OVERALL PERFORMANCE INDICATOR SCORE: 90			
CONDI	CONDITION NUMBER (if relevant):			

## PI 2.1.1 – UoC 2 Longline

PI 2.1.1		The fishery does not pose a risk of serious or irreversible harm to the retained species and does not hinder recovery of depleted retained species			
Scoring Issue		SG 60	SG 80	SG 100	
a	Guidepost	Main retained species are likely to be within biologically based limits (if not, go to scoring issue c below).	Main retained species are highly likely to be within biologically based limits (if not, go to scoring issue c below).	There is a high degree of certainty that retained species are within biologically based limits and fluctuating around their target reference points.	
	Met?	Y	Y	Ν	
		Management requires includes fishing for ice mammals and seabirds. in the trawl sector. Wh Grenadiers, a large and of the fishery. Grenadie outside the fishing zone Total landed by-catch in catch. Grenadiers spp. co the 2014/15 season in th guidance (CR v 1.2.) in th	that all species are retained offish and toothfish, to re Only mackerel icefish is re note fish may be sold uponed diverse family of species, rs other minor species group because they are deemed the longline fisheries ra comprise approximately 7.5 the longline and are therefore an longline soctor	ned in the HIMI fishery, which educe interactions with marine etained whole and is only caught n return to port. Macrouridae or are caught in the longline sector bund into fishmeal and discarded l unsuitable for sale. nged from 6 to 13% of the total 5% of the total catch by weight for ore a main species under the MSC	

PI 2.1.1		The fishery does not pose a and does not hinder recover	a risk of serious or irreversik ery of depleted retained spe	ole harm to the retained species ecies
	ication	BAIT The bait used for longline 100 t of squid is used for Argentina or New Zealan purpose of this assessme sector are between 14-2 The NZ fishery captures t which are both found act 300m depth and are targ fishery is managed under 62,452 t was caught. Bas sustainability of the New fishery annually will not Squid sourced from Sout squid ( <i>Illex argentines</i> ). interannual variations ov temporary collapse arou between 200,000 and 1,0 from this fishery will not Jack mackerel ( <i>Trachurus</i> also used as bait, but in r species status are unkno one year but much less in detrimental effect on the The team determined that and SG 100 is met beo determined biologically assessment for these spe notes that F could be over	t used for longline gear is also assessed under this PI. Approximately 70 <sup>1</sup> squid is used for bait during each trip which is generally sourced from na or New Zealand. Squid from both fisheries is considered "main" for the of this assessment, as the amount used as bait in the toothfish longling are between 14-20% of total toothfish catch by weight. fishery captures two species ( <i>Nototodarus gouldii</i> and <i>Nototodarus sloa</i> ire both found across the continental shelf generally in waters less than epth and are targeted by trawling and jigging. The New Zealand squid is managed under quota which was around 160,000 t in 2016 of which t was caught. Based on the biology of squid and the long-term ability of the New Zealand squid fishery, the use of <100 t product from annually will not have a detrimental effect on the source populations. Durced from South Atlantic squid fishery, most likely Argentine shortfin <i>lex argentines</i> ). This fishery has shown large (up to a factor of 5) nual variations over the last decade and was thought to have had a ary collapse around 2009, but has recovered since 2011. Catches range in 200,000 and 1,000,000 t, so again, the use of <100 t product in one ye is fishery will not have a detrimental effect on the source populations. Inckerel ( <i>Trachurus symmetricus</i> ) and sardines (likely from New Zealand) ed as bait, but in much smaller amounts (19-23 t). The status of both status are unknown, however, at up to 23 t (1.7% of catch of toothfish i ar but much less in other years) it is considered unlikely to have a ental effect on the source populations in determined that the fishery meets all of the components for SG 60, SG is 100 is met because the catch limits were based on assessments ined biologically based limits for the retained species. The level 3 S nent for these species suggests that fishing mortality is sustainable and hat F could be overestimated using this method. main bait species (squid from New Zealand and Argentina) this can onl be highly likely and therefore overall this is met	
	Justif	Iongline sector.		
b	Guidepost			Target reference points are defined for retained species.
	Met?			Ν

PI 2.1	Pl 2.1.1The fishery does not pose a risk of serious or irreversible harm to the retained s and does not hinder recovery of depleted retained species		ecies		
	Justification	There are no reference p there is no quantitative are fluctuating around the requirement of SG100.	points for retained species assessment of the retaine heir target reference point	(including bait species) a d species to indicate that ts. This does not meet th	and they e
C	Guidepost	If main retained species are outside the limits there are measures in place that are expected to ensure that the fishery does not hinder recovery and rebuilding of the depleted species.	If main retained species are outside the limits there is a partial strategy of demonstrably effective management measures in place such that the fishery does not hinder recovery and rebuilding.		
	Met?	NA	NA		
	Justification	Main retained species in	icluding bait species are w	ithin biologically based li	mits.
d	Guidepost	If the status is poorly known there are measures or practices in place that are expected to result in the fishery not causing the retained species to be outside biologically based limits or hindering recovery.			
	Met?	NA			
	Justification	Status of the main retain species the fishery is not because only a very sma this fishery.	ned species are well know t causing the species to be Il fraction of the overall so	n, however for the main l outside biologically base ource fishery is used as ba	bait ed limits ait in
Refere	nces				
OVERA	LL PERFOR	MANCE INDICATOR SCORE:			80
CONDI		BER (if relevant):			

#### PI 2.1.2 - UoC 1 Trawl

PI 2.1	.2	There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species			
Scoring	g Issue	SG 60	SG 80	SG 100	
а	Guidepost	There are measures in place, if necessary, that are expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.	There is a partial strategy in place, if necessary, that is expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.	There is a strategy in place for managing retained species.	
	Met?	Y	Y	Y	
	ion	CM 33-02 ((CCAMLR 201 and icefish fisheries at H are 1 663 t the by-catch by-catch of Macrourus of catch of Macrourus hold exceed 360 t, and the by The limit of 150 t for uni (Constable et al. 1998, N a biological basis, the fis an annual range betwee operating if the limits ar requiring vessels to mov Channichthys rhinocerat Lepidonotothen squamij of skates and rays, or if t for which by-catch limita or greater than, 1 t.	L5) provided updated byca IIMI. Limits for unicorn ice of grey rock cod (Lepidone caml and <i>Macrourus whitse</i> <i>ptrachys</i> and <i>Macrourus ca</i> <i>y</i> -catch of skates and rays for icefish and grey rock <i>Aaschette and Dell 2015</i> ). thery operates well below on >1 and 37 over the last of e exceeded in any one yea re out of an area if there is <i>tus, 3 t</i> for all Macrourus sp <i>frons, or 2 t</i> of Somniosus st the by-catch in any one ha ations apply under this cor	Atch limits for both the toothfish fish ( <i>Channichthys rhinoceratus</i> ) otothen squamifron) is 80 t, the oni are 409 t, whereas the by- trinatus combined shall not (combined) are 120 t. cod are based on GYM analysis Given that the limits are set on these limits (unicorn icefish with 10 years), the fishery ceases ar, and there is a provision greater than, 5 t for op. combined, or 2 t for spp. (deep water dogfish) or 2 t ul of any other by-catch species iservation measure is equal to,	
	Justificatio	Therefore there is a full trawl sector of the fishe	strategy in place for mana ry and SG100 is met.	ging retained species in the	

PI 2.1.2		There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species			
b	Guidepost	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).	There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or species involved.	Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or species involved.	
	Met?	Y	Y	Ν	
	Justification	The strategy includes move-on provisions and closure of the fishery, which are in place when bycatch TACs are exceeded, to ensure that there is a management response. This strategy is based on information about the species for the main and minor retained species like unicorn icefish and rockcods. The SG 60 and 80 are met. However, there are three concerns that prevent the fishery achieving SG100. First, there is a lack of testing of the strategy using management strategy evaluation or a similar evaluation mechanism. Second, as noted by the ABARES fishery report, the GYM analysis is based on parameters taken from outside the populations affected by the fishery in some cases (Phillips & Ansell 2009). This is not ideal; it would be better to estimate the biological parameters required for the assessments of retained species using data from the actual populations affected. Third, although there are data from the fisheries-independent survey, they are currently not analyzed to assess the effect of the fishery on non-target species. Thus, while there are data available that could serve as evidence that the management strategy is successful, they are currently not being utilized.			
c	Guidepost		There is some evidence that the partial strategy is being implemented successfully.	There is clear evidence that the strategy is being implemented successfully.	
	Met?		Y	Y	
	Justification	The fishery is supported by a fisheries-independent survey each year, in addition to 100% observer coverage on the vessels with estimates of total biomass for all species taken in the fishery. Observers have not reported that there are any variations from the specified conditions; thus, implementation appears successful and 100% observer coverage provides clear evidence which supports a score of SG 100.			

PI 2.1	.2	There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species			
d	Guidepost			There is some evidence the strategy is achieving overall objective.	that g its
	Met?			Y	
e	bost Justification	The strategy based on b (including retained and o the fishery if the limits a Based on fishery-indepe taken in the fishery and confidence that the stra decline in the retained s scoring issue. It is likely that shark finning is not taking	ycatch limits for all non-ta discarded) also includes m re exceeded. ndent surveys, estimates o 100% observer coverage o tegy is operating and achie pecies. Therefore, a score It is highly likely that shark finning is not	rget species or species gr ove-on provisions and clo of total biomass for all sp on the vessels there is hig eving its objective of avoi e of 100 is justified for thi There is a high degree of certainty that shark finn	oups osure of ecies th ding a s of
	Guide	place.	taking place.	not taking place.	
	Met?	Not relevant	Not relevant	Not relevant	
	Justification	No sharks are retained in coverage on the vessels.	n the fishery which is supp	orted by 100% observer	
References		CM 33-02 (2015), Consta 2009	able <i>et al.</i> 1998, Maschette	e & Dell 2015, Phillips & A	Ansell
OVERA	LL PERFOR	MANCE INDICATOR SCORE:			95
CONDI		BER (if relevant):			

## PI 2.1.2 - UoC 2 Longline

PI 2.1.2	There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species			
Scoring Issue	SG 60	SG 80	SG 100	

PI 2.1.2		There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species			
а	Guidepost	There are measures in place, if necessary, that are expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.	There is a partial strategy in place, if necessary, that is expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.	There is a strategy in place for managing retained species.	
	Met?	Y	Y	Υ	

PI 2.1.2		There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species			
		CM 33-02 (CCAMLR 201 and icefish fisheries at H are 1663 t, the by-catch by-catch of Macrourus c catch of Macrourus hold exceed 360 t, and the by	5) provided updated bycat IIMI. Limits for unicorn ice of grey rock cod ( <i>Lepidone</i> <i>caml</i> and <i>Macrourus whitse</i> <i>ptrachys</i> and <i>Macrourus ca</i> y-catch of skates and rays	cch limits for both the toothfish fish ( <i>Channichthys rhinoceratus</i> ) <i>otothen squamifron</i> ) is 80 t, the <i>oni</i> are 409 t, whereas the by- <i>orinatus</i> combined shall not (combined) are 120 t.	
		The limit of 150 t for unicorn icefish and grey rock cod are based on GYM analy (Constable et al. 1998, Maschette and Dell 2015). Given that the limits are set a biological basis, the fishery operates well below these limits (unicorn icefish of an annual range between >1 and 37 t over the last 10 years), the fishery ceases operating if the limits are exceeded in any one year, and there is a provision requiring vessels to move out of an area if there is greater than 5 t for <i>Channichthys rhinoceratus</i> , 3 t for all <i>Macrourus</i> spp. combined, or 2 t for <i>Lepidonotothen squamifrons</i> , or 2 t of <i>Somniosus</i> spp. (deep water dogfish) or of skates and rays, or if the by-catch in any one haul of any other by-catch spec for which by-catch limitations apply under this conservation measure is equal to or greater than, 1 t.			
	Justification	The main bait species squid are either sourced from New Zealand or from Argentinia ( <i>Illex argentines</i> ). The NZ squid fishery is managed under quota which was around 160,000 t in 2016 of which 62,452 t was caught. The Argentinian squifishery has shown large interannual variations over the last decade and was thought to have had a temporary collapse around 2009, but has recovered since 2011. Catches range between 200,000 and 1,000,000 t, so again, the use of <100 product in one year from this fishery will not have a detrimental effect on the source populations. Therefor there is a full strategy in place for managing retained species, including main bait species, in the longline of the fishery and SG100 is met.			
b	Guidepost	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).	There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or species involved.	Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or species involved.	
	Met?	Y	Y	Ν	

PI 2.1.2		There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species			
The strategy includes move-on provisions and cl place when bycatch TACs are exceeded, to ens response. This strategy is based on information a minor retained species like unicorn icefish and ro				osure of the fishery, which are in are that there is a management bout the species for the main and k cods.	
	Justification	The SG 60 and 80 are met. However, there are three concerns that prevent the fishery achieving SG100. First, there is a lack of testing of the strategy using management strategy evaluation or a similar evaluation mechanism. Second, as noted by the ABARES fishery report, the GYM analysis is based on parameters taken from outside the populations affected by the fishery in some cases (Phillips & Ansell 2009). This is not ideal; it would be better to estimate the biological parameters required for the assessments of retained species using data from the actual populations affected. Third, although there are data from the fisheries-independent survey, they are currently not analyzed to assess the effect of the fishery on non-target species. Thus, while there are data available that could serve as evidence that the management strategy is successful, they are currently not being utilized.			
c	Guidepost		There is some evidence that the partial strategy is being implemented successfully.	There is clear evidence that the strategy is being implemented successfully.	
	Met?		Y	Υ	
	Justification	The fishery is supported by a fisheries-independent survey each year, in add to 100% observer coverage on the vessels with estimates of total biomass for species taken in the fishery. Observers have not reported that there are any variations from the specified conditions; thus, implementation appears succe and 100% observer coverage provides clear evidence which supports a score 100.			
d	Guidepost			There is some evidence that the strategy is achieving its overall objective.	
	Met?			Υ	

PI 2.1	.2	There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species			
	Justification	The strategy based on bycatch limits for all non-target species or species groups (including retained and discarded) also includes move-on provisions and closure of the fishery if the limits are exceeded. Based on fishery-independent surveys, estimates of total biomass for all species taken in the fishery and 100% observer coverage on the vessels there is high confidence that the strategy is operating and achieving its objective of avoiding a decline in the retained species. Therefore, a score of 100 is justified for this scoring issue.			
e	Guidepost	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark find not taking place.	of ning is
	Met?	Not relevant	Not relevant	Not relevant	
	Justification	No sharks are retained in the fishery which is supported by 100% observer coverage on the vessels.			
References		CM 33-02 (2015), Consta 2009	able <i>et al.</i> 1998, Maschette	e & Dell 2015, Phillips & A	Ansell
OVERA	LL PERFOR	MANCE INDICATOR SCORE:			95
CONDI	TION NUM	BER (if relevant):			

### PI 2.1.3 – UoC 1 Trawl

PI 2.1.3		Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage retained species			
Scoring Issue		SG 60	SG 80	SG 100	
а	Guidepost	Qualitative information is available on the amount of main retained species taken by the fishery.	Qualitative information and some quantitative information are available on the amount of main retained species taken by the fishery.	Accurate and verifiable information is available on the catch of all retained species and the consequences for the status of affected populations.	
	Met?	Y	Y	Υ	
	Justification	All commercial fishing effort is monitored by observers, with two observers on every vessel (AFMA observer reports 2013-2015). All unloading is monitored in port by independent observers. Vessels and observers maintain shot by shot logbooks which provide accurate and verifiable information on the catch of all retained species. In addition, there is a comprehensive and statistically robust fisheries-independent survey conducted each year prior to commercial operations to determine the status of the affected populations. A score of 100 is met.			
b	Guidepost	Information is adequate to qualitatively assess outcome status with respect to biologically based limits.	Information is sufficient to estimate outcome status with respect to biologically based limits.	Information is sufficient to quantitatively estimate outcome status with a high degree of certainty.	
	Met?	Y	Y	Υ	
	Justification	The information is derive sufficient to estimate th assessment for unicorn 2015). There has also be rockcod around HIMI (N	ed from annual fishery ind e outcome status at a high icefish has recently been u een a new study on the age laschette et al. 2015). The	ependent surveys and is degree of certainty. The stock updated (Maschette and Dell e and growth dynamics of grey SG 100 is met	
C	Guidepost	Information is adequate to support measures to manage main retained species.	Information is adequate to support a partial strategy to manage main retained species.	Information is adequate to support a strategy to manage retained species, and evaluate with a high degree of certainty whether the strategy is achieving its objective.	
	Met?	Y	Y	Ν	

PI 2.1	PI 2.1.3 Information on the nature and extent of retained species is adequate to determined risk posed by the fishery and the effectiveness of the strategy to manage retained species		ne the d		
	Justification	The information collected is adequate to support a strategy, however, testing of the strategy using management strategy evaluation or a similar evaluation mechanism has not occurred to date, preventing the fishery to score 100 for this scoring issue.			
d	Guidepost		Sufficient data continue to be collected to detect any increase in risk level (e.g. due to changes in the outcome indicator score or the operation of the fishery or the effectiveness of the strategy)	Monitoring of retained is conducted in sufficien to assess ongoing morta to all retained species.	species nt detail alities
	Met?		Y	Y	
	Justification	Data continues to be col and shot by shot logboo conducted in sufficient o and SG100 is met.	llected on an annual basis k reporting. Therefore, mo detail to assess ongoing mo	with 100% observer cove onitoring of all retained s ortalities to all retained s	erage pecies is pecies
References		AFMA observer reports	2013-2015; Maschette & I	Dell 2015; Maschette et a	l. 2015
OVERA	LL PERFOR	MANCE INDICATOR SCORE			95
CONDI	TION NUM	BER (if relevant):			

## PI 2.1.3 – UoC 2 Longline

PI 2.1.3		Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage retained species			
Scoring Issue		SG 60	SG 80	SG 100	
а	Guidepost	Qualitative information is available on the amount of main retained species taken by the fishery.	Qualitative information and some quantitative information are available on the amount of main retained species taken by the fishery.	Accurate and verifiable information is available on the catch of all retained species and the consequences for the status of affected populations.	

PI 2.1.3		Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage retained species				
	Met?	Y	Υ	Υ		
		All commercial fishing effort is monitored by observers, with two observers on every vessel (AFMA observer reports 2013-2015). All unloading is monitored in port by independent observers. Vessels and observers maintain shot by shot logbooks which provide accurate and verifiable information on the catch of all retained species. In addition, there is a comprehensive and statistically robust fisheries-independent survey conducted each year prior to commercial operations to determine the status of the affected populations.				
	Justification	Regarding bait, the amo recorded by all operator are used relative to the status of affected popula A score of 100 is met.	unt and species as well as is for each vessel and can b size of these fisheries and ations is likely to be minim	country of origin of all species is be verified. Very small amounts therefore the effect on the hal.		
b	Guidepost	Information is adequate to qualitatively assess outcome status with respect to biologically based limits.	Information is sufficient to estimate outcome status with respect to biologically based limits.	Information is sufficient to quantitatively estimate outcome status with a high degree of certainty.		
	Met?	Υ	Y	N		
	Justification	The information is derive sufficient to estimate the assessment for unicorn i 2015). There has also be rockcod around HIMI (M For the NZ bait species ( relative to TAC is monito (Ministry for Primary Inc fishery is monitored but high degree of certainty.	ed from annual fishery ind e outcome status at a high cefish has recently been u een a new study on the age laschette et al. 2015). The squid, jack mackerel and s ored for different fishing gr lustries 2013). Similarly, th outcome status of this spe . Therefor SG80 is met but	ependent surveys and is a degree of certainty. The stock updated (Maschette and Dell e and growth dynamics of grey SG 100 is met. ardines) annual catch data rounds against historical catches he catch of the Argentinia squid ecies cannot be estimated with a mot the SG 100.		
C	Guidepost	Information is adequate to support measures to manage main retained species.	Information is adequate to support a partial strategy to manage main retained species.	Information is adequate to support a strategy to manage retained species, and evaluate with a high degree of certainty whether the strategy is achieving its objective.		

PI 2.1.3		Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage retained species			
	Met?	Y	Y	Ν	
	Justification	The information collecters strategy, using manager mechanism, has not occ scoring issue. The same the SG 80 is met overall.	ed is adequate to support a nent strategy evaluation o urred to date, preventing can be ascertained for the	a strategy. Testing of the r a similar evaluation the fishery to score 100 f main bait species and th	or this herefore
d	Guidepost		Sufficient data continue to be collected to detect any increase in risk level (e.g. due to changes in the outcome indicator score or the operation of the fishery or the effectiveness of the strategy)	Monitoring of retained is conducted in sufficien to assess ongoing morta to all retained species.	species nt detail alities
	Met?		Y	Y	
	Justification	Data continues to be collected on an annual basis with 100% observer covera and shot by shot logbook reporting. Therefore, monitoring of all retained spe including bait species is conducted in sufficient detail to assess ongoing mort to all retained species and SG100 is met.			erage pecies rtalities
References		AFMA observer reports	2013-2015; Maschette & I	Dell 2015; Maschette et a	l. 2015
OVERALL PERFOR		MANCE INDICATOR SCORE	:		90
CONDITION NUMBER (if relevant):					

## PI 2.2.1 – UoC 1 Trawl

PI 2.2.1		The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups			
Scoring	g Issue	SG 60	SG 80	SG 100	
а	Guidepost	Main bycatch species are likely to be within biologically based limits (if not, go to scoring issue b below).	Main bycatch species are highly likely to be within biologically based limits (if not, go to scoring issue b below).	There is a high degree of certainty that bycatch species are within biologically based limits.	
	Met?	Y	Y	Ν	
Met?YNMost non-target species and catch have been covered indicators (2.1.1 through 2.1.3), because these species are either retained whole and sold or ground into offal.The fishery is managed on the basis of a 50 t annual catch are not covered by other limits. The exception for bycatch for skates (120 tons per year), which was based on a GYM 1998). Based on reported catch of non-target species, all limits and have not exceeded them since 1998 (CCAMLR 2) consistent with a simple quantitative assessment develop the HIMI trawl sector as part of the ERA process (Zhou et all overlap of fishing and species distributions, this assess bycatch species in the fishery had fishing mortalities below sustainable mortality. However, two skate species (Bil eatonii) may have fishing mortalities above the lower mortality (Zhou et al. 2009).		covered under retained species ecies are required to be retained, al. ual catch limit for all species that bycatch species is the catch limit n a GYM analysis (Constable <i>et al.</i> ecies, all species are within their CAMLR 2014a). These results are developed for bycatch species in hou <i>et al.</i> 2009). Based on spatial s assessment concluded that all es below their values at maximum cies ( <i>Bathyraja murrayi</i> and <i>B.</i> lower boundary of sustainable			
	Justification	by weight (<3% over the report. However, two considered main due to within biologically based met.	e last 5 years). See Table 5 skate species ( <i>Bathyraj</i> their vulnerability. There d limits with high degree o	in the background section of the <i>a irrasa</i> and <i>B. eatonii</i> ) were fore, not all bycatch species are of certainty and the SG 100 is not	

PI 2.2.1		The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups			
b	Guidepost	If main bycatch species are outside biologically based limits there are mitigation measures in place that are expected to ensure that the fishery does not hinder recovery and rebuilding.	If main bycatch species are outside biologically based limits there is a partial strategy of demonstrably effective mitigation measures in place such that the fishery does not hinder recovery and rebuilding.		
	Met?	Y	Y		
		The strategy includes a r away from a site for at le for <i>Channichthys rhinoce</i> <i>Lepidonotothen squamif</i> (CCAMLR Conservation N Reserve set up to protect The catch rates of skate no observed decline in measures can be consid have been reported in th The Marine Reserves, co CCAMLR and implement	requirement where vessels east 5 days if a vessel catch eratus, 3 t for all <i>Macrouru</i> frons, or 2 t of <i>Somniosus</i> so Measure 33-02 (2015). The t non-target species amor s from the trawl fisheries a the catch of these species lered to be demonstrably the catches taken during fisheries a mbined with the conserva-	a high degree of confidence that s need to move at least 5 miles hes equal to, or greater than, 5 t is spp. combined, or 2 t for spp., or 2 t of skates and rays ere is also an extensive Marine higst others. at HIMI are low. There has been ecies (AFMA 2014); thus, these r effective. Similarly, no declines sheries independent surveys.	
	Justification	(Nowara <i>et al.</i> 2009, 201 Therefore the SG 80 is m	.6).		

PI 2.2.1		The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups				
C	Guidepost Stade	If the status is poorly known there are measures or practices in place that are expected to result in the fishery not causing the bycatch species to be outside biologically based limits or hindering recovery. Y There has been a recent	study on the distribution	and abundance of skates	at the	
	Justification	Kerguelen Plateau wher change in abundance of	e the fishery operates and this species (Nowara et al	there appears to be little . 2016).	9	
Refere	nces	Nowara <i>et al.</i> 2009, 201	6.			
OVERALL PERFORMANCE INDICATOR SCORE: 80			80			
<b>CONDITION NUMBER (if relevant):</b> <b>Recommendation 1:</b> The assessment team recommends updating the ecological risk assessment (ERA) within the next certification cycle, and identifying if significant changes						
are occurring in the fishery. This will strengthen the score and provide a higher level of certainty that non-target species are within biologically based limits.						

## PI 2.2.1 – UoC 2 Longline

PI 2.2.1		The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups			
Scoring Issue		SG 60	SG 80	SG 100	
а	Guidepost	Main bycatch species are likely to be within biologically based limits (if not, go to scoring issue b below).	Main bycatch species are highly likely to be within biologically based limits (if not, go to scoring issue b below).	There is a high degree of certainty that bycatch species are within biologically based limits.	
	Met?	Y	Y	N	

PI 2.2.1		The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups			
		Most non-target species indicators (2.1.1 through either retained whole an continue research, the fi	es and catch has been on n 2.1.3) because these spe nd sold or ground into off ishery is primarily using log	covered under retained species ecies are required to be retained, al. Apart from a small portion to ngline.	
		The fishery is managed are not covered by othe for skates (120 tons per 1998). Based on reporte limits and have not exce consistent with a simple the HIMI trawl sector as overlap of fishing and bycatch species in the fis sustainable mortality. I <i>eatonii</i> ) may have fishi mortality (Zhou <i>et al.</i> 20	on the basis of a 50 t annu r limits. The exception for year), which was based or ed catch of non-target spe eded them since 1998 (CC e quantitative assessment part of the ERA process (ZI species distributions, this shery had fishing mortalitie However, two skate spe ng mortalities above the 09).	ual catch limit for all species that bycatch species is the catch limit a GYM analysis (Constable <i>et al.</i> ecies, all species are within their CAMLR 2014a). These results are developed for bycatch species in hou <i>et al.</i> 2009). Based on spatial a assessment concluded that all es below their values at maximum cies ( <i>Bathyraja murrayi</i> and <i>B.</i> lower boundary of sustainable	
	Justification	There are no main bycat by weight (<3% over the <i>eatonii</i> ) and the South extremely large dogshan These species are releas is uncertain. Therefore the for the longline sector. with high degree of cert	ch species, following MSC e last 5 years). Two skate hern Sleeper Shark, <i>Som</i> rk that gets caught very o ed if captured, but the sur hese species has been con Not all bycatch species ar ainty and the SG 100 is no	guidance, due to % of total catch species ( <i>Bathyraja irrasa</i> and <i>B.</i> <i>niosus antarcticus</i> , which is an ccasionally by longline methods. rvival rate once they are released sidered as a main bycatch species e within biologically based limits t met.	
b	Guidepost	If main bycatch species are outside biologically based limits there are mitigation measures in place that are expected to ensure that the fishery does not hinder recovery and rebuilding.	If main bycatch species are outside biologically based limits there is a partial strategy of demonstrably effective mitigation measures in place such that the fishery does not hinder recovery and rebuilding.		
	Met?	Y	Y		
PI 2.2.1		The fishery does not pose a risk of serious or irreversible harm to the bycatch species groups and does not hinder recovery of depleted bycatch species or species groups	ies or s		
----------	---------------	--	--------------------	--	--
		Two skate species and the sleeper shark are considered as the main bycatch s due to their vulnerability and there is no high degree of confidence that the within biologically based limits.	species ese are		
		The strategy includes requiring vessels to move at least 5 miles away from a site for at least 5 days if a vessel catches equal to, or greater than, 5 tonnes for <i>Channichthys rhinoceratus</i> , 3 tonnes for all <i>Macrourus</i> spp. combined, or 2 tonne for <i>Lepidonotothen squamifrons</i> , or 2 tonnes of <i>Somniosus</i> spp., or 2 tonnes of skates and rays (CCAMLR Conservation Measure 33-02 (2015). There is also an extensive Marine Reserve set up to protect also non-target species amongst others.			
		The catch rates of skates and the sleeper shark are low. There has been no observed decline in the catch of these species (AFMA 2016); thus, these measures can be considered to be demonstrably effective. Similarly, no declines have been reported in the catches taken during the fisheries independent survey.			
	tification	The Marine Reserves, combined with the conservation measures employed by CCAMLR and implemented by AFMA in the HIMI fishery appear to provide effective protection for the skates and there is very little signs of depletion (Nowara <i>et al.</i> 2009, 2016).			
	Just	Therefore the SG 80 is met.			
C	Guidepost	If the status is poorly known there are measures or practices in place that are expected to result in the fishery not causing the bycatch species to be outside biologically based limits or hindering recovery.			
	Met?	Y			
	Justification	There has been a recent study on the distribution and abundance of skates at the Kerguelen Plateau where the fishery operates and there appears to be little change in abundance of this species (Nowara et al. 2016).			
Refere	nces	Nowara <i>et al.</i> 2009, 2016.			
OVERA	LL PERFOR	RMANCE INDICATOR SCORE: 8	80		

PI 2.2.1	The fishery does not pose a risk of serious or irreversible harm to the bycatch species groups and does not hinder recovery of depleted bycatch species or species groups	cies or ies
CONDITION NUMBER (if relevant):		
<b>Recommendation 1:</b> The assessment team recommends updating the ecological risk assessment (ERA) within the next certification cycle, and identifying if significant changes are occurring in the fishery. This will strengthen the score and provide a higher level of certainty that non-target species are within biologically based limits.		

#### PI 2.2.2 – UoC1 -Trawl

PI 2.2.2		There is a strategy in place for managing bycatch that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to bycatch populations			
Scoring Issue		SG 60	SG 80	SG 100	
a	Guidepost	There are measures in place, if necessary, that are expected to maintain the main bycatch species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.	There is a partial strategy in place, if necessary, that is expected to maintain the main bycatch species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.	There is a strategy in place for managing and minimizing bycatch.	
	Met?	Y	Y	Y	
	Justification	There is a strategy for mitigating bycatch in the fishery. The strategy includes requiring vessels to move at least 5 miles away from a site for at least 5 days if a vessel catches equal to, or greater than, 5 tonnes for <i>Channichthys rhinoceratus</i> , 3 tonnes for all <i>Macrourus</i> spp. combined, or 2 tonnes for <i>Lepidonotothen</i> <i>squamifrons</i> , or 2 tonnes of <i>Somniosus</i> spp., or 2 tonnes of skates and rays (CCAMLR Conservation Measure 33-02 (2015). There is also an extensive Marine Reserve set up to protect also non-target species amongst others the SG 100 is met.			

PI 2.2.2		There is a strategy in place for managing bycatch that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to bycatch populations			
b	Guidepost	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/species).	There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or species involved.	Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or species involved.	
	Met?	Y	Y	Ν	
	Justification	There is partial evidence precautionary. Based on operation there does no background section). In authorities or scientists there is no specific prog not met for this indicato based on testing that the	e that the strategy will wor a catches of bycatch specie at appear to be a decline in addition, no declines have analyzing the fisheries inder ram of analysis for this crit or because it cannot be cor e strategy will work.	k. The limits are considered is over the last 10 years of bycatch populations (see been noted by regulatory ependent survey data, although seria. Therefore, the SG 100 is offirmed with high confidence	
c	Guidepost		There is some evidence that the partial strategy is being implemented successfully.	There is clear evidence that the strategy is being implemented successfully.	
	Met?		Y	Y	
	Justification	Implementation of the s incidences of non-comp Therefore, SG100 is met	trategy appears to be succ liance by observers and all for this scoring issue.	cessful, as there are no reported fishing effort is observed.	
d	Guidepost			There is some evidence that the strategy is achieving its overall objective.	
	Met?			Y	
	Justification	There is some evidence declines have been note fisheries independent su	that the strategy is achievi d by regulatory authoritie Irvey data.	ng its objective because no s or scientists analyzing the	

PI 2.2.2	There is a strategy in place for managing bycatch that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to bycatch populations		
References	CCAMLR 2014a; 2016		
OVERALL PERFORMANCE INDICATOR SCORE: 95			
CONDITION NUMBER (if relevant):			

# PI 2.2.2 – UoC 2 -Longline

PI 2.2.2		There is a strategy in place for managing bycatch that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to bycatch populations			
Scoring	g Issue	SG 60	SG 80	SG 100	
а	Guidepost	There are measures in place, if necessary, that are expected to maintain the main bycatch species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.	There is a partial strategy in place, if necessary, that is expected to maintain the main bycatch species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.	There is a strategy in place for managing and minimizing bycatch.	
	Met?	Y	Y	Υ	
	Justification	There is a strategy for m requiring vessels to mov vessel catches equal to, tonnes for all <i>Macrourus</i> 2 t of <i>Somniosus</i> spp., or 02 (2015). There is also species amongst others,	itigating bycatch in the fis ve at least 5 miles away fro or greater than, 5 t for Cho s spp. combined, or 2 t for r 2 t of skates and rays (CC an extensive Marine Reser the SG 100 is met.	hery. The strategy includes om a site for at least 5 days if a <i>annichthys rhinoceratus</i> , 3 <i>Lepidonotothen squamifrons</i> , or AMLR Conservation Measure 33- we set up to protect non-target	
b	Guidepost	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/species).	There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or species involved.	Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or species involved.	
	Met?	Υ	Y	Ν	

PI 2.2.2		There is a strategy in place for managing bycatch that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to bycatch populations			
	Justification	There is partial evidence that the strategy will work. The limits are considered precautionary. Based on catches of bycatch species over the last 10 years of operation there does not appear to be a decline in bycatch populations (see background section). In addition, no declines have been noted by regulatory authorities or scientists analyzing the fisheries independent survey data. There currently isn't a specific program of analysis for this criteria, hence the SG 100 is not met, for it cannot be confirmed with high confidence based on testing that the strategy will work.			
C	Guidepost		There is some evidence that the partial strategy is being implemented successfully.	There is clear evidence strategy is being impler successfully.	that the nented
	Met?		Y	Y	
	Justification	Implementation of the s incidences of non-comp Therefore, SG100 is met	strategy appears to be suce liance by observers and al t for this scoring issue.	cessful, as there are no re I fishing effort is observed	eported d.
d	Guidepost			There is some evidence the strategy is achieving overall objective.	that g its
	Met?			Y	
	Justification	There is some evidence that the strategy is achieving its objective because no declines have been noted by regulatory authorities or scientists analyzing the fisheries independent survey data.			
References		CCAMLR 2014a; 2016			
OVERA	LL PERFOR	MANCE INDICATOR SCORE	:		95
CONDI		IBER (if relevant):			

### PI 2.2.3 – UoC - Trawl

PI 2.2.3		Information on the nature and the amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch			
Scoring	g Issue	SG 60	SG 80	SG 100	
a	Guidepost	Qualitative information is available on the amount of main bycatch species taken by the fishery.	Qualitative information and some quantitative information are available on the amount of main bycatch species taken by the fishery.	Accurate and verifiable information is available on the catch of all bycatch species and the consequences for the status of affected populations.	
	Met?	Y	Y	Y	
	Justification	The fishery has both 100 extensive annual fisherio which provides both acc Therefore, the SG 100 is	0% observer coverage of al es independent survey bas urate and verifiable inforn met.	ll commercial fishing and an sed on the commercial gear, nation of all bycatch species.	
b	Guidepost	Information is adequate to broadly understand outcome status with respect to biologically based limits	Information is sufficient to estimate outcome status with respect to biologically based limits.	Information is sufficient to quantitatively estimate outcome status with respect to biologically based limits with a high degree of certainty.	
	Met?	Y	Y	Y	
	Justification	The information is of sub changing, and the status information, it is possibl taxa in the fishery. This s	ficient quality to assess w relative to the various by e to estimate the number scoring issue is therefore n	hether bycatch rates are catch TACs. Based on available of individuals caught for each net at the SG100 level.	
C	Guidepost	Information is adequate to support measures to manage bycatch.	Information is adequate to support a partial strategy to manage main bycatch species.	Information is adequate to support a strategy to manage retained species, and evaluate with a high degree of certainty whether the strategy is achieving its objective.	
	Met?			Y	
	Justification	The information covers of implementation of both justified.	each commercial shot, and move-on rules and TACs.	d is adequate to support the Therefore, a score of 100 is	

PI 2.2.3		Information on the nature posed by the fishery and t	and the amount of bycatch he effectiveness of the strat	is adequate to determine t egy to manage bycatch	the risk
d	Guidepost		Sufficient data continue to be collected to detect any increase in risk to main bycatch species (e.g., due to changes in the outcome indicator scores or the operation of the fishery or the effectively of the strategy).	Monitoring of bycatch of conducted in sufficient to assess ongoing mort to all bycatch species.	data is detail alities
	Met?		Y	Y	
	Justification	Annual fishery independ to assess mortalities of a	lent surveys are conducted all bycatch species. Therefo	d which provide sufficien ore, SG 100 is met.	t details
References		CCAMLR 2014a; 2016			
OVERALL PERFORMANCE INDICA		MANCE INDICATOR SCORE:			100
CONDI	TION NUM	BER (if relevant):			

# PI 2.2.3 – UoC - Trawl

PI 2.2.3		Information on the nature and the amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch			
Scoring Issue		SG 60	SG 80	SG 100	
а	Guidepost	Qualitative information is available on the amount of main bycatch species taken by the fishery.	Qualitative information and some quantitative information are available on the amount of main bycatch species taken by the fishery.	Accurate and verifiable information is available on the catch of all bycatch species and the consequences for the status of affected populations.	
	Met?	Y	Y	Y	

PI 2.2.3		Information on the nature and the amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch			
	Justification	The fishery has both 100% observer coverage of all commercial fishing and an extensive annual fisheries independent survey, which provides both accurate and verifiable information of all bycatch species. Therefore the SG 100 is met.			
b	Guidepost	Information is adequate to broadly understand outcome status with respect to biologically based limits	Information is sufficient to estimate outcome status with respect to biologically based limits.	Information is sufficient to quantitatively estimate outcome status with respect to biologically based limits with a high degree of certainty.	
	Met?	Y	Y	Y	
	Justification	The information is of sub changing, and the status information, it is possibl taxa in the fishery. This s	fficient quality to assess w s relative to the various by e to estimate the number scoring issue is therefore n	hether bycatch rates are catch TACs. Based on available of individuals caught for each net at the SG100 level.	
C	Guidepost	Information is adequate to support measures to manage bycatch.	Information is adequate to support a partial strategy to manage main bycatch species.	Information is adequate to support a strategy to manage retained species, and evaluate with a high degree of certainty whether the strategy is achieving its objective.	
	Met?			Y	
	Justification	The information covers implementation of both justified.	each commercial shot, and move-on rules and TACs.	d is adequate to support the Therefore, a score of 100 is	
d	Guidepost		Sufficient data continue to be collected to detect any increase in risk to main bycatch species (e.g., due to changes in the outcome indicator scores or the operation of the fishery or the effectively of the strategy).	Monitoring of bycatch data is conducted in sufficient detail to assess ongoing mortalities to all bycatch species.	
	Met?		Y	Y	

PI 2.2.3		Information on the nature and the amount of bycatch is adequate to determine to posed by the fishery and the effectiveness of the strategy to manage bycatch	he risk:
	Justification	Annual fishery independent surveys are conducted which provide sufficient to assess mortalities of all bycatch species. Therefore, SG 100 is met.	t details
		CCAMLR 2014a; 2016	
References			
OVERALL PERFORMANCE INDICATOR SCORE:		100	
CONDI		BER (if relevant):	

#### PI 2.3.1 – UoC 1- trawl

PI 2.3.1		The fishery meets national and international requirements for the protection of ETP species			
		The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species			
Scoring	g Issue	SG 60	SG 80	SG 100	
а	Guidepost	Known effects of the fishery are likely to be within limits of national and international requirements for protection of ETP species.	The effects of the fishery are known and are highly likely to be within limits of national and international requirements for protection of ETP species.	There is a high degree of certainty that the effects of the fishery are within limits of national and international requirements for protection of ETP species.	
	Met?	Y	Y	Y	
	Justification	The HIMI fishery is a wo species. After many inr are very low. In the two were killed and there ha sector of the fishery. Th years. There is 100% obs are known with a high d	orld leader in the quality on novations in the fishery, in most recent fishing years ave been no seabird mortane were also no marine server coverage of the fishe egree of certainty and the	f management measures for ETP nteraction rates with ETP species reported by CCAMLR, no seabirds alities since 2012/13, in the trawl mammal mortalities in the last 5 ery; thus, the effects of the fishery sG100 scoring issue is met.	
b	Guidepost	Known direct effects are unlikely to create unacceptable impacts to ETP species.	Direct effects are highly unlikely to create unacceptable impacts to ETP species.	There is a high degree of confidence that there are no significant detrimental direct effects of the fishery on ETP species.	
	Met?	Y	Y	Y	
	Justification	Based on these very low coverage, the fishery do	v levels of impact in recent es meet this scoring issue	years and 100% observer at the SG100 guidepost.	
C	Guidepost		Indirect effects have been considered and are thought to be unlikely to create unacceptable impacts.	There is a high degree of confidence that there are no significant detrimental indirect effects of the fishery on ETP species.	
	Met?		Y	Y	

PI 2.3.1		The fishery meets national and international requirements for the protection of ETP species The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species		
	Justification	Indirect effects have been considered, and might be possible, but are highl unlikely for marine mammals (AFMA 2009d, AFMA 2009e).	у	
References		AFMA 2009d, AFMA 2009e		
OVERA	OVERALL PERFORMANCE INDICATOR SCORE:		100	
CONDI		IBER (if relevant):		

# PI 2.3.1 – UoC 2 longline

PI 2.3.1		The fishery meets national and international requirements for the protection of ETP species The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species			
Scoring Issue		SG 60	SG 80	SG 100	
а	Guidepost	Known effects of the fishery are likely to be within limits of national and international requirements for protection of ETP species.	The effects of the fishery are known and are highly likely to be within limits of national and international requirements for protection of ETP species.	There is a high degree of certainty that the effects of the fishery are within limits of national and international requirements for protection of ETP species.	
	Met?	Y	Y	Υ	
	Justification	The HIMI fishery is a world leader in the quality of management measures for ETP species. After many innovations in the fishery, interaction rates with ETP species are very low. In the two most recent fishing years reported by CCAMLR only one seabird mortalities was reported in the longline sector each year of the fishery. There have been a few marine mammal mortalities in the last 5 years varying between 2 and 8). There is 100% observer coverage of the fishery; thus, the effects of the fishery are known with high certainty and the SG100 scoring issue is met.			

PI 2.3.1		The fishery meets national and international requirements for the protection of ETP species			
		The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species			
b	Guidepost	Known direct effects are unlikely to create unacceptable impacts to ETP species.	Direct effects are highly unlikely to create unacceptable impacts to ETP species.	There is a high degree of confidence that there a significant detrimental effects of the fishery on species.	of re no direct i ETP
	Met?	Y	Y	Y	
	Justification	Based on these very low coverage, the fishery do	levels of impact in recent es meet this scoring issue	years and 100% observe at the SG100 guidepost.	r
C	Guidepost		Indirect effects have been considered and are thought to be unlikely to create unacceptable impacts.	There is a high degree of confidence that there a significant detrimental i effects of the fishery on species.	of re no indirect i ETP
	Met?		Υ	Y	
	Justification	Indirect effects have bee unlikely for marine mam investigated the spatial (Physeter microcephalus 2011 (Welsford and Ara presence, with depredat is planned in collaborati behaviour across the Ke for long term mitigation	en considered and might b mals (AFMA 2009d, AFMA and temporal depredation s) which have been report ngio, 2015). Strong season tion events confined to the on with experts involving a rguelen Plateau with the c	e possible, but are highly A 2009e). A recent study a, involving sperm whales ed in the longline fishery al pattern to sperm whal e months April-July. Furth also the French fishery, to overall aim to develop str	, e her work o study ategies
Refere	nces	AFMA 2009d, AFMA 200	9e; Welsford and Arangio	2015	
OVERA	LL PERFOR	MANCE INDICATOR SCORE:			100
CONDI		IBER (if relevant):			

### PI 2.3.2 – UoC 1 - Trawl

PI 2.3	.2	The fishery has in place pr Meet national an Ensure the fishery Minimise mortali	ecautionary management st d international requirement y does not pose a risk of seri y does not hinder recovery o ty of ETP species.	rategies designed to: s; ous harm to ETP species; of ETP species; and
Scoring	glssue	SG 60	SG 80	SG 100
a	Guidepost	There are measures in place that minimise mortality of ETP species, and are expected to be highly likely to achieve national and international requirements for the protection of ETP species.	There is a strategy in place for managing the fishery's impact on ETP species, including measures to minimise mortality, which is designed to be highly likely to achieve national and international requirements for the protection of ETP species.	There is a comprehensive strategy in place for managing the fishery's impact on ETP species, including measures to minimise mortality, which is designed to achieve above national and international requirements for the protection of ETP species.
	Met?	Y	Y	Y
	Justification	The fishery is compliant plans for seabirds and m management measures The fishery has extensive including controls on fish restrictions on gear use, along with development with marine mammals w analysis, and thus there management plans (AFN There is also a domes (Welsford <i>et al.</i> 2012) a Policy in 2012. Fina (Conservation Measure guidance on mitigation resolution (resolution 2 for seabirds. The measu fishery is required to co have been no reported is Therefore, the SG 100 is	with domestic regulations harine mammals. Moreove from CCAMLR with respect e strategies in place to red hing practices, seasonal re and requirements for rea of management measure vere not identified as an is was no explicit strategy for AA 2009a, b). tic Bycatch and Discard s part of a broader review lly, CCAMLR has deve 25-03) for seabirds and r measures for reducing 2/XXV) outlining its intern res are reflected as condit mply with by the manage ssues with compliance. met.	in particular, species recovery er, the fishery complies with all et to ETP species. Auce the capture of seabirds, estrictions on gear use, temporal I time reporting of interactions es (AFMA 2014a, b). Interactions sue in the ecological risk for their mitigation in the risk Workplan which was reviewed w of the Commonwealth Bycatch eloped conservation measures marine mammals which provides interaction rates, along with a hational standards in this respect tions on the SFRs which the HIMI ment agency (AFMA). and There

		The fishery has in place pr	ecautionary management st	rategies designed to:	
PI 2.3	.2	Meet national an     Ensure the fisher	d international requirement	S; our horm to ETD chosics:	
		Ensure the fisher	y does not pose a risk of seri	ous name to ETP species; of FTP species: and	
		Minimise mortali	ty of ETP species.		
b		The measures are	There is an objective	The strategy is mainly based on	
		considered likely to	basis for confidence	information directly about the	
		work, based on	that the strategy will	fishery and/or species	
		plausible argument	work, based on	involved, and a quantitative	
		(e.g., general	information directly	analysis supports high	
		experience, theory or	about the fishery	confidence that the strategy	
	sod	comparison with	and/or the species	will work.	
	lide	similar	involved.		
	Gu	fisheries/species).			
	Met?	Y	Y	Ν	
		For seabirds, there is evi	idence that the mitigation	measures are effective based on	
		observer coverage, with	low numbers of interaction	ons in recent years (AAD 2016).	
		Marine mammal interactions are not considered to be a major issue in the fisher			
	The SG 80 is met.				
	stif	The SG100 is not met, as	s there is no testing of the	effectiveness of the strategies	
	'n	relative to management	objectives.		
с			There is evidence that	There is clear evidence that the	
	post		the strategy is being	strategy is being implemented	
	ide		implemented	successfully.	
	Gu		successfully.		
	Met?		Y	Y	
		The measures are being	implemented successfully	and this can be verified based	
	E	on 100% coverage of co	mmercial operations by of	servers (AFMA observer reports	
	atic	2013-2015). There are s	pecific procedures for observed	ervers to raise issues with	
	tific	compliance while at sea	, along with ongoing repor	ting to the management agency.	
	Jus	Therefore, this scoring is	ssue is met at the SG 100 l	evel.	
d				There is evidence that the	
	ost			strategy is achieving its	
	dep			objective.	
	Gui				
	Met?			Y	
	5	Based on very low intera	actions with any ETP specie	es and no interactions in recent	
	atic	years, there is evidence	that the strategy is achiev	ing its objective. The SG 100 is	
	tific	met.			
	Jus				

PI 2.3.2	<ul> <li>Ine fishery has in place precautionary management strategies designed to:</li> <li>Meet national and international requirements;</li> <li>Ensure the fishery does not pose a risk of serious harm to ETP species;</li> <li>Ensure the fishery does not hinder recovery of ETP species; and</li> <li>Minimise mortality of ETP species.</li> </ul>				
References AAD 2016; AFMA observer reports 2013-2015; Welsford <i>et al.</i> 2012					
OVERALL PERFORMANCE INDICATOR SCORE: 95					
CONDITION NUM	CONDITION NUMBER (if relevant):				

# PI 2.3.2 – UoC 2 Longline

		The fishery has in place pr	ecautionary management st	rategies designed to:
PI 2.3.2		Meet national an	d international requirement	s;
		Ensure the fisher	y does not pose a risk of seri	ous harm to ETP species;
		Ensure the fisher	y does not hinder recovery o	f ETP species; and
		<ul> <li>Minimise mortali</li> </ul>	ty of ETP species.	
Scoring Issue		SG 60	SG 80	SG 100
a	Guidepost	There are measures in place that minimise mortality of ETP species, and are expected to be highly likely to achieve national and international requirements for the protection of ETP species.	There is a strategy in place for managing the fishery's impact on ETP species, including measures to minimise mortality, which is designed to be highly likely to achieve national and international requirements for the protection of ETP species.	There is a comprehensive strategy in place for managing the fishery's impact on ETP species, including measures to minimise mortality, which is designed to achieve above national and international requirements for the protection of ETP species.
	Met?	Y	Y	Y

PI 2.3	.2 The fishery has in place precautionary management strategies designed to: • Meet national and international requirements; • Ensure the fishery does not pose a risk of serious harm to ETP species; • Ensure the fishery does not hinder recovery of ETP species; and • Minimise mortality of ETP species.			rrategies designed to: s; ous harm to ETP species; ıf ETP species; and
		The fishery is compliant plans for seabirds and m management measures	with domestic regulations arine mammals. Moreove from CCAMLR with respec	; in particular, species recovery r, the fishery complies with all t to ETP species.
		The fishery has extensive strategies in place to reduce the capture of seabirds, including controls on fishing practices, seasonal restrictions on gear use, temporal restrictions on gear use, and requirements for real time reporting of interactions along with development of management measures (AFMA 2014a,b). Interactions with marine mammals were not identified as an issue in the ecological risk analysis, and thus there was no explicit strategy for their mitigation in the risk management plans (AFMA 2009a, b).		
	Justification	There is also a domes (Welsford <i>et al.</i> 2012) a Policy in 2012. Fina (Conservation Measure guidance on mitigation resolution (resolution 2) for seabirds. The HIMI f management agency ( <i>A</i> compliance. There was a whales that ensures the is detected in the longl across the whole Kergue long term mitigation (W Therefore, the SG 100 is	tic Bycatch and Discard s part of a broader review Ily, CCAMLR has deve 25-03) for seabirds and n measures for reducing 2/XXV) outlining its intern fishery is required to com AFMA) and there have also a new voluntary indust next line shot is 50 miles a ine fishery. A new study elen Plateau with the over elsford and Arangio, 2015 met.	Workplan which was reviewed v of the Commonwealth Bycatch cloped conservation measures narine mammals which provides interaction rates, along with a national standards in this respect uply with these measures by the been no reported issues with try move on provisions for sperm away if sperm whale depredation will be looking at the behaviour rall aim to develop strategies for ).
b	suidepost	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar ficheriac (species)	There is an objective basis for confidence that the strategy will work, based on information directly about the fishery and/or the species involved.	The strategy is mainly based on information directly about the fishery and/or species involved, and a quantitative analysis supports high confidence that the strategy will work.
	Met?	Y	Y	N

PI 2.3.2		<ul> <li>The fishery has in place precautionary management strategies designed to:</li> <li>Meet national and international requirements;</li> <li>Ensure the fishery does not pose a risk of serious harm to ETP species;</li> <li>Ensure the fishery does not hinder recovery of ETP species; and</li> <li>Minimise mortality of ETP species.</li> </ul>			
	Justification	For seabirds, there is evidence that the mitigation measures are effective based on observer coverage, with low numbers of interactions in recent years (AAD 2016). Marine mammal interactions are not considered to be a major issue in the fishery. The SG 80 is met. The SG100 is not met, as there is no testing of the effectiveness of the strategies relative to management objectives.			
C	Guidepost		There is evidence that the strategy is being implemented successfully.	There is clear evidence strategy is being impler successfully.	that the nented
	Met?		Y	Y	
	Justification	The measures are being on 100% coverage of co 2013-2015). There are s compliance while at sea Therefore, this scoring i	; implemented successfully mmercial operations by ob pecific procedures for obs , along with ongoing repor ssue is met at the SG 100 l	r, and this can be verified oservers (AFMA observer ervers to raise issues with rting to the management evel.	based reports າ agency.
d	Guidepost			There is evidence that t strategy is achieving its objective.	he
	Met?			Y	
	Justification	Based on very low inter recent years, there is ev 100 is met.	actions with any ETP speci- ridence that the strategy is	es and no seabird interac achieving its objective. T	tions in he SG
References		AAD 2016; AFMA observand Arangio, 2015	ver reports (2013-2015); W	Velsford <i>et al.</i> 2012; Wels	ford
OVERA	LL PERFOR	MANCE INDICATOR SCORE	:		95
CONDI		BER (if relevant):			

### PI 2.3.3 – UoC 1- Trawl

PI 2.3	.3	Relevant information is co species, including: Information for the Information to as	ollected to support the mana he development of the mana sess the effectiveness of the etermine the outcome status	gement of fishery impacts on ETP agement strategy; e management strategy; and s of ETP species.
Scoring Issue		SG 60	SG 80	SG 100
а	Guidepost	Information is sufficient to qualitatively estimate the fishery related mortality of ETP species.	Sufficient information is available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species.	Information is sufficient to quantitatively estimate outcome status of ETP species with a high degree of certainty.
	Met?	Y	Y	Y
	Justification	There is high quality quantitative information on the impact of the fishery on ET species, including effort, location, and gear configuration of all fishing effort. The is 100% observer coverage, and all ETP interactions (seabirds and mammals) are recorded and can be related to information on fishing available in logbooks. The gear configuration, timing, location and other factors that affect ETP interaction and outcomes of those interactions are known (CCAMLR 2014a). The information is sufficient to estimate the outcome status. Therefore, the SG is met.		
b	Guidepost	Information is adequate to broadly understand the impact of the fishery on ETP species.	Information is sufficient to determine whether the fishery may be a threat to protection and recovery of the ETP species.	Accurate and verifiable information is available on the magnitude of all impacts, mortalities and injuries and the consequences for the status of ETP species.
	Met?	Y	Y	Υ
The information is accurate and verifiable regarding the magnitude of t to all ETP species due to the 100% observer coverage. The information to be used in assessments or ERAs to generally determine the consequen- the status of ETP species and, as such, the SG 100 is met.				ng the magnitude of the threat age. The information is sufficient termine the consequences for is met.

PI 2.3.3		Relevant information is collected to support the management of fishery impacts on ETPspecies, including:• Information for the development of the management strategy;			
		Information to as	ssess the effectiveness of the	e management strategy; an	d
		Information to de	etermine the outcome status	s of ETP species.	
с		Information is	Information is	Information is adequate	e to
		adequate to support	sufficient to measure	support a comprehensi	ve
		measures to manage	trends and support a	strategy to manage imp	oacts,
		the impacts on ETP	full strategy to manage	minimize mortality and	injury
	t	species.	impacts on ETP	of ETP species, and eva	luate
	Sod		species.	with a high degree of co	ertainty
	lide			whether a strategy is a	chieving
	gu			its objectives.	
	Met?	Y	Y	N	
	Justification	There is adequate inforr strategy. However, ther whether it is achieving i 100 is not met.	mation for design and eval e has been no specific eva ts objectives or if that was	uation of the comprehen luation of the full strateg necessary. Therefore, th	isive y e SG
References		CCAMLR 2014a			
OVERA		RMANCE INDICATOR SCORE	:		95
CONDI		IBER (if relevant):			

# PI 2.3.3 – UoC 2 Longline

PI 2.3.3		<ul> <li>Relevant information is collected to support the management of fishery impacts on ETP species, including: <ul> <li>Information for the development of the management strategy;</li> <li>Information to assess the effectiveness of the management strategy; and</li> </ul> </li> <li>Information to determine the outcome status of ETP species.</li> </ul>			
Scoring Issue		SG 60	SG 80	SG 100	
а	Guidepost	Information is sufficient to qualitatively estimate the fishery related mortality of ETP species.	Sufficient information is available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species.	Information is sufficient to quantitatively estimate outcome status of ETP species with a high degree of certainty.	
	Met?	Y	Y	Y	
Justification		There is high quality quantitative information on the impact of the fishery on ETP species, including effort, location, and gear configuration of all fishing effort. There is 100% observer coverage, and all ETP interactions (seabirds and mammals) are recorded and can be related to information on fishing available in logbooks. Thus, gear configuration, timing, location and other factors that affect ETP interactions and outcomes of those interactions are known (CCAMLR 2014a). The information is sufficient to estimate the outcome status. Therefore, the SG100 is met.			
b	Guidepost	Information is adequate to broadly understand the impact of the fishery on ETP species.	Information is sufficient to determine whether the fishery may be a threat to protection and recovery of the ETP species.	Accurate and verifiable information is available on the magnitude of all impacts, mortalities and injuries and the consequences for the status of ETP species.	
	Met?	Y	Y	Υ	
	Justification	The information is accur all ETP species due to th	ate and verifiable regardir e 100% observer coverage	ng the magnitude of the threat of and, as such, the SG 100 is met	

		Relevant information is collected to support the management of fishery impacts on ETP			
DI 222		species, including:			
PI 2.3.3		<ul> <li>Information for t</li> </ul>	he development of the man	agement strategy;	
		Information to as	sess the effectiveness of the	e management strategy; an	d
	1	Information to de	etermine the outcome status	s of ETP species.	
с		Information is	Information is	Information is adequate	e to
		adequate to support	sufficient to measure	support a comprehensi	ve
		measures to manage	trends and support a	strategy to manage imp	oacts,
		the impacts on ETP	full strategy to manage	minimize mortality and	injury
	st	species.	impacts on ETP	of ETP species, and eva	luate
	od		species.	with a high degree of ce	ertainty
	iide			whether a strategy is a	chieving
	ษี			its objectives.	
	Met?	Y	Y	N	
	Justification	There is adequate inforr strategy. However, ther whether it is achieving in 100 is not met.	mation for design and eval e has been no specific eva ts objectives or if that was	uation of the comprehen luation of the full strateg necessary. Therefore, th	sive y e SG
References		CCAMLR 2014a			
OVERA	OVERALL PERFORMANCE INDICATOR SCORE:			95	
CONDI		IBER (if relevant):			

### PI 2.4.1 – UoC 1 - Trawl

PI 2.4.1	2.4.1 The fishery does not cause serious or irreversible harm to habitat structure, consider on a regional or bioregional basis, and function		
Scoring Issue	SG 60	SG 80	SG 100
a Guidepost Met?	The fishery is unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.	The fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm. Y	There is evidence that the fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.

PI 2.4.1	The fishery does not cause serious or irreversible harm to habitat structure, cons on a regional or bioregional basis, and function	idered		
	All vessels in the fishery carry a VMS that reports all fishing locations in add comprehensive 100% observer coverage (Observer reports 2013-2015). The fishery operates in a region that has an extensive Marine Reserve system the designed based on a bioregionalization with the explicit goal of protecting a comprehensive, adequate and representative collection of the existing Aus marine biota. Welsford et al. (2014) combined data on the fishing footprint estimates of taxa-specific vulnerability and concluded that the great majorit vulnerable organisms live on the seafloor in depths less than 1200 m. This r overlaps with the depths targeted by the trawl fishery, however due to the that the majority of trawling has focussed on a few relatively small fishing g less than 1.5% of all the biomass in waters less than 1200 m were estimate have been damaged or destroyed.	lition to e hat was a tralian twith ty of fact grounds, d to		
Justification	The fishery is excluded from these Marine Reserves, and thus while the d gear may affect the habitat on a bioregional basis there are significant are of the area that is less than 1000 meters depth) that are protected fr potential harm. Moreover, effort in the fishery is concentrated in a relative portion of the region around Heard Island and McDonald Islands. An estimat of the seafloor area within the EEZ at HIMI has had some level of interact demersal fishing gear between 1997 and 2013 and thus at present imp expected to be limited in spatial extent even within the fished area. The SG 100 is met.	emersal eas (39% rom any ely small ced 0.7% ion with acts are		
References	Observer reports 2013-2015; Welsford et al. (2014)			
OVERALL PERFORMANCE INDICATOR SCORE: 10				
CONDITION NUMBER (if relevant):				

# PI 2.4.1 – UoC 2 - longline

PI2.4.1The fishery does not cause serious or irreversible harm to habitat strue on a regional or bioregional basis, and function			n to habitat structure, considered	
Scoring Issue		SG 60	SG 80	SG 100
а	Guidepost	The fishery is unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.	The fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.	There is evidence that the fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.

PI 2.4.1		The fishery does not cause serious or irreversible harm to habitat structure, considered on a regional or bioregional basis, and function				
	Met?	Y	Y	Y		
		All vessels in the fishery carry a VMS that reports all fishing locations in addition to comprehensive 100% observer coverage (Observer reports 2013-2015). The fishery operates in a region that has an extensive Marine Reserve system that was designed based on bioregionalization with the explicit goal of protecting a comprehensive, adequate and representative collection of the existing Australian marine biota. Welsford et al. (2014) combined data on the fishing footprint with estimates of taxaspecific vulnerability and concluded that the great majority of vulnerable organisms live on the seafloor in depths less than 1200 m. This range overlaps with the depths targeted by the trawl fishery, however due to the fact that the majority of trawling has focussed on a few relatively small fishing grounds, less than 1.5% of all the biomass in waters less than 1200 m were estimated to have been damaged or destroyed.				
	Justification	The fishery is excluded gear may affect the hab of the area that is less potential harm. Moreov portion of the region arc of the seafloor area wit demersal fishing gear b expected to be limited in The SG 100 is met.	from these Marine Reser- bitat on a bioregional basis is than 1000 meters dept rer, effort in the fishery is bund Heard Island and McI hin the EEZ at HIMI has h between 1997 and 2013 n spatial extent even with	ves, and thus while the d s there are significant are th) that are protected fi concentrated in a relative Donald Islands. An estimat ad some level of interact and thus at present imp in the fished area.	lemersal eas (39% rom any ely small ted 0.7% ion with acts are	
Refere	References Observer reports 2013-2015; Welsford et al. (2014)					
OVERA	OVERALL PERFORMANCE INDICATOR SCORE: 100					
CONDI	CONDITION NUMBER (if relevant):					

#### PI 2.4.2 -UoC 1 - Trawl

PI 2.4.2	There is a strategy in place serious or irreversible har	e that is designed to ensure t m to habitat types	the fishery does not pose a risk of
Scoring Issue	SG 60	SG 80	SG 100

PI 2.4	.2	There is a strategy in place serious or irreversible har	e that is designed to ensure t m to habitat types	the fishery does not pose a risk of
a	Guidepost	There are measures in place, if necessary, that are expected to achieve the Habitat Outcome 80 level of performance.	There is a partial strategy in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above.	There is a strategy in place for managing the impact of the fishery on habitat types.
	Met?	Y	Y	γ
	Justification	An extensive and well-de HIMI which is adequate types in the region. This the fishery on habitats a	esigned Marine Reserve sy and representative and de can be regarded as a full nd a score of SG 100 is jus	rstem exists in the region around esigned to protect all habitat strategy to manage impacts of tified.
Ь	Guidepost	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/habitats).	There is some objective basis for confidence that the partial strategy will work, based on information directly about the fishery and/or habitats involved.	Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or habitats involved.
	Met?	Y	Y	Y
	Justification	The strategy is anticipate biodiversity they suppor footprint with estimates framework was then app categorised and the leve quantified. As a result of expanded on 28 March 2 square kilometers to inco risk rating (Commonwea Therefore, testing of the strategy with high confid	ed to provide reliable prot et. Welsford et al. (2014) co of taxa-specific vulnerabil plied that allowed the seas el of protection afforded by f this study, the boundarie 2014 and the Marine Rese lude an area of high conse alth of Australia 2014). e original reserve and the r dence and the SG 100 is m	ection for habitats and the ombined data on the fishing lity. A risk categorisation scape around HIMI to be y the Marine Reserve to be s of the Marine Reserve were rve's area increased to 71,000 ervation value and Category II new expansion now supports the et.
C	uidepost		There is some evidence that the partial strategy is being implemented	There is clear evidence that the strategy is being implemented successfully.
	G Met?		Y	Y

PI 2.4.2		There is a strategy in place that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to habitat types			
	Justification	Compliance by operators with Marine Reserve boundaries, and complete observer and VMS coverage provide high confidence that the reserve system has been successfully implemented (Commonwealth of Australia 2014).			
d	Guidepost			There is some evidence the strategy is achieving objective.	that g its
	Met?			Y	
	Justification	Welsford <i>et al.</i> (2014) pr habitats in the fishing ar achieving its objective to met.	roduced an assessment of ea providing comprehensi o protect all habitat types i	the current status of ben ve evidence that the stra in the fishing area. The So	ithic itegy is G 100 is
References		Commonwealth of Australia, 2014; Welsford et al. 2014			
OVERA	OVERALL PERFORMANCE INDICATOR SCORE: 100				
CONDI		BER (if relevant):			

### PI 2.4.2 – UoC 2 - Longline

PI 2.4	2.4.2 There is a strategy in place that is designed to ensure the fishery does not pose a r serious or irreversible harm to habitat types			the fishery does not pose a risk of
Scoring Issue		SG 60	SG 80	SG 100
а	Guidepost	There are measures in place, if necessary, that are expected to achieve the Habitat Outcome 80 level of performance.	There is a partial strategy in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above.	There is a strategy in place for managing the impact of the fishery on habitat types.
	Met?	Y	Y	Y
	Justification	An extensive and well-designed Marine Reserve system exists in the region ar HIMI which is adequate and representative and designed to protect all habitat types in the region. This can be regarded as a full strategy to manage impacts the fishery on habitats and a score of SG 100 is justified.		

PI 2.4	.2	There is a strategy in place serious or irreversible har	e that is designed to ensure t m to habitat types	he fishery does not pose a risk of
b	Guidepost	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/habitats).	There is some objective basis for confidence that the partial strategy will work, based on information directly about the fishery and/or habitats involved.	Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or habitats involved.
	Met?	Y	Y	Y
	Justification	The strategy is anticipate biodiversity they suppor footprint with estimates framework was then app categorised and the leve quantified. As a result of expanded on 28 March 2 square kilometers to inco risk rating (Commonwea Therefore, testing of the strategy with high confid	ed to provide reliable prot ed to provide reliable prot t. Welsford et al. (2014) co of taxa-specific vulnerabi plied that allowed the seas el of protection afforded b f this study, the boundarie 2014 and the Marine Rese clude an area of high conse alth of Australia 2014). e original reserve and the r dence and the SG 100 is m	ection for habitats and the ombined data on the fishing lity. A risk categorisation scape around HIMI to be y the Marine Reserve to be s of the Marine Reserve were rve's area increased to 71,000 ervation value and Category II new expansion now supports the et.
c	Guidepost		There is some evidence that the partial strategy is being implemented successfully.	There is clear evidence that the strategy is being implemented successfully.
	Met?		Y	Y
	Justification	Compliance by operators with reserve boundaries, and complete observer and VMS coverage provide high confidence that the Marine Reserve system has been successfully implemented (Commonwealth of Australia 2014).		
d	Guidepost			There is some evidence that the strategy is achieving its objective.
	Met?			Υ

PI 2.4.2		There is a strategy in place that is designed to ensure the fishery does not pose a serious or irreversible harm to habitat types	risk of
	Justification	Welsford <i>et al.</i> (2014) produced an assessment of the current status of ben habitats in the fishing area providing comprehensive evidence that the stra achieving its objective to protect all habitat types in the fishing area. The So met.	thic tegy is G 100 is
References		Commonwealth of Australia, 2014; Welsford et al. 2014	
OVERALL PERFORMA		MANCE INDICATOR SCORE:	100
CONDI		BER (if relevant):	

### PI 2.4.3 – UoC 1 - Trawl

PI 2.4.3		Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types			
Scoring	g Issue	SG 60	SG 80	SG 100	
а	Guidepost	There is basic understanding of the types and distribution of main habitats in the area of the fishery.	The nature, distribution and vulnerability of all main habitat types in the fishery are known at a level of detail relevant to the scale and intensity of the fishery.	The distribution of habitat types is known over their range, with particular attention to the occurrence of vulnerable habitat types.	
	Met?	Y	Y	Υ	
Justification		There is high quality da fishing gear based on o Australia, 2014). This da any changes in that exte The distribution of habit the Australian region of al. (2014) applied a risk o HIMI to be categorised a to be quantified. The SG	ta on the spatial extent, to ongoing observer and VM ata is of sufficient quality to at through time. The Kerguelen Plateau (AA categorisation framework to and the level of protection 100 is clearly met.	iming and location of the use of AS coverage (Commonwealth of to address the current extent and ant to the fishery is known within D 2005). In addition, Welsford et that allowed the seascape around a afforded by the Marine Reserve	

PI 2.4.3		Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types			
b	Guidepost	Information is adequate to broadly understand the nature of the main impacts of gear use on the main habitats, including spatial overlap of habitat with fishing gear.	Sufficient data are available to allow the nature of the impacts of the fishery on habitat types to be identified and there is reliable information on the spatial extent of interaction, and the timing and location of use of the fishing gear.	The physical impacts of gear on the habitat type been quantified fully.	the es have
	Met?	Y	Y	Ν	
	Justification	Welsford <i>et al.</i> (2014) co specific vulnerability and around HIMI to be cate Reserve to be quantifie types and this scoring is	mbined data on the fishing I together with the risk cat gorised and the level of pr d. However, these are no sue is met at the SG 80 lev	g footprint with estimates egorisation allowed the s rotection afforded by the ot fully quantified for all el.	of taxa- eascape Marine habitat
C	Guidepost		Sufficient data continue to be collected to detect any increase in risk to habitat (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).	Changes in habitat distributions over time measured.	are
	Met?		Y	Ν	
	Justification	Monitoring is ongoing th through AFMA's VMS, additional studies plann The SG 80 is met.	rough the routine recordin logbooks and observer r led to measure changes i	ng of the fishery's effort f eports. However, there n habitat distribution ov	ootprint are no er time.
References		Commonwealth of Austr	ralia, 2014; Welsford <i>et al.</i>	2014	
OVERA	LL PERFOR	MANCE INDICATOR SCORE:			85
CONDI	CONDITION NUMBER (if relevant):				

# PI 2.4.3 – UoC 2 -Longline

PI 2.4.3		Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types			
Scoring Issue		SG 60	SG 80	SG 100	
а	Guidepost	There is basic understanding of the types and distribution of main habitats in the area of the fishery.	The nature, distribution and vulnerability of all main habitat types in the fishery are known at a level of detail relevant to the scale and intensity of the fishery.	The distribution of habitat types is known over their range, with particular attention to the occurrence of vulnerable habitat types.	
	Met?	Y	Y	Y	
	Justification	There is high quality da fishing gear based on a Australia, 2014). This da any changes in that exter The distribution of habit the Australian region of al. (2014) applied a risk of HIMI to be categorised to be quantified. The SG	ta on the spatial extent, t ongoing observer and VM ata is of sufficient quality t ent through time. the Kerguelen Plateau (AA categorisation framework t and the level of protection i 100 is clearly met.	iming and location of the use of AS coverage (Commonwealth of to address the current extent and ant to the fishery is known within D 2005). In addition, Welsford et that allowed the seascape around n afforded by the marine reserve	
b	Guidepost	Information is adequate to broadly understand the nature of the main impacts of gear use on the main habitats, including spatial overlap of habitat with fishing gear.	Sufficient data are available to allow the nature of the impacts of the fishery on habitat types to be identified and there is reliable information on the spatial extent of interaction, and the timing and location of use of the fishing gear.	The physical impacts of the gear on the habitat types have been quantified fully.	
	Met?	Y	Y	Ν	
	Justification	Welsford <i>et al.</i> (2014) combined data on the fishing footprint with estimates specific vulnerability and together with the risk categorisation allowed the se around HIMI to be categorised and the level of protection afforded by the reserve to be quantified. However, these are not fully quantified for all habits and this scoring issue is met at the SG 80 level.			

PI 2.4.3		Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types				
C	Guidepost		Sufficient data continue to be collected to detect any increase in risk to habitat (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).	Changes in habitat distributions over time measured.	are	
	Met?		Y	Ν		
	Justification	Monitoring is ongoing th through AFMA's VMS, additional studies plann The SG 80 is met.	rough the routine recordin logbooks and observer r red to measure changes i	ng of the fishery's effort f eports. However, there n habitat distribution ov	ootprint are no er time.	
<b>References</b> Commonwealth of Australia, 2014; Welsford <i>et al.</i> 2		2014				
OVERALL PERFORMANCE INDICATOR SCORE:			85			
CONDI		BER (if relevant):				

### PI 2.5.1 – UoC 1 - Trawl

PI 2.5.1		The fishery does not cause serious or irreversible harm to the key elements of ecosystem structure and function			
Scoring Issue		SG 60	SG 80	SG 100	
а	Guidepost	The fishery is unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	The fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	There is evidence that the fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	
	Met?	Y	Y	Partial	

PI 2.5.1		The fishery does not cause serious or irreversible harm to the key elements of ec structure and function	osystem	
		The Heard Island Predator Prey Integrated Ecosystem Study (HIPPIES) was completed in 2010. Papers were published in a special issue from the Inter Science Symposium on the Kerguelen Plateau in Concarneau, France. Form publications were released in late 2011 providing a great overview of the c knowledge of the ecosystem, food webs and the latest development on eco approach to managing fisheries at HIMI (Casper <i>et al.</i> 2010; Staniland <i>et al.</i> Van Wijk <i>et al.</i> 2010).	national al urrent osystem 2010;	
		One of the largest Marine Protected Areas in the world exists in the HIMI region The Marine Reserve incorporates over 39% of all waters shallower than 1,000 metres in the HIMI EEZ. The marine reserve incorporates over 39% of all waters shallower than 1,000 meters in the HIMI EEZ where fishing is prohibited.		
		The HIMI toothfish Fishery is managed in accordance with the required CCAMLR for precautionary ecosystem-based management of fisheries. In a the fishery has been operating for 20 years, with no major ongoing documented on the system. Based on this management system and the o evidence, it is highly unlikely that the fishery will cause serious or irreversite to the ecosystem.	nents of addition, impacts perating ble harm	
		A broad scale ecosystem model for quantifying and assessing Southern habitats, species and foodweb is in development under the Antarctic Clim Ecosystem CRC with national and international collaborators. The geog focus of ACE CRC's work is on the Indian and West Pacific Sectors Southern Ocean. In January 2016 one science voyage focused on the Ke Axis with Heard Island at the northern end of the axis.	n Ocean nate and raphical s of the erguelen	
	Justification	The fishery clearly meets the 60 and 80 scoring guidepost but there completed directed investigations on ecosystem wide impacts that are requared a score of 100. However due to the published HIPPIES study and continuing an ecosystem model a score of 90 is warranted.	are no uired for work on	
ReferencesCasper et al. 2010; Staniland et al. 2010; Van Wijk et al. 2010, de la Ma 1998, Constable & Welsford 2011,		Casper <i>et al.</i> 2010; Staniland <i>et al.</i> 2010; Van Wijk <i>et al.</i> 2010, de la Mare <i>e</i> 1998, Constable & Welsford 2011,	t al.	
OVERA	OVERALL PERFORMANCE INDICATOR SCORE: 90			
CONDI	CONDITION NUMBER (if relevant):			

### PI 2.5.1 – UoC 2 - Longline

PI 2.5.1	The fishery does not cause serious or irreversible harm to the key elements of ecosystem structure and function			
Scoring Issue	SG 60	SG 80	SG 100	

PI 2.5.1		The fishery does not cause serious or irreversible harm to the key elements of ecosystem structure and function				
a	Guidepost	The fishery is unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	The fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	There is evidence that t fishery is highly unlikely disrupt the key element underlying ecosystem s and function to a point there would be a seriou irreversible harm.	he r to ts tructure where is or	
	Met?	Υ	Υ	Partial		
Wetr         Y         Partial           The Heard Island Predator Prey Integrated Ecosystem Study (HIPPIES) w completed in 2010. Papers were published in a special issue from the Ir Science Symposium on the Kerguelen Plateau in Concarneau, France. For publications were released in late 2011 providing a great overview of th knowledge of the ecosystem, food webs and the latest development or approach to managing fisheries at HIMI (Casper <i>et al.</i> 2010; Staniland <i>e</i> Van Wijk <i>et al.</i> 2010).           One of the largest Marine Protected Areas in the world exists in the HIM The Marine Reserve incorporates over 39% of all waters shallower than metres in the HIMI EEZ. The Marine Reserve incorporates over 39% of shallower than 1,000 meters in the HIMI EEZ where fishing is prohibited The HIMI toothfish Fishery is managed in accordance with the requ CCAMLR for precautionary ecosystem-based management of fisheries. the fishery has been operating for 20 years, with no major ongo documented on the system. Based on this management system and th evidence, it is highly unlikely that the fishery will cause serious or irreve to the ecosystem.		em Study (HIPPIES) was ecial issue from the Inter- oncarneau, France. Form a great overview of the c atest development on eco- <i>al.</i> 2010; Staniland <i>et al.</i> vorld exists in the HIMI re- vaters shallower than 1,0 porates over 39% of all v re fishing is prohibited. dance with the requirent agement of fisheries. In a with no major ongoing gement system and the o cause serious or irreversite and assessing Southern under the Antarctic Clin	national al urrent osystem 2010; egion. 000 vaters nents of addition, impacts perating ole harm			
		Ecosystem CRC with national and international collaborators. The geographical focus of ACE CRC's work is on the Indian and West Pacific Sectors of the Southern Ocean. In January 2016 one science voyage focused on the Kerguelen Axis with Heard Island at the northern end of the axis.			raphical s of the erguelen	
	Justification	The fishery clearly meet completed directed inve a score of 100. However an ecosystem model a so	s the 60 and 80 scoring g stigations on ecosystem w due to the published HIPP core of 90 was warranted.	uidepost. However, ther vide impacts that are requies the study and continuing	e are no uired for work on	
Refe	rences	Casper <i>et al.</i> 2010; Stani 1998, Constable & Welst	land <i>et al.</i> 2010; Van Wijk ford 2011,	<i>et al.</i> 2010, de la Mare <i>e</i>	t al.	
OVE	ALL PERFOR	MANCE INDICATOR SCORE:			90	

PI 2.5.1	The fishery does not cause serious or irreversible harm to the key elements of ecosystem structure and function	
CONDITION NUMBER (if relevant):		

### PI 2.5.2 – UoC 1 Trawl

PI 2.5.2		There are measures in place to ensure the fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function				
Scoring	g Issue	SG 60	SG 80	SG 100		
а	Guidepost	There are measures in place, if necessary.	There is a partial strategy in place, if necessary.	There is a strategy that consists of a plan, in place.		
	Met?	Y	Y	Ν		
	Justification	The fishery operates un three CCAMLR principle harvested, dependent a of ecosystem changes th strategy is designed precautionary approach The HIMI region has one Marine Reserve incorpo in the HIMI EEZ. The Re where fishing is prohibit However, there is no s ecosystem impacts and,	der precautionary ecosyst es aims to maintain ecolo nd related species. Anothe nat are not potentially reve to meet stock manager e of the largest Marine Pro rates over 39% of all wate serve's area increased to 7 red (Welsford et al. 2014). pecific plan containing all as such, the SG 100 is not	em-based principles. One of the ogical relationships between the er principle is to minimize the risk ersible in 20-30 years. The harvest ment objectives and uses the stected Areas in the world. The rs shallower than 1,000 meters 71,000 square kilometres in 2014 elements of the strategy for all met.		

PI 2.5.2		There are measures in place to ensure the fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function			
b	Guidepost	The measures take into account potential impacts of the fishery on key elements of the ecosystem.	The partial strategy takes into account available information and is expected to restrain impacts of the fishery on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance.	The strategy, which consists of a plan, contains measures to address all main impacts of the fishery on the ecosystem, and at least some of these measures are in place. The plan and measures are based on well-understood functional relationships between the fishery and the Components and elements of the ecosystem. This plan provides for development of a full strategy that restrains impacts on the ecosystem to ensure the fishery does not cause serious or irreversible harm.	
	Met?	Υ	Y	Ν	
	Justification	The ecosystem-based pr detailed analysis of fishe information. These are e important in the ecosyst extension is expected to SG 80 is met. There is no specific plan place and, as such, the S	inciples are based on spec eries independent data tak expected to restrain impac eem. The extensive Marine protect all important vulr containing measures for a G 100 is not met.	ific studies of the fishery, using ing into account available ts on prey species that are Reserve system with its recent herable habitats and infauna. The Ill main ecosystem impacts in	
C	Guidepost Stat	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/ecosystems).	The partial strategy is considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/ecosystems).	The measures are considered likely to work based on prior experience, plausible argument or information directly from the fishery/ecosystems involved.	
PI 2.5.2		There are measures in place to ensure the fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function			
----------	---------------	--	---	---	---------------------------------
	Justification	Solid evidence has been provided to demonstrate that the strategy is being successfully implemented and is likely to achieve its objective. This is based on the fact that the fishery has not exceeded its catch limits as verified by 100% observer coverage at sea and unloading observer records, plus compliance with closed fishing areas within the Marine Reserve, also observer verified Therefore, the SG 100 is met.			
d	Guidepost		There is some evidence that the measures comprising the partial strategy are being implemented successfully.	There is evidence that t measures are being implemented successfu	he lly.
	Met?		Y	Y	
	Justification	Based on the fact that th observer coverage at se that the strategy is bein at the SG 100.	e fishery has not exceeded a and unloading observer g successfully implemente	d its catch limits, verified records, there is good e ed and meeting this scori	by 100% evidence ng issue
Refere	nces	Welsford et al. 2014			
OVERA	LL PERFOR	MANCE INDICATOR SCORE:			90
CONDI	TION NUM	BER (if relevant):			

# PI 2.5.2 – UoC2 Longline

PI 2.5.2		There are measures in place to ensure the fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function		
Scoring Issue		SG 60	SG 80	SG 100
a	Guidepost	There are measures in place, if necessary.	There is a partial strategy in place, if necessary.	There is a strategy that consists of a plan, in place.
	Met?	Y	Y	Ν

PI 2.5.2		There are measures in place to ensure the fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function		
	Justification	The fishery operates un three CCAMLR principle harvested, dependent a of ecosystem changes th strategy is designed t precautionary approach The HIMI region has one Marine Reserve incorpo in the HIMI EEZ. The Ma in 2014 where fishing is However, there is no sp ecosystem impacts and,	der precautionary ecosyst es aims to maintain ecolo nd related species. Anothe nat are not potentially reve to meet stock manager e of the largest Marine Pro rates over 39% of all wate arine Reserve's area increa prohibited (Welsford et al pecific plan containing all as such, the SG 100 is not	em-based principles. One of the ogical relationships between the er principle is to minimize the risk insible in 20-30 years. The harvest ment objectives and uses the tected Areas in the world. The rs shallower than 1,000 meters used to 71,000 square kilometers . 2014). elements of the strategy for all met.
b	Guidepost	The measures take into account potential impacts of the fishery on key elements of the ecosystem.	The partial strategy takes into account available information and is expected to restrain impacts of the fishery on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance.	The strategy, which consists of a plan, contains measures to address all main impacts of the fishery on the ecosystem, and at least some of these measures are in place. The plan and measures are based on well-understood functional relationships between the fishery and the Components and elements of the ecosystem. This plan provides for development of a full strategy that restrains impacts on the ecosystem to ensure the fishery does not cause serious or irreversible harm.
	Met?	Y	Y	Ν
	Justification	The ecosystem-based pr detailed analysis of fishe information. These are e important in the ecosyst extension is expected to SG 80 is met. There is no specific plan place and, as such, the S	rinciples are based on spec eries independent data tak expected to restrain impac em. The extensive Marine protect all important vulr containing measures for a G 100 is not met.	ific studies of the fishery, using ing into account available ts on prey species that are Reserve system with its recent herable habitats and infauna. The III main ecosystem impacts in

PI 2.5.2		There are measures in place to ensure the fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function			
c	Guidepost	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/ecosystems).	The partial strategy is considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/ecosystems).	The measures are consi likely to work based on experience, plausible ar or information directly the fishery/ecosystems involved.	dered prior gument from
	Met?	Y	Y	Y	
	Justification	Based on the fact that the 100% observer coverage verified by observers with evidence that the strate likely to work and achieve	ne fishery has not exceede e at sea and unloading obs th closed fishing areas with gy is being successfully im ve its objective. Therefore,	d its catch limits, verified erver records, complianc nin the reserve, there is g plemented and the strate the SG 100 is met.	l by e good egy is
d	Guidepost		There is some evidence that the measures comprising the partial strategy are being implemented successfully.	There is evidence that t measures are being implemented successfu	he Ily.
	Met?		Y	Y	
	Justification	Based on the fact that th observer coverage at se that the strategy is being SG 100.	e fishery has not exceeded a and unloading observer s successfully implemented	d its catch limits, verified records, there is good e meeting this scoring issu	by 100% evidence ue at the
References		Welsford et al. 2014			
OVERA	LL PERFOR	MANCE INDICATOR SCORE:			90
CONDI		BER (if relevant):			

### PI 2.5.3 – UoC1 - Trawl

PI 2.5.3		There is adequate knowledge of the impacts of the fishery on the ecosystem			
Scoring Issue		SG 60	SG 80	SG 100	
a	Guidepost	Information is adequate to identify the key elements of the ecosystem (e.g., trophic structure and function, community composition, productivity pattern and biodiversity).	Information is adequate to broadly understand the key elements of the ecosystem.		
	Met?	Y	Y		
	Justification	The information on the species taken, habitat in support the understand SG 60 is met In addition, the SG 80 is understand the key elen	The information on the impact of the fishery (i.e., biomass of icefish, bycatch pecies taken, habitat impact, trophic interactions) is of high quality and able to upport the understanding of the consequences of the take and interactions. The GG 60 is met In addition, the SG 80 is met because the information is adequate to broadly understand the key elements of the ecosystem.		
b	Guidepost	Main impacts of the fishery on these key ecosystem elements can be inferred from existing information, and have not been investigated in detail.	Main impacts of the fishery on these key ecosystem elements can be inferred from existing information and some have been investigated in detail.	Main interactions between the fishery and these ecosystem elements can be inferred from existing information, and have been investigated.	
	Met?	Y	Y	Y	
	Justification	The main impacts on key ecosystem elements can be inferred and impacts on habitat types and predator prey relationships have been investigated in detail (Welsford <i>et al.</i> 2014; Casper <i>et al.</i> 2010). Therefore, this scoring issue has been met at the SG 100 level.			
C	Guidepost Wet5		The main functions of the Components (i.e., target, Bycatch, Retained and ETP species and Habitats) in the ecosystem are known. Y	The impacts of the fishery on target, Bycatch, Retained and ETP species are identified and the main functions of these Components in the ecosystem are understood.	

PI 2.5.3		There is adequate knowledge of the impacts of the fishery on the ecosystem			
	Justification	The impacts of the fishery on Target, Bycatch, Retained and ETP species are identified and the functions of these species in the ecosystem understood, meeting this issue at SG 100 level.			2
d	Guidepost		Sufficient information is available on the impacts of the fishery on these Components to allow some of the main consequences for the ecosystem to be inferred.	Sufficient information is available on the impact fishery on the Compone elements to allow the n consequences for the ecosystem to be inferre	s s of the ents and nain ed.
	Met?		Y	Y	
	Justification	The information on the species taken, fishing fo support the understand meeting this issue at the	impact of the fishery (i.e. b otprint and habitat types) ing of the consequences o e SG 100 level.	piomass of toothfish and is of high quality and able f the take and interactior	bycatch e to ıs,
e	Sufficient data continue to be collected to detect any increase in risk level (e.g., due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the		Information is sufficient support the developme strategies to manage ecosystem impacts.	t to nt of	
	Met?		Y	Y	
	Justification	Monitoring is ongoing, o changes in risk if there is Strategies to manage ec by sufficient information	collecting sufficient data to s adequate knowledge to p osystem impacts have bee n, meeting this issue at the	allow managers to asses blace those impacts in co en developed that are sup e SG 100 level.	ss any ntext. oported
Refere	nces	Welsford <i>et al.</i> 2014; Ca	sper <i>et al.</i> 2010		
OVERA	LL PERFOR				100
CONDI		BER (if relevant):			

# PI 2.5.3 – UoC 2 -Longline

PI 2.5.3		There is adequate knowledge of the impacts of the fishery on the ecosystem			
Scoring Issue		SG 60	SG 80	SG 100	
a	Guidepost	Information is adequate to identify the key elements of the ecosystem (e.g., trophic structure and function, community composition, productivity pattern and biodiversity).	Information is adequate to broadly understand the key elements of the ecosystem.		
	Met?	Y	Y		
	Justification	Information on fishery impacts (i.e., biomass of icefish, bycatch species taken, habitat impact, trophic interactions) are of high quality and able to support the understanding of the consequences of the take and interactions. The SG 60 is met In addition, the SG 80 is met because the information is adequate to broadly understand the key elements of the ecosystem.			
b	Guidepost	Main impacts of the fishery on these key ecosystem elements can be inferred from existing information, and have not been investigated in detail.	Main impacts of the fishery on these key ecosystem elements can be inferred from existing information and some have been investigated in detail.	Main interactions between the fishery and these ecosystem elements can be inferred from existing information, and have been investigated.	
	Met?	Y	Y	Υ	
	Justification	The main impacts on key ecosystem elements can be inferred and impacts on habitat types and predator prey relationships have been investigated in detail (Welsford <i>et al.</i> 2014; Casper <i>et al.</i> 2010). Therefore, this scoring issue has been met at the SG 100 level.			
C	Guidepost		The main functions of the Components (i.e., target, Bycatch, Retained and ETP species and Habitats) in the ecosystem are known.	The impacts of the fishery on target, Bycatch, Retained and ETP species are identified and the main functions of these Components in the ecosystem are understood.	

PI 2.5.3		There is adequate knowledge of the impacts of the fishery on the ecosystem				
	Met?		Y	Y		
	Justification	The impacts of the fishe identified and the functi meeting this issue at SG	ry on Target, Bycatch, Reta ons of these species in the 100 level.	ained and ETP species are ecosystem understood,	5	
d	Guidepost		Sufficient information is available on the impacts of the fishery on these Components to allow some of the main consequences for the ecosystem to be inferred.	Sufficient information is available on the impact fishery on the Compone elements to allow the n consequences for the ecosystem to be inferre	s of the ents and nain ed.	
	Met?		Y	Y		
	Justification	The information on the impact of the fishery (i.e. biomass of toothfish and bycatch species taken, fishing footprint and habitat types) is of high quality and able to support the understanding of the consequences of the take and interactions, meeting this issue at the SG 100 level.				
e	Guidepost		Sufficient data continue to be collected to detect any increase in risk level (e.g., due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).	Information is sufficien support the developme strategies to manage ecosystem impacts.	t to nt of	
	Met?		Y	Y		
	Justification	Monitoring is ongoing, c changes in risk if there is Strategies to manage ec by sufficient informatior	collecting sufficient data to s adequate knowledge to p osystem impacts have bee n, meeting this issue at the	allow managers to asses blace those impacts in co en developed that are sup e SG 100 level.	ss any ntext. oported	
Refere	nces	Welsford <i>et al.</i> 2014; Ca	sper <i>et al.</i> 2010			
OVERA	LL PERFOR	MANCE INDICATOR SCORE:	· · · · · · · · · · · · · · · · · · ·		100	

PI 2.5.3	There is adequate knowledge of the impacts of the fishery on the ecosystem	
CONDITION NUMBER (if relevant):		

#### **Principle 3**

The intent of Principle 3 is to ensure that there is an institutional and operational framework, appropriate to the size and scale of the fishery, for implementing Principles 1 and 2, that is capable of delivering sustainable fisheries in accordance with the outcomes articulated by Principles 1 and 2. The Assessment Tree structure divides the performance indicators into two categories: the first, 1) Governance and Policy, captures the broad, high-level context of the fishery management system within which the fishery under assessment is found, it has four PIs and the second, 2) Fishery Specific Management System, has five PIs, and focuses on the management system directly applied to the fishery undergoing assessment.

#### PI 3.1.1

PI 3.1.1       The management system exists within an appropriate legal and/or customary is which ensures that it:         • Is capable of delivering sustainable fisheries in accordance with MSC Princi 2; and         • Observes the legal rights created explicitly or established by custom of peodependent on fishing for food or livelihood; and         • Incorporates an appropriate dispute resolution framework.			legal and/or customary framework cordance with MSC Principles 1 and blished by custom of people amework.	
Scoring	g Issue	SG 60	SG 80	SG 100
a	Guidepost	There is an effective national legal system and <u>a framework for</u> <u>cooperation</u> with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2	There is an effective national legal system and <u>organised and</u> <u>effective cooperation</u> with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2.	There is an effective national legal system and <u>binding</u> <u>procedures governing</u> <u>cooperation with other parties</u> which delivers management outcomes consistent with MSC Principles 1 and 2.
	Met?	Y	Y	Y

	As a fishery within Australia's EEZ and within the Convention Area of CCAMLR. the
	HIMITF is managed by AFMA in cooperation with the ADD and in accordance with
	CCAMLR's conservation measures. The management system therefore comprises
	both the Australian domestic management regime and that of CCAMLR. The
	French Toothfish Fishery which abuts the HIMITF fish the same toothfish stock and
	is also in the CCAMLR Convention Area. As a result, management of the French
	Fishery is relevant to the assessment.
	The key pieces of legislation are the <i>Fisheries Administration Act 1991</i> and the <i>Fisheries Management Act 1991</i> (FMA). This legislation sets out AFMA's
	responsibilities in relation to the pursuit of ecological sustainable development which delivers management outcomes consistent with MSC principles 1 and 2.
	The main legislative instrument for management of the fishery is the <i>Heard Island</i> <i>and McDonald Islands Fishery Management Plan 2002</i> . The Plan is a statutory instrument established under the FMA. The explicit objectives of the Plan states that the exploitation of the resources of the fishery and related activities are to be conducted in a manner consistent with the principles of ecologically sustainable development.
	The French toothfish fishery is managed by the French state through the local
	Government office of the TAAF. The key legislative instrument for management of
	the French toothfish Fishery is the 2015 French Management Plan of the fishery in
	the French EEZ of the Kerguelen and Crozet Islands. Similarly, the first explicit
	objective of this Plan is to reconcile the long term conservation and sustainable
	exploitation of the fish resources in the French EEZ of the Kerguelen and Crozet
	Islands in line with the principles of ecological sustainable development for
	protection and conservation of the marine ecosystem.
	Australian national policies such as the Commonwealth Harvest Strategy Policy and the Commonwealth Policy on Fisheries Bycatch govern the actions of AFMA, which also ensure that the management outcomes are consistent with Principles 1 & 2.
	CCAMLR was established under the Convention for the Conservation of Antarctic
	Living Marine Resources. CCAMLR has been a leader in developing and
	implementing the Ecosystem Approach to Fisheries and the Precautionary
	Approach. Two central concepts have evolved to guide CCAMLR in carrying out its
	management responsibilities, namely:
	a. Management strives to follow a 'precautionary' approach. This means that
	CCAMLR collects the data it can, then weighs up the extent and effect of the
	uncertainties and gaps in such data before making a management decision. The
u u	approach aims to minimise the risk of long term adverse effects rather than
cati	delaying decisions until all necessary data are available.
ustifi	b. Management also follows an 'ecosystem' approach. Ideally, this takes into
ſ	account all the delicate and complex relationships between organisms (of all sizes)



PI 3.1	.1	<ul> <li>The management system exists within an appropriate legal and/or customary framework which ensures that it:</li> <li>Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2; and</li> <li>Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and</li> <li>Incorporates an appropriate dispute resolution framework.</li> </ul>			
b	Guidepost	The management system incorporates or is subject by law to a mechanism for the resolution of legal disputes arising within the system.	The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes which is considered to be effective in dealing with most issues and that is appropriate to the context of the fishery.	The management system incorporates or subject by law to a transparent mechanism for the resolution of legal disputes that is appropriate to the context of the fishery and has been tested and proven to be effective.	
	Met?	Y	Y	Y	

	The Australian management system has well established mechanisms for administrative and judicial appeals of decisions taken in respect of the fishery. A person affected by a relevant decision made by AFMA who is dissatisfied with the decision may seek a reconsideration of that decision by AFMA. A relevant decision is defined in section 165(1) of the FMA. AFMA must within 45 days of receiving the request, reconsider the relevant decision and may make a decision in substitution of the relevant decision, whether on the same terms or not, or revoke the relevant decision. AFMA's decision on reconsideration is known as a reviewable decision. Where AFMA makes a reviewable decision, a person whose interests are affected by the decision may make an application to the Administrative Appeals Tribunal for a review of the decision.
	Depending on the nature of the decision, the applicant may also have the right to make an application to the Federal Court for judicial review of the decision under the <i>Administrative Decisions (Judicial Review) Act 1977</i> and/or the <i>Judiciary Act 1903</i> . These mechanisms have been used and tested extensively by AFMA, but their use has not been required in the HIMITF.
	AFMA advises fishers in writing of their appeal rights and the processes involved as a matter of course when, for example, alterations are made to their fishing concession conditions. In addition to these processes, the consultation and advisory processes established by AFMA provide mechanisms for the discussion and resolution of different perspectives on fisheries management issues by stakeholders.
	Similarly, disputes relating to management of the French fishery can be taken up through the French legal system, which prevails and has a specific administrative legal system to resolve disputes that individuals or companies may have with government decisions (see harmonisation Table 9 for more information).
	Disputes within CCAMLR are dealt with through the consensus rule set up in Article XII of the Convention for matters of substance. The performance review of CCAMLR noted that consensus decision-making has worked for CCAMLR over a long period of time (CCAMLR 2008b). CCAMLR's dispute resolution procedures are established by Article XXV of the Convention. To date the dispute settlement mechanisms have not been utilized. The Performance Review recommended some improvements to these procedures, but CCAMLR has agreed to defer acting upon this recommendation.
Justification	The management system of the HIMITF is subject by law to mechanisms for the resolution of legal disputes. There is a mechanism in place for the resolution of disputes within the management system (SG 60). The mechanism in respect of the Australian component of the system is transparent (SG 80) and has been tested and proven to be effective (SG 100). While CCAMLR's dispute resolution

PI 3.1.1		<ul> <li>The management system which ensures that it:</li> <li>Is capable of deliverin 2; and</li> <li>Observes the legal rig dependent on fishing</li> <li>Incorporates an approximation</li> </ul>	exists within an appropriate og sustainable fisheries in acc hts created explicitly or esta for food or livelihood; and opriate dispute resolution fra	legal and/or customary framework cordance with MSC Principles 1 and blished by custom of people amework.	
		mechanism remains untested and some parts of the mechanism have been identified as requiring improvement, this does not impact directly on the delivery of Principle 1 and Principle 2 outcomes in the unit of assessment. It is therefore considered that the HIMITF meets the requirements of SG 100.			
d	Guidepost	The management system has a mechanism to generally respect the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	The management system has a mechanism to observe the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	The management system has a mechanism to formally commit to the legal rights created explicitly or established by custom of people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	
	Met?	Y	Y	Υ	

PI 3.1.1		<ul> <li>The management system exists within an appropriate legal and/or customary framework which ensures that it:</li> <li>Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2; and</li> <li>Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and</li> <li>Incorporates an appropriate dispute resolution framework.</li> </ul>			
		Operators in the HIMITF are granted access to the fishery through the alloc SFRs. SFRs are granted under the FMA (Sections 21 and 31) where statutor management plans determined under Section 17 of the Act (such as the HI Management Plan), exist for a Commonwealth managed fishery. Statutory rights can be permanently transferred to another person or company, or le When SFRs are granted or purchased a Certificate of Owned Statutory Fish Rights is issued. This specifies the type and number of SFRs owned. SFRs do expire, they remain in force for the life of the Management Plan or until th cancelled, surrendered or otherwise cease to have effect under the Act. AF maintains a register of owned SFRs on its website.	cation of y MI fishing eased. ing o not ey are MA		
		In 1992, the High Court of Australia recognised native title, i.e. that indigenous Australians may continue to hold native title and to be uniquely connected to the land. The Commonwealth <i>Native Title Act 1993</i> provides the means by which the Australian legal system recognises the traditional rights and interests of Aboriginal and Torres Strait Islander people. This ensures access to fish and shellfish resources for people who depend on fishing for their food.			
		There are no native title claims to the area of waters in which the fishery operates. There is no known occupation of Heard Island and McDonald Islands by Australia's indigenous population. Given the remoteness of the island from the mainland there is little likelihood that customary fishing was conducted in the waters around the island and even less likely that it was conducted in the area of waters of the HIMITF (i.e. outside 13 nm around the island).			
	Justification	The management system respects (SG 60), observes (SG 80) and formally c (SG 100) to the legal rights created explicitly or established by custom of period dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	ommits eople he		
Refere	ences	[List any references here]			
OVER	ALL PERFC	DRMANCE INDICATOR SCORE:	100		
COND	CONDITION NUMBER (if relevant):				

PI 3.1.2		The management system has effective consultation processes that are open to interested and affected parties. The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties			
Scorin	g Issue	SG 60	SG 80	SG 100	
а	Guidepost	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are generally understood.	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for key areas of responsibility and interaction.	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for all areas of responsibility and interaction.	
	Met?	Y	Y	Υ	
The organizations and bodies involve include the AFMA Commission, AFM/ CCAMLR (including the Consultative I The responsibilities for administratio prescribed in Administrative Arrange General. AAD leads Australia's partici CCAMLR matters determined throug Committee (which includes AAD, AFM Department of Foreign Affairs and Tr and the CCAMLR Consultative Forum measures agreed by CCAMLR and it a CMs in the Fisheries Management (H Regulations 2002 or as conditions on HIMITF. The functions of AFMA are set out in 1991. The functions and roles of the Management Act 1991 and in AFMA The functions of the CCAMLR SC are CCAMLR has established clear terms		odies involved in the Austr nission, AFMA Managemen Consultative Forum and as administration of legislatio ative Arrangements Orders tralia's participation in CCA nined through consultation des AAD, AFMA, the Depar Affairs and Trade and the A tative Forum. AFMA is res AMLR and it achieves this t nagement (Heard Island an conditions on the SFRs allo are set out in section 7 of t d roles of the MAC and RAG and in AFMA policy docum AMLR SC are established by d clear terms of reference	ralian management system nt, SouthMAC, SARAG, AAD and sociated committees). In by AFMA and the AAD, are is made by Australia's Governor AMLR with Australia's position on in within the Interdepartmental rtment of Agriculture, the Attorney General's Department) ponsible for implementation of through the inclusion of CCAMLR ind McDonald Islands Fishery) cated to participants in the the <i>Fisheries Administration Act</i> G are defined in the <i>Fisheries</i> tents (AFMA2015, AFMA 2014e). y the CCAMLR Convention and for the WGFSA and the		

PI 3.1.2		The management system has effective consultation processes that are open to interested and affected parties.			
		The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties			
		WGEMM. The WGIMAF the SC.	meets as required to deal	with specific issues identified by	
	Justification	The key agencies involved in management of the French system are the Terres Australes et Antarctiques Francaises (TAAF), attached to the Ministry of Overseas Territories, and the Museum National d'Histoire Naturelle. The roles and responsibilities of these groups in the management of the French toothfish fisher on Kerguelen are explicitly defined in the management plan and well understood (see also Table 9). A TAAF consultative committee, the Comité de Pilotage, (Committee on Good Fishing Practice) comprises representatives from each of the fishing companies licensed to fish in the fishery and TAAF fisheries inspectors. Thi committee provides a mechanism for discussion of measures designed to ensure sustainable ecosystem and fishery. While there are, however, no formal mechanisms for engagement of NGOs in management of the fishery, NGOs have been actively engaged with the scientists and industry in relation to development of seabird bycatch mitigation measures. In addition, the interaction of the French fishery with the CCAMLR system provides opportunities for engagement by other interested parties. The organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are generally understood (SG 60) and have been explicitly defined (SG 80) for all areas of responsibility and			
b	Guidepost Wet?	The management system includes consultation processes that obtain relevant information from the main affected parties, including local knowledge, to inform the management system.	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained. Y	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information and explains how it is used or not used.	

	The Australian and CCAMLR management systems include extensive and comprehensive consultation processes.
	The Australia management system includes statutory requirements for public consultation in relation to matters such as development and amendment of management plans for Commonwealth fisheries. These requirements were met in the development and subsequent amendments of the HIMI Management Plan. AFMA also invites public comment on policy documents undergoing development or re-development. Other public comment opportunities include AFMA position papers regarding significant management issues such as recommended TAC settings, which are placed on the website and open to all interested parties for comment.
	A key characteristic of the AFMA management system is the partnership approach. This approach is operationalised mainly through the operations of MACs and RAGs that report to AFMA management and the AFMA Commission. These bodies obtain relevant information from scientists, economists, managers, industry and conservation groups that is used to develop advice to the Commission. They meet regularly and records of their meetings, including consideration of information obtained, are made publicly available on the AFMA web site. The Chairs summary from AFMA Commission meetings is also publicly available on the website.
	Decisions of the AFMA Commission are published regularly through the AFMA Update which is distributed to interested stakeholders and available on the AFMA website. Some information is provided on the issues considered in reaching these decisions.
	In the case of the HIMITF, consultative opportunities through SouthMAC and SARAG, are complemented by the CCAMLR consultative forum, the CCAMLR interdepartmental committee, the Fisheries Review Group and the annual stakeholder workshop. Each of these groups provides opportunities for the contribution of local knowledge, particularly by industry and conservation groups.
	CCAMLR and its subsidiary bodies meet annually and reports of these meetings and decisions arising, specifically through CCAMLR CMs, are published on the CCAMLR web site. These reports include consideration of the information obtained and describe how that information is used in decision making. Some information on the web site is available only to CCAMLR members. CCAMLR has transparent and consultative processes and is receptive to participation of observers at meetings of the Commission and the Scientific Committee and allows observers to provide documents to the Commission.
Justification	In the French management system, the final decision on the level of the TAC, as well as other regulations, is the responsibility of the head of the TAAF, taking into account the scientific advice of the MNHN, as well as the views of the ministries of fisheries, overseas countries and territories and of foreign affairs. TAAF decisions are also informed by a Consultative Council that includes scientists and other

PI 3.1.2		The management system interested and affected The roles and responsib in the management pro	m has effective consultati parties. ilities of organisations an cess are clear and unders	on processes that are open to d individuals who are involved tood by all relevant parties
		<ul> <li>persons nominated by the various ministries that meets twice a year. There is also extensive scientific cooperation between Australia, France and New Zealand for the development of stock assessment models.</li> <li>The management system obtains relevant information from the main affected parties (SG 60). The opportunities available for consultation demonstrate that the management system regularly seek and accept relevant information, including local knowledge, and reports available demonstrate consideration of the information obtained (SG 80). From these reports, it is also possible to determine how or if the information available has been used (SG 100). As such, SG 100 is met.</li> </ul>		
C	Guidepost		The consultation process provides opportunity for all interested and affected parties to be involved.	The consultation process provides opportunity and encouragement for all interested and affected parties to be involved, and facilitates their effective engagement.
	Met?		Y	Y

PI 3.1.2		The management system has effective consultation processes that are open to interested and affected parties.		
		The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties		
		AFMA engages with stakeholder groups through a variety of avenues, including management advisory committees, website information, workshops, liaison officers, port visits, newsletters, <i>AFMA Update</i> and direct mail across all major Commonwealth fisheries. These mechanisms provide an important advisory function and maintain an open dialogue between AFMA and those with an interest in the management of the fisheries.		
The CCAMLR Consultative Forum, including non-government conservation agencies me the annual CCAMLR meeting are discussed to development of advice to AFMA. South from the fishing industry, the conservation and AAD and representatives from industr		The CCAMLR Consultative Forum, including government agencies, industry non-government conservation agencies meets three times each year. Outc the annual CCAMLR meeting are discussed with stakeholders and SouthMA to development of advice to AFMA. South MAC is comprised of representa from the fishing industry, the conservation community, the research sector and AAD and representatives from industry, AAD, CSIRO, and AFMA are on	cluding government agencies, industry and cies meets three times each year. Outcomes of cussed with stakeholders and SouthMAC prior South MAC is comprised of representatives vation community, the research sector, AFMA ndustry, AAD, CSIRO, and AFMA are on SARAG.	
	In addition to the formal consultative mechanisms provided by the N ad hoc meetings between industry and AAD and AFMA are conducted and an annual workshop is held for scientists, managers, policy make observers and industry participants, including skippers, to provide a informal exchange of information. Bi-monthly fisheries review meet held to monitor and operationalise the fisheries research plan. The 2 workshop between Australia and France and the planned Australian Kerguelen Plateau Symposium in November 2017 provide opportuni interested people to be involved.	In addition to the formal consultative mechanisms provided by the MAC ar ad hoc meetings between industry and AAD and AFMA are conducted as re- and an annual workshop is held for scientists, managers, policy makers, sci observers and industry participants, including skippers, to provide a forum informal exchange of information. Bi-monthly fisheries review meetings are held to monitor and operationalise the fisheries research plan. The 2010 re- workshop between Australia and France and the planned Australian/France Kerguelen Plateau Symposium in November 2017 provide opportunities for interested people to be involved.	id RAG equired entific for e also esearch e r	
There are extensive consultation pro- and the Australian domestic manage opportunities for all interested and a processes available encourage and f (SG 100 is met)		There are extensive consultation processes in place through the CCAMLR so and the Australian domestic management regime. These processes provide opportunities for all interested and affected parties to be involved (SG 80). processes available encourage and facilitate effective engagement by these (SG 100 is met)	ystem e The e parties	
References AFMA 2014e; AFMA 2015				
OVERA	LL PERFOR	MANCE INDICATOR SCORE:	100	
CONDI	CONDITION NUMBER (if relevant):			

PI 3.1.3		The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Principles and Criteria, and incorporates the precautionary approach			
Scoring Issue		SG 60	SG 80	SG 100	
a	Guidepost	Long-term objectives to guide decision- making, consistent with the MSC Principles and Criteria and the precautionary approach, are implicit within management policy	Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach are explicit within management policy.	Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are explicit within and required by management policy.	
	Met?	Y	Y	Y	

	Part 3 of the Fisheries Management Act 1991 states:
	(1) The following objectives must be pursued by the Minister in the administration of this Act and by AFMA in the performance of its functions:
	<ul> <li>(a) implementing efficient and cost-effective fisheries management on behalf of the Commonwealth; and</li> </ul>
	(b) ensuring that the exploitation of fisheries resources and the carrying on of any related activities are conducted in a manner consistent with the principles of ecologically sustainable development (which include the exercise of the precautionary principle), in particular the need to have regard to the impact of fishing activities on non-target species and the long term sustainability of the marine environment; and
	(c) maximising the net economic returns to the Australian community from the management of Australian fisheries; and
	(d) ensuring accountability to the fishing industry and to the Australian community in AFMA's management of fisheries resources; and
	(e) achieving government targets in relation to the recovery of the costs of AFMA.
	(2) In addition to the objectives mentioned in subsection (1), or in section 78 of this Act, the Minister, AFMA and Joint Authorities are to have regard to the objectives of:
	(a) ensuring, through proper conservation and management measures, that the living resources of the AFZ are not endangered by over-exploitation; and
	(b) achieving the optimum utilisation of the living resources of the AFZ; and
	(c) ensuring that conservation and management measures in the AFZ and the high seas implement Australia's obligations under international agreements that deal with fish stocks; and
	(d) to the extent that Australia has obligations: (i) under international law; or (ii) under the Compliance Agreement or any other international agreement; in relation to fishing activities by Australian-flagged boats on the high seas that are additional to the obligations referred to in paragraph (c)—ensuring that Australia implements those first-mentioned obligations; but must ensure, as far as practicable, that measures adopted in pursuit of those objectives must not be inconsistent with the preservation, conservation and protection of all species of whales.
	Article II of the Convention for the Conservation of Antarctic Marine Living Resources specifies the long-term objectives of the Convention as follows:
	1. The objective of this Convention is the conservation of Antarctic marine living resources. 2. For the purposes of this Convention, the term 'conservation' includes rational use.
ication	3. Any harvesting and associated activities in the area to which this Convention applies shall be conducted in accordance with the provisions of this Convention and with the following principles of conservation:
Justifi	a. prevention of decrease in the size of any harvested population to levels below those which ensure its stable recruitment. For this purpose its size should not be

PI 3.1.3	The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Principles and Criteria, and incorporates the precautionary approach				
	allowed to fall below a level close to that which ensures the greatest net ar increment;	nual			
	b. maintenance of the ecological relationships between harvested, dependent related populations of Antarctic marine living resources and the restoration depleted populations to the levels defined in sub-paragraph (a) above; and	ent and 1 of			
	c. prevention of changes or minimisation of the risk of changes in the marin ecosystem which are not potentially reversible over two or three decades, into account the state of available knowledge of the direct and indirect imp harvesting, the effect of the introduction of alien species, the effects of ass activities on the marine ecosystem and of the effects of environmental cha with the aim of making possible the sustained conservation of Antarctic ma living resources.	ne taking pact of ociated nges, prine			
	The French toothfish fishery is effectively a signatory to CCAMLR's long-term objectives listed above. In addition, the EU Marine Strategy Framework Directives has been transposed into the French Environmental Code that sets out two priorities: an integrated management of the sea and coastal areas, and the protection and conservation of the marine environment which is consistent MSC principles and criteria. The French decree 2009-1039 from the Ministr Agriculture and Fisheries also sets out the objectives for management of fis- in the TAAF zone.	m ective t with y of heries			
	These objectives encompass both ecosystem-based and precautionary management. The long-term objectives of all elements of the management for the fishery are consistent with MSC principles and Criteria and the precautionary approach (SG 60), are explicit (SG 80) within, and required by 100) management policy. As such, SG 100 is met.	: system y (SG			
	Fisheries Management Act 1991 available at: https://www.legislation.gov.au/Series/C2004A04237				
References	Convention for the Conservation of Antarctic Marine Living Resources available at <u>https://www.ccamlr.org/en/organisation/camlr-convention-text#II</u>				
	France, 2009. décret n° 2009-1039 of 26 August 2009 http://www.taaf.fr/IMG/pdf/decret_2009-1039.pdf; http://www.outre- mer.gouv.fr/?les-taaf.html and <u>http://www.outre-mer.gouv.fr/?les-relations-</u> internationales-et-la-cooperation-regionale.html				
OVERALL PERFOR	RMANCE INDICATOR SCORE:	100			
CONDITION NUMBER (if relevant):					

## PI 3.1.4

PI 3.1.4		The management system provides economic and social incentives for sustainable fishing and does not operate with subsidies that contribute to unsustainable fishing				
Scoring Issue		SG 60	SG 80	SG 100		
а	Guidepost	The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2.	The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and seeks to ensure that perverse incentives do not arise.	The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and explicitly considers incentives in a regular review of management policy or procedures to ensure they do not contribute to unsustainable fishing practices.		
	Met?	Y	Y	Partial		
AFMA allocates SFRs provide set and provide a pl operations. ITQs mechanism, a p (Department of The annual TAC fishing of the ta through condition Measures. The s cancellation of a unsustainable fi		AFMA allocates SFRs, in SFRs provide security of and provide a platform f operations. ITQs are the mechanism, a policy pos (Department of Agricult The annual TAC and allo fishing of the target stoo through conditions place Measures. The sanction cancellation of a fishing unsustainable fishing pr	the form of ITQs under the access to fishers, promote for the maximisation of ec Australian Government's sition that was reviewed at ure, Fisheries and Forestry cation of ITQs provide pos ck. Management of broade ed on SFRs that reflect the s in place for a breach of c concession, provides effec actices.	e HIMITF Management Plan. e stewardship of the resource onomic efficiency of fishing preferred fisheries management nd reiterated in 2003 / 2003). sitive incentives for sustainable er ecosystem impacts is applied cCAMLR Conservation onditions, such as suspension or ctive deterrence against		

PI 3.1.4		The management system provides economic and social incentives for sustainable fishing and does not operate with subsidies that contribute to unsustainable fishing			
		Management costs are recovered from operators as required by the Austra Government's Cost Recovery Policy (Department of Finance and Deregulat 2005). Costs are recovered in line with AFMA's Cost Recovery Impact State 2010 (CRIS) (AFMA 2010) which specifies the attribution of costs of manage research and surveillance between the fishing industry and government. Th specifies that industry contribute 100% of costs associated with management domestic commercial fisheries, including costs associated: with management advisory committees; data collection and management (data management logbooks, observers and compliance data); and licensing registration and re collection. Industry pays 80% of the costs associated with RAGs and the Government contributes the remainder.	alian ion, ment ement, ne CRIS ent of nt , evenue		
		Government contributes 100% of the costs associated with defining internative standards and developing regulation, policy support and domestic as foreign fisheries compliance and enforcement. Costs associated with resear shared between the industry and the government depending on the flow of benefits to the industry and the broader community. Some of the costs associated to provide perverse incentives to fishing operations although robust management system is considered to counter any adverse effects of subsidies and to ensure that unsustainable fishing practices are avoided.	ational nd rch are of ociated lies can h the f these		
		The HIMITF Management Plan requires that "AFMA and South MAC must, once every 5 years, assess the effectiveness of the Plan including the meas taken to achieve the objectives of this Management Plan by reference to th performance criteria mentioned in subsection (1)". This review is reported AFMA Commission.	at least ures าe to the		
		The management arrangements are reviewed for ecologically sustainability the EPBC Act and ABARES reports on the economic efficiency of the HIMITE annually (Patterson and Savage 2016).	/ under =		
	Justification	The management system is subject to regular internal and external review, ensures that it is not encouraging unsustainable fishing practices. However reviews do not explicitly consider incentives. As a result, the fishery is cons to meet the requirements of SG60 and SG80 but only the first part of SG10	which , these idered 0.		
Refere	References AFMA (2010), DAFF (2003), Department of Finance and Deregulation (2005), Patterson and Savage (2016)				
OVERA	OVERALL PERFORMANCE INDICATOR SCORE: 90				
CONDI	CONDITION NUMBER (if relevant):				

PI 3.2.1		The fishery has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2			
Scoring	g Issue	SG 60	SG 80	SG 100	
а	Guidepost	Objectives, which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are implicit within the fishery's management system	Short and long-term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery's management system.	Well defined and measurable short and long-term objectives, which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery's management system.	
	Met?	Y	Y	Partial	
		The fishery specific long Plan and are: (a) to manage the fisher and b) to ensure that the exp on of any related activiti principles of ecologically precautionary principle, fishing activities on non- marine environment; an (c) to maximise econom fishery; and (d) to ensure AFMA's ac community in managem (e) to reach Governmen to the fishery; and (f) to ensure, through pr resources of the AFZ are (g) to achieve the best u (h) to ensure that conse implement Australia's o fish stocks, and other re	term objectives are specified y efficiently and cost-effect ploitation of the resources ies are conducted in a mare v sustainable development and in particular, the need target species and the lon id ic efficiency in the exploitation countability to the fishing tent of the resources of the targets for the recovery of roper conservation and mare e not endangered by over- se of the living resources of rvation and management bligations under internation levant international agree	fied in the HIMITF Management ctively for the Commonwealth; of the fishery and the carrying oner consistent with the and the exercise of the d to have regard to the impact of ag-term sustainability of the ation of the resources of the industry and to the Australian e fishery; and of the costs of AFMA in relation anagement, that the living exploitation; and of the AFZ; and measures in the fishery onal agreements that deal with ments.	

PI 3.2.1		The fishery has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2				
		On the basis that there is known to be a low level of mixing between the ta stock and the population exploited by the French fishery, specific objective the French fishery are also relevant. Following publication of the French to Fishery Management Plan, the short and long term objectives are now exp are synonymous with those in the HIMI management plan including the pri of ecological sustainable development.	irget is for othfish licit and inciples			
		The short term objectives for the fishery are not specified as explicitly as the term objectives but are well defined and measureable. The objectives for the target stock are reflected in the application of the CCMALR control rules were requires that stocks are maintained at a proportion of their pre-exploitation abundance such that:	ie long he hich n			
		<ul> <li>escapement of the spawning stock is sufficient to avoid the likelihor declining recruitment; and</li> </ul>	od of			
		<ul> <li>abundance under exploitation must maintain a sufficient resource needs of dependent species (usually predators).</li> </ul>	for the			
		These objectives are reflected in the decision rules for the fishery (see discunder performance indicators 1.2.1 and 1.2.2) and are well defined and measureable.	ussion			
		For non-target species (e.g. Unicorn icefish, grey rockcod) and species grous skates and rays) there are TACs in place. This short-term management objet explicitly prescribed in the <i>Heard Island and McDonald Islands Fishery Total Allowable Catch Determination 2016</i> and is measureable.	ps (e.g. ective is			
		AFMA's 5 year Antarctic Fisheries Strategic Research Plan contains explicit and measureable objectives which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2.				
	Justification	The short and long-term objectives for the fishery are consistent with achie the outcomes expressed by MSC Principles 1 and 2 (SG 60 and 80). These objectives are explicit in the management system (SG 80). The long-term objectives are well-defined and measurable, however, this is not the case f the short-term objectives, so SG 100 is only partially met. The short-term objectives as they relate to the CCMALR control rules should be clearly ider and objectives for the management of habitats, would improve the score a this indicator.	or all ntifiable gainst			
Refere	nces	AFMA (2011)				
OVERA	LL PERFOR	MANCE INDICATOR SCORE:	90			
CONDI		BER (if relevant):				

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery under assessment.			
Scoring	g Issue	SG 60	SG 80	SG 100	
а	Guidepost	There are some decision-making processes in place that result in measures and strategies to achieve the fishery-specific objectives.	There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.		
	Met?	Y	Y		
	ation	<ul> <li>AFMA is required to pursue the objectives in the <i>Fisheries Management A</i> which are also reflected in the HIMITF Management Plan. These include e that fishing is consistent with ecologically sustainable development, maxin the net economic returns to the Australian community and optimal utilisa the living resources of the Australian Fishing Zone. AFMA must, by law, mascience-based decisions.</li> <li>AFMA consults with and seeks advice from South MAC and SARAG whose membership includes a range of stakeholders such as scientists, commerce fishers and conservation representatives. South MAC and SARAG's advice formed taking into account the decisions of CCAMLR on issues such as TAG and other relevant Conservation Measures. While AFMA takes their views account it is ultimately the independent AFMA Commission that makes deto best pursue AFMA's objectives.</li> </ul>		Tisheries Management Act 1991 nt Plan. These include ensuring ble development, maximising unity and optimal utilisation of AFMA must, by law, make MAC and SARAG whose as scientists, commercial IAC and SARAG's advice is LR on issues such as TAC setting AFMA takes their views into mmission that makes decisions	
	ustific	established (SG 80 is me	it).	boj. mese processes are wen	
b	Guidepost	Decision-making processes respond to serious issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take some account of the wider implications of decisions.	Decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.	Decision-making processes respond to all issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.	

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery under assessment.			
	Met?	Y	Y	Y	
	Justification	The AFMA Commission's decisions are made on a timely basis and the Chair's summary is provided on the AFMA website. Agendas and minutes from the Ra and MAC meetings are also placed on AFMA's website in a timely manner to ensure the issues identified are transparent. The capacity of the HIMITF management system to respond to issues arising from research, monitoring, evaluation and consultation in a transparent manner has been demonstrated the setting of TACs in response to the findings of the stock assessment and consistent with the harvest controls rules. Outcomes of monitoring of interact with ETP species are reported quarterly on the AFMA web site. The stock assessment and basis for setting the annual TAC are available from both the CCAMLR and the AFMA websites. The audit team noted some delays in uploat some information onto AFMA's website (e.g. the current strategic research pl however, did not identify any issues arising from research, monitoring, evaluation where the management system had failed to respond. As a result, the audit team concluded that the requirements of SG 60, SG 80 and S			
c	Guidepost		Decision-making processes use the precautionary approach and are based on best available information.		
	Met?				

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery under assessment.			
	stification	The precautionary appro- management objectives definition of the precaut irreversible environmen- used as a reason for pos- In the application of the should be guided by (i) of or irreversible damage to weighted consequences decisions must be consis- application of the precau- well established in all co- require the application of processes, as described used. Fisheries Administration observed in relation to to making framework. One and use the best availab seeks, through its scient quality information and processes will be a trans- states that the role of the the latest scientific develop- Decision-making process	bach is a central component as prescribed in the FMA. tionary principle: Where the tal damage, lack of full scient toponing measures to prevent precautionary principle, precautionary principle, precautionary principle, precautionary principle, precautionary principle. AFMA's of various options. As not stent with the objectives in utionary principle. AFMA's opponents of the manager of the precautionary principle previously, ensures that the a Paper 12 outlines the key the respective committees of the principles is that "a all scientific information." if processes and commit advice" and that the "scient sparent and open process." the research member of the elopments of relevance to ses use the precautionary	nt of AFMA's and the HIMITF's The FMA uses the following here are threats of serious or entific certainty should not be ent environmental degradation. bublic and private decisions , wherever practicable, serious ) an assessment of the risk- red above, AFMA's management in the FMA including the decision-making processes are ment system. Those processes ple and the nature of the ne best available information is a principles that are to be /groups within AFMAs decision- advice will be evidence based Another principle is that "AFMA tees/groups, to obtain the best ntific advisory and reporting "Fisheries Management paper 1 e MAC is to provide advice using the fishery. approach and are based on best	
d	Guidepost	Some information on fishery performance and management action is generally available on request to stakeholders.	Information on fishery performance and management action is available on request, and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.	Formal reporting to all interested stakeholders provides comprehensive information on fishery performance and management actions and describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.	
	Met?	Y	Y	Y	

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery under assessment.			
	lustification	Formal reporting to all in management actions is p AFMA A Minutes Outcom Reports Stock as Annual s S-yearly Energy f Sustaina In addition, reporting on stakeholder workshops a Taken together these mu fishery's performance an management system rese emerging from research SG 60, SG 80 and SG 100	nterested stakeholders on provided through mechani annual Report s of South MAC and SARAG es of AFMA Commission m of CCAMLR and its subsidi sessments and ecological status reports conducted b submissions to the Depar for consideration against the able Management of Fishe a performance and manage and fishery review meeting echanisms provide compre- nd management actions ar sponded to findings and re , monitoring, evaluation an 0 are met.	the HIMITF's performance and isms including publicly available: b; neetings lary bodies risk management reports by ABARES tment of the Environment and he Guidelines for Ecologically ries. (AFMA 2010) ement is conducted through gs. ehensive information on the nd describe how the levant recommendations nd review. The requirements of	
e	Guidepost	Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability for the fishery.	The management system or fishery is attempting to comply in a timely fashion with judicial decisions arising from any legal challenges.	The management system or fishery acts proactively to avoid legal disputes or rapidly implements judicial decisions arising from legal challenges.	
	Met?	Y	Y	Y	

PI 3.2.2		The fishery-specific management system includes effective decision-making proc that result in measures and strategies to achieve the objectives, and has an appro approach to actual disputes in the fishery under assessment.	esses opriate
		The management system for the HIMITF is not subject to continuing court challenges and there are no legal disputes or judicial decisions arising from challenges that apply to the fishery.	legal
The consultative and participatory characteristics of the management to avoid legal disputes by engendering a strong understanding of ma and a strong sense of stewardship by operators. The transparent an nature of management decision making minimizes the likelihood of		The consultative and participatory characteristics of the management syste to avoid legal disputes by engendering a strong understanding of managem and a strong sense of stewardship by operators. The transparent and inclus nature of management decision making minimizes the likelihood of legal di	em act nent sive sputes.
	uo	As outlined in assessment of PI 3.1.1 the overarching management system includes comprehensive and proven dispute resolution mechanisms which be applied if any legal disputes arose in the HIMITF.	would
	Justificati	It is considered that the management system acts proactively to avoid disp and that mechanisms exist to respond and comply with judicial decisions sh that be necessary. The requirements of SG 60, SG 80 and SG 100 are met.	utes nould
References         AFMA (2010b) Annual Status Report for DoEE <a href="http://www.afma.gov.au/wp">http://www.afma.gov.au/wp</a> content/uploads/2010/06/Macquarie-Island-Toothfish-Fishery-Annual-State           Report-2010.pdf			<u>)-</u> :US-
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDIT	ION NUM	BER (if relevant):	

ΡΙ	3.	2.	3
	•••		-

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the fishery's management measures are enforced and complied with			
Scoring Issue		SG 60	SG 80	SG 100	
а	Guidepost	Monitoring, control and surveillance mechanisms exist, are implemented in the fishery under assessment and there is a reasonable expectation that they are effective.	A monitoring, control and surveillance system has been implemented in the fishery under assessment and has demonstrated an ability to enforce relevant management measures, strategies and/or rules.	A comprehensive monitoring, control and surveillance system has been implemented in the fishery under assessment and has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules.	
	Met?	Y	Y	Υ	
		AFMA's National Compl 'Effectively deter illegal Fishing Zone'. In order t compliance and enforce four major components 3. Targeted Risk and 4. I AFMA conducts complia risks are ranked. Any iss to provide them with th compliance. No complia The monitoring, control • An integrated C • A requirement to AFMA observer industry) primal scientific observer management ar bycatch limits a	iance Operations and Enfo fishing in Commonwealth o achieve this aim, AFMA i ement program in 2016–17 ; 1. Communication and Ec Maintenance (AFMA 2016a ance risk assessments bien sues identified through this te opportunity to correct p ince risks specific to the HI and surveillance system in omputerised VMS and sate to carry two observers (at 1 and one may be a data co rily for biological and data vers also detect any instand trangements such as closed and collection of data;	Arcement Policy aims to fisheries and the Australian is continuing its risk based 7. The program will consist of ducation, 2. General Deterrence, a). nially and the fishery specific is process are relayed to industry articular practices to ensure MITF have been identified. In place in the HIMITF comprises: ellite surveillance; least one of which must be an llection officer engaged by the collection purposes, but these ces of non-compliance with d areas, minimum size limits,	
		<ul> <li>Both observers lead observer a provides instruct observations an</li> <li>The assessment exceed the CCA monitoring activity</li> </ul>	collect the same data, alth nd prepares the observer r ction to the data collection id supplementary instruction team noted that the obse MLR requirements and provity;	ough the AFMA observer is the reports. The AFMA observer officer on permit conditions, ons once on-board; rver arrangements in the HIMITF ovide for significantly enhanced	
		<ul> <li>In port monitor authorised offic</li> </ul>	ing of all unloads in Austra er to ensure compliance w	lian ports by an AFMA /ith catch limits;	

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the fishery's management measures are enforced and complied with			
		<ul> <li>Completion of CCAMLR Catch Documentation Scheme (CDS) paperwork for unloading and export of all Toothfish product; and,</li> </ul>			
		<ul> <li>Completion of shot-by-shot daily logbooks and submission of that data to AFMA, and AAD.</li> </ul>			
		The "Agreement on Cooperative Enforcement of Fisheries Laws between the Government of Australia and the Government of the French Republic in the Maritime Areas Adjacent to the French Southern and Antarctic Territories, Heard Island and the McDonald Islands" which aims specifically to enhance cooperative enforcement of fisheries laws came into effect in January 2011. The agreement provides for joint Australian and French patrols to enforce each other's fishing laws in their respective EEZ's and territorial seas in the Southern Ocean.			
		Australia maintains a surveillance presence in the region to combat the threat of IUU fishing. The Australian Customs and Border Protection (ACBP) conducted a 42 day patrol in the Southern Ocean in April and May 2015. The ACBP "remains committed to collaborating with AFMA and international partners to detect, deter and disrupt IUU fishing vessels operating in defiance of international conventions" (ACBP, 2015).			
		The Coalition of Legal Toothfish Operators organisation also plays an important role in preventing IUU fishing in the Southern Ocean.			
		The high level of observer coverage provides a high degree of confidence that fishers comply with the management measures and this is verified through observer reports. The assessment team was advised that there have been no infringement notices, warnings issued or prosecutions in relation to operations in the HIMITF since the original assessment in 2012.			
		Each year AFMA provides an estimate of IUU fishing in the HIMI EEZ to CCAMLR. This year AFMA reported to CCAMLR that no IUU vessels were detected in the HIMI EEZ in the 2015-2016 fishing. This estimate remains unchanged from the previous five fishing seasons. This estimate took into account all available information, including the results of a satellite imagery project conducted by the CCAMLR Secretariat, in collaboration with France, during 2015/2016.			
		The implementation of CCAMLR's CDS has greatly improved the detection of IUU fishing for toothfish. CCAMLR also maintains an IUU vessel list with reports of vessel sightings from members.			
	Justification	There is a comprehensive monitoring, control and surveillance system in place for both domestic and IUU foreign operations. The evidence available indicates that the system has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules. The requirements of SG 60, SG 80 and SG 100 are met.			

PI 3.2	.3	Monitoring, control and so measures are enforced an	urveillance mechanisms ensu d complied with	ure the fishery's management
b	Guidepost	Sanctions to deal with non-compliance exist and there is some evidence that they are applied.	Sanctions to deal with non-compliance exist, are consistently applied and thought to provide effective deterrence.	Sanctions to deal with non- compliance exist, are consistently applied and demonstrably provide effective deterrence.
	Met?	Y	Y	Y
	tion	The FMA provides for penalties and sanctions in the event that fishers do not comply with the management measures in the fishery. The sanctions can take the form of penalty points, exclusion from fishing for a specified period, suspension or cancellation of the fishing concession, forfeiture of the vessel, net, equipment and fish on board and the proceeds of the sale of any such fish. The high level of compliance in the HIMIF is, in the audit team's view, indicative in part of the effective deterrence provided by the sanctions available. While there are no known infringements in relation to the HIMITF, there is evidence that AFMA consistently applies sanctions in other fisheries under its control. AFMA has decision matrices for offences as endorsed by the Operational Management Committee. These matrices help ensure consistency in AFMA's approach to compliance action.		
	Justifica	Sanctions to deal with n available indicates that t demonstrably provide e	on-compliance exist (SG 6) these are consistently app ffective deterrence (SG 10	0 is met) and the evidence lied (SG 80 is met) and that they 0 is met).
C	Guidepost	Fishers are generally thought to comply with the management system for the fishery under assessment, including, when required, providing information of importance to the effective management of the fishery.	Some evidence exists to demonstrate fishers comply with the management system under assessment, including, when required, providing information of importance to the effective management of the fishery.	There is a high degree of confidence that fishers comply with the management system under assessment, including, providing information of importance to the effective management of the fishery.
	Met?	Y	Y	Υ

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the fishery's management measures are enforced and complied with			
		Managers and industry are confident that there is good compliance with the management systems and the available evidence (such as observer reports) supports this.			
		The industry has an excellent record of participation in the collection and submission of data and information relating to the HIMITF and the ecosystem in which it operates. The current Fisheries Assessment Plan (FAP) (AFMA 2016b), which is required under the HIMITF Management Plan, outlines the program of monitoring that will occur in the fishery during the 2016/17 and 2017/18 season. The FAP formalises how the monitoring responsibilities (tagging in particular) will be conducted and shared (or traded) between the holders of SFRs in the fishery. Operators have consistently contributed significantly to research through the provision of vessel time, an observer program, direct financial contributions and the expertise of crew.			
	Justification	There is a high degree of confidence that fishers comply with the management system under assessment, including through collaboration with researchers and managers to provide information required for effective management of the fishery. All the requirements of SG 60, SG 80 and SG 100 are met.			
d	Guidepost		There is no evidence of systematic non- compliance.		
	Met?		Y		
	Justification	There is no evidence of s by the 100% observer co	systematic non-compliance overage requirement.	e in the fishery. This is su	pported
References		AFMA (2016a) <u>http://www.afma.gov.au/wp-content/uploads/2016/08/National-</u> <u>Compliance-and-Enforcement-Program-2016-17.pdf</u> , AFMA (2016b), ACBP (2015)			
OVERALL PERFORMANCE INDICATOR SCORE:					100
CONDITION NUMBER (if relevant):					
#### PI 3.2.4

PI 3.2.4		The fishery has a research plan that addresses the information needs of management			
Scoring Issue		SG 60	SG 80	SG 100	
a Research is undertaken, as required, to achieve the objectives consistent with MSC's Principles 1 and 2. to achieve the objectives approach to research and reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2.		A comprehensive research plan provides the management system with a coherent and strategic approach to research across P1, P2 and P3, and reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2.			
	Met?	Y	Y	Ν	
		The HIMITF Managemen research is carried out in strategic research plan, process of the fishery; a and (iii) taken into consi other management arra The current research pla Research Plan 2014/15 - reviewed annually by SA fisheries priorities, CCAN CCAMLR Scientific Comr assessment, collection of aspects of the fishery. The environment, it is possib timeframe. The AFMA R applications addressing applications are assesse Fisheries Research and D The following projects re underway and funded u CCAMLR stock a Spatial stock str Development of Random stratifie Collection of fish	nt Plan requires that "cost- n relation to the fishery in the results of which are: (i nd (ii) published in the ass deration in determining the ngements, in a fishing yea an for the HIMITF is the An – 2018/19 (AFMA 2015b). NRAG with input from the A MLR requirements and reconditions and reconditions and biological dather of fishery and biological dather plan indicates that, give oble that all projects may no esearch Committee puts of the priorities in the strateg d for funding either from the Development Corporation. elevant to the HIMITF are nder the Strategic Research ucture and movement dyr f management strategy eva- ed trawl samples heries and biological data;	effective and high quality accordance with a 5-year ) included in the assessment ressment reports of the fishery; he total allowable catch, and r." atarctic Fisheries Strategic The plan is developed and AAD. The plan reflects domestic commendations made by the for research to underpin stock ta and to assess ecological en the current funding of be completed within the 5year out an annual call for research gic research plan and the AFMA Research Fund or the currently identified as being ch Plan: hamics aluation models and	

PI 3.2.4	The fishery has a research plan that addresses the information needs of management			
	<ul> <li>Ecological assessment of the fishery (monitoring by the observer prog including bycatch identification and analysis)</li> </ul>			
	Other identified areas has skates and rays.	ave not yet secured fundir	ng such as a risk assessme	ent on
The strategic research plan is used to develop the fishery assessment plan which is a requirement of the HIMITF Management Plan and details the for collaboration between industry and research providers. The FAP is develop every 2 years to ensure that an adequate program of monitoring takes plat fishery in order to provide reliable stock estimates for target species and monitor the direct impact on non-target species and the ecosystem. Each holder's contribution to research is allocated in proportion to the number they hold at the beginning of each fishing season. The audit team was pro- with a copy of the 2015/16 and 2016/17 FAP that specified 17 days of ran- stratified trawl surveys and deployment of 6,810 tags, for each of the fish The research plan provides a strategic approach to research across P1, P2 However, the assessment team cannot rule out the possibility that some high priority projects identified in the Research Plan may not be complete not be undertaken as a result of funding shortfalls. As a result, the plan m requirement of SG60 and 80 but only partially meets the requirements of				(FAP) mal ed ce in the SFR of SFRs ided om ng years.
				and P3. f the l or may ets the G100.
۹ Guidepost	Research results are available to interested parties.	Research results are disseminated to all interested parties in a timely_fashion.	Research plan and resu disseminated to all inte parties in a timely fashi are widely and publicly available.	lts are rested on and
Met?	Y	Y	Y	
Justification	The research plan is available on the AFMA website. Research results are provided to SARAG and South MAC and are available to stakeholders through the various consultative mechanisms described under Indicator 3.1.2. Results are published variously as papers to CCAMLR, in peer reviewed journals and/or on the AFMA website. Not all research papers provided to CCAMLR are available to the public since they contain commercial in confidence information or contain information that could facilitate IUU fishing. CCAMLR and AFMA make research results available in a timely manner. The assessment team considered that the research plan and results are disseminated to all interested parties in a timely fashion and are widely and publicly available. The requirements of SG60. 80 and 100 are met.			rovided rious shed MA public ation
References	AFMA (2015b) <u>http://ww Year-Strategic-Research</u>	ww.afma.gov.au/wp-conte -Plan-2014-5-to-2018-9-Fl	ent/uploads/2014/02/6 NAL-May-2015.pdf	Five-
OVERALL PERFOR	I RMANCE INDICATOR SCORE:			90
CONDITION NUM	IBER (if relevant):			

#### PI 3.2.5

PI 3.2.5		There is a system of monitoring and evaluating the performance of the fishery-specific management system against its objectives			
		There is effective and timely review of the fishery-specific management system			
Scoring Issue		SG 60	SG 80	SG 100	
а	Guidepost	The fishery has in place mechanisms to evaluate some parts of the management system.	The fishery has in place mechanisms to evaluate key parts of the management system	The fishery has in place mechanisms to evaluate all parts of the management system.	
	Met?	Y	Y	Y	
	Justification	The performance of the AFMA, ADD and other g and a range of stakehold The South MAC assessed HIMITF Management Pla meeting as part of the 5 of measures is reviewed expenditure is also revie The management plan a assessment of the perfo contained in the Plan. Th and is publicly available The Strategic Research F are analysed and review assessments prepared b reviews the fishery ERA The effectiveness of the assessments undertaker The management plan w constitute a review. AFMA has established at the Environmental Risk / The performance of CCA Panel and the report is p (http://archive.ccamlr.o by CCAMLR bodies inclu Administration and Fina Compliance as well as th some recommendations progress against the rec Taken together, the aud of the fishery-specific m SG 80 and SG 100 are m	fishery is subject to scruti overnment agencies, the C ders. d the effectiveness and the an in 2012 and it will be as year requirement stipulat on an ongoing basis by Al wed against the budget at lso requires that, each yea mance of the Fishery aga his assessment is reported on the AFMA website. Plan is reviewed annually by the Australian Antarctic re-assessments and provid compliance activities are by AFMA and appropriat vas last amended in 2012. In ERA Technical Working C Assessment for the Effects MLR was reviewed in 2000 publically available rg/pu/E/revpanrep.htm). ding the Scientific Commit nce and the Standing Com- be Commission. CCAMLR h is contained in the report a ommendations of the revi it team considers that the anagement system. As a re- et.	ny by South MAC and SARAG, CCMLAR Scientific Committee e performance criteria of the sessed at the next South MAC ced in the Plan. The effectiveness FMA and South MAC. AFMA's t each South MAC meeting. ar, South MAC must conduct an inst the performance criteria on in AFMA's Annual Report by SARAG and the data gathered and are used in the stock Division. The SARAG also des scientific advice of the FMS. subject to biennial risk e changes made where required. These amendments effectively Group that is currently reviewing s of Fishing (ERAEF) framework. 8 by a Performance Review The report has been considered ttee, the Standing Committee on mittee on Implementation and as begun implementation of nd continues to consider ew at its annual meeting. se mechanisms evaluate all parts esult the requirements of SG 60,	

PI 3.2.5		There is a system of monitoring and evaluating the performance of the fishery-specific management system against its objectives			
		There is effective and timely review of the fishery-specific management system			
b	Guidepost	The fishery-specific management system is subject to occasional internal review.	The fishery-specific management system is subject to regular internal and occasional external review.	The fishery-specific management system is to regular internal and review.	subject external
	Met?	Y	Y	Y	
	Justification	<ul> <li>The HIMITF Management plan includes performance criteria against which the HIMITF must be assessed and requires that each year, South MAC assess the extent to which those performance criteria have been met in that year and AFMA include in its annual report for a financial year a statement of the extent to which those performance criteria were met.</li> <li>AFMA and SouthMAC (which include some external members), at least once every 5 years, assess the effectiveness of the Plan including the measures taken to achieve the objectives by reference to those performance criteria.</li> <li>AFMA's performance in managing fisheries, including the HIMITF, is also reviewed through:         <ul> <li>annual reports by ABARES on the biological, ecological and economic status of AFMA-managed fisheries; and</li> <li>five-yearly (and now ten-yearly) assessments of ecological sustainability by the Department of the Environment and Energy (DoEE).</li> </ul> </li> <li>Periodic audits by the Australian National Audit Office (2009) such as that done for the Domestic compliance programme further confirms that there is a wide range of review and monitoring mechanisms in place for this fishery and cover all parts of the management system.</li> <li>The assessment team considers that the management system is subject to regular internal and external review and the requirements of SG 60, SG 80 and SG 100 are motion.</li> </ul>			
References		Australian National Audit Office (2009) Management of Domestic Fishing Compliance <u>https://www.anao.gov.au/work/performance-audit/management-</u> <u>domestic-fishing-compliance</u> DoEE HIMI assessment <u>https://www.environment.gov.au/marine/fisheries/commonwealth/heard-</u> <u>mcdonald</u>			
OVERALL PERFOR		MANCE INDICATOR SCORE:			100
CONDITION NUM		IBER (if relevant):			

### **1.3 Conditions**

No conditions were placed on the fishery during the re-assessment. One recommendation was made by the assessment team.

**Recommendation 1, Pl 2.2.1** (UoC 1 and UoC2): The assessment team recommends updating the ecological risk assessment (ERA) within the next certification cycle, and identifying if significant changes are occurring in the fishery. This will strengthen the score and provide a higher level of certainty that non-target species are within biologically based limits.

# Appendix 2. Peer Review Reports

## Peer Reviewers Overall Opinion

Overall Opinion of the Report		
	Peer Reviewer 1	Peer Reviewer 2
Has the assessment team arrived at an appropriate conclusion based on the evidence presented in the assessment report? (Yes/No)	Yes	Yes
Peer Reviewer Justification		The assessment team has generally done a high quality and very comprehensive assessment. My comments do not affect the overall conclusions.
Certification Body Response		
Do you think the condition(s) raised are appropriately written to achieve the SG80 outcome within the specified timeframe? (Yes/No)	NA	NA
Peer Reviewer Justification		
Certification Body Response	No response required	

## **Client Action Plan Comments**

Client Action Plan Comments (if included)			
	Peer Reviewer 1 Peer Reviewer 2		
Do you think the client action plan is sufficient to close the conditions raised?	NA	ΝΑ	
Peer Reviewer Justification			
Certification Body Response	No response required		

### Peer Reviewers General Comments

Peer Reviewer General Comments (optional)			
Peer Reviewer 1 Peer Reviewer 2			
The main report is comprehensive with all updated information in support of the overall	Many of my comments below regarding scoring under Principle 1 mostly derive from the		
score and recommendation for re-certification of	assessment not fully accounting for		

the fishery. The information presented in	uncertainties. According to scoring guidelines this		
Appendix 1- Scoring and rationales - specifically	is not necessarily a good reason to score an		
in the justification of scores is also sufficient to	assessment lower. However, this fishery has		
support the scores assigned, however there are	harvest control rules that are based on		
some PIs where the information could be	probabilistic future projections that would		
strengthened by including details/and or peer-	generate different catch recommendations for		
reviewed references from the main report. These	different assessment uncertainty levels. This		
include PI 2.3.3.b (both for UoC trawl and	makes assessment uncertainty an important		
longline); PI2.4.1, PI 2.4.2a. Apart from the issues	issue for this fishery in particular. Additionally I		
(above) which I believe can be addressed easily	believe that the harvest control rules as		
with cross referencing to the main report, I	described require MSE testing to demonstrate		
believe the scores are justified and where	their effectiveness at achieving management		
necessary appropriately harmonized with the	objectives in both the short-term (as is the TAC-		
related scores and information from the French	setting cycle), and the long-term.		
fisheries. The recommendation proposed for PI			
2.2.1. is prudent and is supported. Based on my			
review of the report with these modifications, I			
support the re-certification of the fishery.			
Certifying Body Response			
No response required. No changes to scores are proposed. Issues raised have been addressed below under the relevant PIs.			

### Peer Reviewers Comments Related to Scores and Rationales

# Principle 1

Performance Indicator 1.1.1			
	Peer Reviewer 1	Peer Reviewer 2	
Has all the relevant information	Yes	yes	
available been used to score			
this indicator? (yes/no)			
Does the information and/or	Yes	yes	
rationale used to score this			
indicator support the given			
score? (yes/no)			
Will the condition(s) raised	NA	NA	
improve the fishery's			
performance to the SG80 level?			
(yes/no/NA)			
Peer Reviewer Justification		I agree generally with the	
		scoring. I can accept mean	
		base case assessed status	
		results. It is helpful that the	
		French fishery results also	
		indicate a lightly exploited	
		stock.	

**Certification Body Response** 

No response required.

Performance Indicator 1.1.2			
	Peer Reviewer 1	Peer Reviewer 2	
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	no	
Does the information and/or rationale used to score this indicator support the given	Yes	yes	
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA	
Peer Reviewer Justification		I agree that the reference points used are theoretically appropriate (limit 0.2 and target 0.5 B <sub>0</sub> ) and that the target is conservative. As the reference points are evaluated via long-term projection and do not explicitly take short- term fishery behaviour (e.g. fishing at greater than Fmsy) into account, their ability to meet management objectives is difficult to discern from the description alone and seem dependent on assessment precision and the 35 year time- frame. Unfortunately, the reference points based on probabilistic projections used here do require good estimates of assessment model uncertainty. If documentation exists that has shown via simulation or otherwise that these reference points as calculated meet expectations and management objectives, then that should be referenced by the MSC Assessment	
Certification Body Response	No response required. All relevan	Report. t available documents have	

been used and cited.

Performance Indicator 1.1.3			
	Peer Reviewer 1	Peer Reviewer 2	
Has all the relevant information	Yes	NA	
available been used to score			
this indicator? (yes/no)			
Does the information and/or	Yes		
rationale used to score this			
indicator support the given			
score? (yes/no)			
Will the condition(s) raised	NA		
improve the fishery's			
performance to the SG80 level?			
(yes/no/NA)			
Peer Reviewer Justification			
Certification Body Response	No response required		

Performance Indicator 1.2.1		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score		
this indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		I agree that MSE testing would
		be required to improve the
		score, but also would further
		support scores for PI 1.1.2.
Certification Body Response	No response required.	

Performance Indicator 1.2.2		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score		
this indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		

score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		I believe that under 1.2.2b the
		intention and design of the
		harvest control rules takes into
		account a wide range of
		uncertainties due to built-in
		conservativeness, but this
		needs to be fully
		demonstrated. Unfortunately,
		the outcomes of harvest
		control rules used for this
		fishery heavily rely on the level
		of uncertainty produced by the
		assessment (more so than for
		"standard" F vs B harvest
		control rules).
Certification Body Response	No response required. No changes to scores suggested. Issue	
	about demonstrating conservativeness of HCR evaluated under PI	
	1.2.4. Additional text about uncertainties that should be evaluated	
	has been added to the background and relevant scoring	
	rationales.	

Performance Indicator 1.2.3		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score		
this indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		Frequency and
		comprehensiveness of
		monitoring is excellent.
Certification Body Response	No response required	

Performance Indicator 1.2.4		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification		The base assessment results seem very precise, suggesting that the model has limited flexibility given the available data. This is common in many accepted stock assessments, but also indicates that the base model gives a very selective picture of the stock, probably greatly underestimating true uncertainty. That true uncertainty may be shown by sensitivity analyses, but the suggestion here is that a fairly narrow range of sensitivities may also have been selected (and then apparently not used further). For example, would assessment inclusion of uncertainties (into projections for reference point calculations) such as combined French/HIMI stock, skip spawning, significant IUU catch prior to 1997, alternative values for survey q/M/steepness etc greatly affect results? I have not seen the assessment doc, so can only guess at additional possible sources of uncertainty, but I am sure there are influential ones.

		This has been accounted for but not included in the justification for scoring less than level SG 100 under PI 1.2.4d.
Certification Body Response	No change to score has been sugg revised to reflect additional issues meeting SG100 requirements.	ested but rationale has been s that prevent the fishery

# Principle 2

Performance Indicator 2.1.1				
	Peer Reviewer 1	Peer Reviewer 1 Peer Reviewer 2		
Has all the relevant information	Yes	yes		
available been used to score				
this indicator? (yes/no)				
Does the information and/or	Yes	yes		
rationale used to score this				
indicator support the given				
score? (yes/no)				
Will the condition(s) raised	NA	NA		
improve the fishery's				
performance to the SG80 level?				
(yes/no/NA)				
Peer Reviewer Justification				
Certification Body Response	No response required			

Performance Indicator 2.1.2			
	Peer Reviewer 1	Peer Reviewer 1 Peer Reviewer 2	
Has all the relevant information	Yes	yes	
available been used to score this			
indicator? (yes/no)			
Does the information and/or	Yes	yes	
rationale used to score this			
indicator support the given			
score? (yes/no)			
Will the condition(s) raised	NA	NA	
improve the fishery's			
performance to the SG80 level?			
(yes/no/NA)			
Peer Reviewer Justification			
Certification Body Response	No response required		

Performance Indicator 2.1.3		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score		
this indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		
Certification Body Response	No response required	

Performance Indicator 2.2.1		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score		
this indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		
Certification Body Response	No response required	

Performance Indicator 2.2.2			
	Peer Reviewer 1 Peer Reviewer 2		
Has all the relevant	Yes	yes	
information available been			
used to score this indicator?			
(yes/no)			
Does the information and/or	Yes	yes	
rationale used to score this			
indicator support the given			
score? (yes/no)			
Will the condition(s) raised	NA	NA	
improve the fishery's			
performance to the SG80 level?			

(yes/no/NA)		
Peer Reviewer Justification		
Certification Body Response	No response required	

Performance Indicator 2.2.3		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant	Yes	yes
information available been		
used to score this indicator?		
(yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		
Certification Body Response	No response required	

Performance Indicator 2.3.1		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score		
this indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		
<b>Certification Body Response</b>	No response required	

Performance Indicator 2.3.2		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score		
this indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		

score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		
<b>Certification Body Response</b>	No response required	

Performance Indicator 2.3.3		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score		
this indicator? (yes/no)		
Does the information and/or	No	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification	Justification for 2.3.3. b for both	
	UoC trawl and UoC longline	
	could be strengthened with	
	more detailed information	
	and/or cross referencing to	
	supporting evidence in main	
	report.	
Certification Body Response	PR1: Further information has bee	n added in the rational for this
	indicator drawing from information already provided in	
	background section.	

Performance Indicator 2.4.1		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant	Yes	yes
information available		
been used to score		
this indicator?		
(yes/no)		
Does the information	No	yes
and/or rationale used		
to score this indicator		
support the given		
score? (yes/no)		
Will the condition(s)	NA	NA

raised improve the fishery's performance to the SG80 level? (yes/no/NA)		
Peer Reviewer Justification	Are there any peer reviewed publications other than the observer reports or based on the observer information which could be referenced here?	I agree with the score but it might improve the justification particularly for trawl if some sense is provided of how much potentially trawlable habitat is unfished or within protected areas. It seems possibly disingenuous to talk about the percentage of habitat shallower than 1000m that is protected if, say, most of the protected area is shallower than 200m and most of the slope between 200 and 1000m is unprotected.
Certification Body Response	PR 1: The main reference is the Welsfor based on a very comprehensive FRDC of fishing footprint with estimates of taxa publicly available on the FRDC website (http://frdc.com.au/research/Docume Further information has been added in PR2: Further information has been added in PR2: Further information has been added are areas up to 1200m where fishing is occ	ord et al. (2014) report which was funded project combined data on the a-specific vulnerability. This report ants/Final reports/2006_042_DLD.pdf) in the rational for this indicator. ded in the rational by providing an h biomass was damaged in fished curring.

Performance Indicator 2.4.2		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score		
this indicator? (yes/no)		
Does the information and/or	No	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification	The justification for the score	
	assigned to 2.4.2 should be	

	strengthened, possibly with cross-referencing to details provided in the main report.	
Certification Body Response	PR1: Further information has been indicator drawing from informatic background section.	n added in the rational for this on already provided in

Performance Indicator 2.4.3		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score		
this indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		
Certification Body Response	No response required	

Performance Indicator 2.5.1		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score		
this indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		The mention of a broad-scale
		ecosystem model for Southern
		Ocean habitats in development
		requires a little more detail –
		how does the area covered
		relate to the HIMI EEZ?
Certification Body Response	PR2: Additional information was added under this indicator re the	
	model and research that feeds in to the model.	

Performance Indicator 2.5.2		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score this		
indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		
Certification Body Response	No response required	

Performance Indicator 2.5.3		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant	Yes	yes
information available been		
used to score this indicator?		
(yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80		
level? (yes/no/NA)		
Peer Reviewer Justification		
Certification Body Response	No response required	

# **Principle 3**

Performance Indicator 3.1.1		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score this		
indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		

performance to the SG80 level? (yes/no/NA)		
Peer Reviewer Justification		In 3.1.1a does the French Management Plan contain wording about application of the principles of ecologically sustainable development that can be mentioned here?
Certification Body Response	PR2: Yes, the French Management Plan contains objectives that explicitly refer to the principles of ESD. The text in the table has been amended to reflect this.	

Performance Indicator 3.1.2		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score		
this indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		
Certification Body Response	No response required	

Performance Indicator 3.1.3		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score this		
indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		
Certification Body Response	No response required	

Performance Indicator 3.1.4		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score		
this indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		
Certification Body Response	No response required	

Performance Indicator 3.2.1		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score		
this indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		Entirely agree in particular that
		short-term objectives need
		clarification, and that testing is
		required to demonstrate that
		the system in place (principally
		the harvest strategy) is able to
		provide a balanced
		performance across those
		objectives (regardless of the
		current state of exploitation).
Certification Body Response	No response required	

Performance Indicator 3.2.2		
Peer Reviewer 1 Peer Reviewer 2		
Has all the relevant information	Yes	yes
available been used to score		

this indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		
Certification Body Response	No response required	

Performance Indicator 3.2.3		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score		
this indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		
Certification Body Response	No response required	

Performance Indicator 3.2.4		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score		
this indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		
<b>Certification Body Response</b>	No response required	

Performance Indicator 3.2.5		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	yes
available been used to score		
this indicator? (yes/no)		
Does the information and/or	Yes	yes
rationale used to score this		
indicator support the given		
score? (yes/no)		
Will the condition(s) raised	NA	NA
improve the fishery's		
performance to the SG80 level?		
(yes/no/NA)		
Peer Reviewer Justification		There is no specific regular
		external review of the
		management system for the
		HIMITF, so SG 100 may not be
		completely justified for Pl
		3.2.50.
Certification Body Response	PR2: Regular reviews under the MSC standard refer to every 3-5	
	years. The combination of the annual reviews by ABARES, DOEE	
	assessments on ecological sustainability and regular scrutiny by	
	ADD and the CCMLAR Scientific Committee constitute external	
	reviews by the assessment team.	

Any Other Comments (optional)					
	Peer Reviewer 1	Peer Reviewer 2			
Certification Body Response	No response required	·			

# **Appendix 3. Stakeholder submissions**

No stakeholder submissions were received.

### (REQUIRED FOR FR AND PCR)

The report shall include all written submissions made by stakeholders about the public comment draft report in full, together with the explicit responses of the team to points raised in comments on the public comment draft report that identify: Specifically what (if any) changes to scoring, rationales, or conditions have been made. A substantiated justification for not making changes where stakeholders suggest changes but the team makes no change. (Reference: CR 27.15.4)

## (REQUIRED FOR THE PCR ONLY)

The report shall include a rationale for determining the surveillance score. The report shall include a completed fishery surveillance plan table using the results from assessments described in CR 27.22.1

#### Table A4: Fishery Surveillance Plan

Score from CR Table C3	Surveillance Category	Year 1	Year 2	Year 3	Year 4
[e.g. 2 or more]	[e.g. Normal Surveillance]	[e.g. On-site surveillance audit]	[e.g. On-site surveillance audit]	[e.g. On-site surveillance audit]	[e.g. On-site surveillance audit & re- certification site visit]

# **Appendix 5. Client Agreement**

### (REQUIRED FOR PCR)

The report shall include confirmation from the CAB that the Client has accepted the PCR. This may be a statement from the CAB, or a signature or statement from the client. (Reference: CR: 27.19.2)

#### **5.1 Objections Process**

## (REQUIRED FOR THE PCR IN ASSESSMENTS WHERE AN OBJECTION WAS RAISED AND ACCEPTED BY AN INDEPENDENT ADJUDICATOR)

The report shall include all written decisions arising from an objection.