

Marine Stewardship Council (MSC)

2nd Annual Surveillance Audit

Fishery for toothfish (*Dissostichus eleginoides*) around Kerguelen

On behalf of the Client
SARPC

Prepared by ME Certification Ltd

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Glossary

Acronym	Meaning
AAD	Australian Antarctic Division (Department of the Environment based in Tasmania)
AAMP	Agence des Aires Marines Protégées (French MPA Agency)
ACAP	Agreement on the Conservation of Albatrosses and Petrels
AEM	Action de l'État en mer
C3P	Comité des bonnes pratiques de la pêche palangrière (TAAF Longline fishery Best Practice Committee)
CASAL	C++ algorithmic stock assessment laboratory
CC	Conseil Consultatif (TAAF)
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CEBC	Centre d'Etudes Biologique de Chizé (CNRS, research on birds and marine mammal fisheries interactions)
CEMR	Compagnie des Experts Maritimes de la Réunion (catch certificates)
CNRS	Centre National de la Recherche Scientifique
COPEC	Contrôleur de Pêche
CoC	Chain of Custody
CROSSRU	Centre Régional de Surveillance et de Sauvetage de La Réunion (MEDDE)
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAIMA	Direction des Affaires Internationales de la Mer et de l'Atlantique (Service Pêche, TAAF)
DCPN	Direction de la Conservation du Patrimoine Naturel (TAAF)
DMSOI	Direction de la Mer – Sud de l'Océan Indien (MEDDE)
DPMA	Direction des Pêches Maritimes et de l'Aquaculture (in Paris, MEDDE – Ministère délégué chargé des Transports, de la Mer et de la Pêche)
DPQM	Direction des Pêches et des Questions Maritimes (TAAF)
EEZ	Exclusive Economic Zone
GRT	Gross Tonnage
GTPA	Groupe de Travail Pêche Austral
HIMI	Heard Island and MacDonaldd Island (Australia)
IRCS	International Radio Call Sign
IUU	Illegal, Unreported, Unregulated
JO	Journal Officiel (TAAF publication of legal texts)
MEDDE	Ministère de l'Ecologie, du Développement durable et de l'Energie
MNHN	Muséum National d'Histoire Naturelle (in Paris)
MOM	Ministère d'Outre-Mer
MPA	Marine Protected Area (=AMP)
PCR	Public Certification Report
PECHEKER	Fisheries information Database kept at the MNHN
POKER	POissons de KERguelen scientific trawl surveys

SAJI	Service des Affaires Juridiques et Internationales (TAFF)
SARPC	Syndicats des Armements Réunionnais de Palangriers Congélateurs
SIOFA	South Indian Ocean Agreement (=APSOI) for High Seas (beyond 200nm) waters
TAAF	Terres Australes et Antarctiques Françaises
UoC	Unit of Certification
VME	Vulnerable marine ecosystems (=EMV)
WG-FSA	Working group on Fish Stock Assessment (CCAMLR)
WG-IMAF	Working group on Incidental Mortality Arising from Fishing (CCAMLR)

1. General Information

Fishery name	SARPC toothfish		
Unit of assessment	SARPC member vessels targeting toothfish by bottom set longline in the TAAF EEZ (Kerguelen only)		
Date certified	3 September 2013	Date of expiry	2 September 2018
Surveillance level and type	Surveillance Level 6, on site surveillance audit		
Date of surveillance audit	7 September 2015		
Surveillance stage	1st Surveillance		
	2nd Surveillance	X	
	3rd Surveillance		
	4th Surveillance		
	Other (expedited etc.)		
Surveillance team	Lead assessor: Kat Collinson Assessors: Dr Sophie des Clers, Prof. Jean-Claude Brêthes		
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2. Background

This report outlines the process and outcome of the second annual surveillance audit for the MSC certified fishery ‘SARPC toothfish’. The fishery is conducted by member vessels of the Syndicat des Armements Réunionnais de Palangriers Congélateurs (SARPC) group of fishing companies based in La Réunion (see Table 1 for a list of vessels). The certified fishery takes place in the EEZ of the Terres Australes et Antarctiques Françaises (TAAF - French southern and Antarctic lands) around the island of Kerguelen in the Southern Ocean using bottom-set longlines.

Updates or any changes regarding the management system, relevant regulations and scientific base of information, including stock assessments are reported in sections under each principles, together with progress on the conditions.

The Kerguelen Plateau (CCAMLR sub-area 58.5) regroups the Kerguelen Islands (France, Division 58.5.1) and Heard Islands and McDonald Islands (HIMI - Australia, Division 58.5.2). It is thought the Kerguelen and HIMI toothfish stocks are part of the same meta-population (see PCR, 2013), therefore update from the HIMI MSC certified toothfish fishery 3rd Surveillance audit (SCS, 2015) is also discussed.

Fishing is by baited bottom set-longlines. Fishing is forbidden in territorial waters (12nm), waters shallower than 500m and in protected areas (see [PCR 2013](#)). Lines are set from 500 m down to ~2000 m depth and are now always deployed at night to mitigate bird mortality.

The vessels included in the UoCs are provided in Table 1. The vessels also prosecute a fishery for toothfish around the island of Crozet, which is not included in this (Kerguelen) Unit of Certification. Information on the Total Allowable Catch (TAC) and catch data for the most recent seasons is given in Table 2. Upon certification, four conditions were raised, their status is summarised in Table 3. There were also seven non-binding recommendations (

Table 4). Progress against the conditions and recommendations are discussed in depth in section 5.

Table 1. Longliners of the SARPC toothfish fishery UoC

Fishing company	Vessels	IRCS	GRT	Length (m)
SAPMER	Croix du Sud I	FNHQ	1,654	54.30
	Albius	FPXK	1,295	55.49
	Ile Bourbon	FOSP	1,295	55.49
	Mascareignes III	FOVB	1,295	55.49
Cap Bourbon	Cap Horn I	FQBI	1,295	55.49
SNC COMATA	Ile de la Réunion	FQBU	1,295	55.49
Pêche Avenir	St. André	FNTD	1,282	56.40

Table 2. Toothfish Kerguelen TAC and Catch Data (tonnes)

TAC	Year	2014/15	Amount	5,150 t
UoC share of TAC	Year	2014/15	Amount	5,150 t
Total green weight catch by UoC	Year (most recent)	2014/15	Amount	5,157.88 t
	Year (2nd most recent)	2013/14	Amount	5,141.45 t
	Year (3rd most recent)	2012/13	Amount	5,160.73 t

Table 3. Summary of Assessment Conditions for the SARPC Kerguelen toothfish fishery

N°	Performance indicator (PI)	Status	PI original score	PI revised score
1	PI 1.2.4 Assessment of stock status	Open	70	'Not revised'
2	PI 2.1.1 Retained species outcome PI 2.1.2 Management PI 2.1.3 Information	Open	60 70 70	'Not revised'
3	PI 2.3.1 ETP species outcome (grey petrels)	Open	75	'Not revised'
4	PI 1.2.2 Harvest control rules PI 3.2.1 Fishery-specific objectives PI 3.2.2 Decision-making processes	Open	70 75 70	'Not revised'

Table 4. Recommendations for the SARPC Kerguelen toothfish fishery

N°	PI
1	PI 1.2.3: It is recommended that SARPC investigates the utility of equipping all the vessels with tag detectors, as is reported standard in the HIMI zone.
2	PI 2.1.2: In addition to the condition, it is recommended that further information is sought, either from a desktop review or from field studies, on the survivorship of rays at Kerguelen after being cut off the line. On the basis of this information, the conservation strategy for rays could be reviewed.
3	PI 2.3.2: It would be useful to evaluate the effectiveness of the measures to limit seabird mortality, and of individual vessels, in relation to grey petrels specifically, and if necessary re-focus on those measures which reduce mortality of grey petrels in particular.
4	PI 2.4.2: It is recommended that research be continued into the mapping of benthic habitats and the identification of VMEs at Kerguelen.
5	PI 2.5.1 It is recommended that research into the Kerguelen ecosystem and the role of toothfish within it should continue.
6	PI 2.3.1 It is recommended that SARPC compiles a summary table per fishing season indicating the quantities of bait used, by species and FAO stocks/ areas of origin, per year
7	PI 3.2.2 It is recommended that TAAF/SARPC compiles a summary table per fishing season indicating the total number of hooks and the length of leaded lines (per fishing trip/campaign) lost during fishing operations
8	New recommendation: PI 3.2.2 Effective decision making processes: It is recommended that TAC changes should apply to the season following CCAMLR meetings at the earliest.

3. Assessment Process

The fishery was assessed using the MSC default assessment tree. The surveillance audit refers to the MSC Certification Requirements and Guidance to Certification Requirements (v1.3).

The main purpose of the annual surveillance audit is i) to review the most recent information on the fishery to see if there had been any significant changes since certification, and ii) to review progress in meeting the conditions set out in the Client Action Plan (see the [Public Certification Report](#), PCR 2013) as well as progress against the non-binding recommendations.

Stakeholders were informed of the scheduled site visit, its time and location and the proposed audit team on the 7th August 2015. No comments or requests for interviews were received. The people met in person or through tele-conference and corresponded with by email during the Year 2 Surveillance Audit are listed in Table 5.

The second surveillance audit meetings took place in La Réunion at SAPMER offices at Le Port, and at the Offices of TAAF in Saint Pierre on the 7th September 2015, with lead auditor Dr. Sophie des Clers on site and contributing remotely Kat Collinson and Professor J.C. Brêthes (Principle 1).

Table 5. Persons contacted for surveillance

Name	Organisation	Communication
Justine Méhaut	SAPMER – SARPC contact person	Site visit
Eric Mostert	DMSOI CROSS Réunion	Site visit
Thierry Clot	TAAF, Directeur, Direction des Pêches et des Questions Maritimes (DPQM)	Site visit
Cédric Marteau	TAAF, Directeur, Direction de Conservation du Patrimoine Naturel (DCPN) et Direction de la Réserve Naturelle nationale	Site visit
Eléonore Guilbault	TAAF, Service Pêches	Site visit
Vincent Kerzerho	TAAF, Questions maritimes	Site visit
Thibaut Thellier	TAAF, Réserve marine	Site visit
Jean-Pierre Kinoo	Cap Bourbon	Tel. conference
Graziella Jan	Cap Bourbon	Site visit
Dominique Audouin	SAPMER	Site visit
Anthony Signour	SAPMER	Tel. conference
Michel Quinquis	SAPMER	Site visit
Sylvain Raithier	SNC COMATA	Site visit

Laurent Virapoullé	Pêche-Avenir SA	Tel. conference
Prof. Guy Duhamel	Museum National d'Histoire Naturelle (MNHN)	Tel. conference, email
Romain Sinègre	Museum National d'Histoire Naturelle (MNHN - models)	Tel. conference, email
Charlotte Chazeau	Museum National d'Histoire Naturelle (MNHN - data)	Tel. conference
Alexis Martin	Museum National d'Histoire Naturelle (MNHN - VME)	Tel. conference

4. Results

4.1. Principle 1

4.1.1. Background

The target species is the Patagonian toothfish, *Dissostichus eleginoides*. The fishery takes place within the 200 nautical miles EEZ of the Kerguelen Islands, in waters deeper than 500 metres. The TAC for this fishery is fixed annually by taking into account the scientific advice of MNHN and the advice of CCAMLR. The TAC is split into vessel quotas on the basis of a complex system of criteria (see Principle 3).

The TAC for the Kerguelen fishery was fixed at 5,100 tonnes until 2011/12, with an extra 245 and 235 tonnes of toothfish for the POKER trawl research campaigns (2006 and 2010) and at 2,150 tonnes from 2012/13 (Table 6). Since 2010, the MNHN is basing its scientific advice on a quantitative stock assessment using the CASAL statistical tool used by the CCAMLR Fisheries Stock Assessment (FSA) working group. The FSA has accepted the Kerguelen assessment as a basis for TAC advice in the short term since 2012.

4.1.2. Update

Best practice measures to protect juveniles introduced in 2011 Code of Conduct (short test lines in new areas, move on rule if more than 10% toothfish <60cm) have been made mandatory (CCAMLR, 2014a).

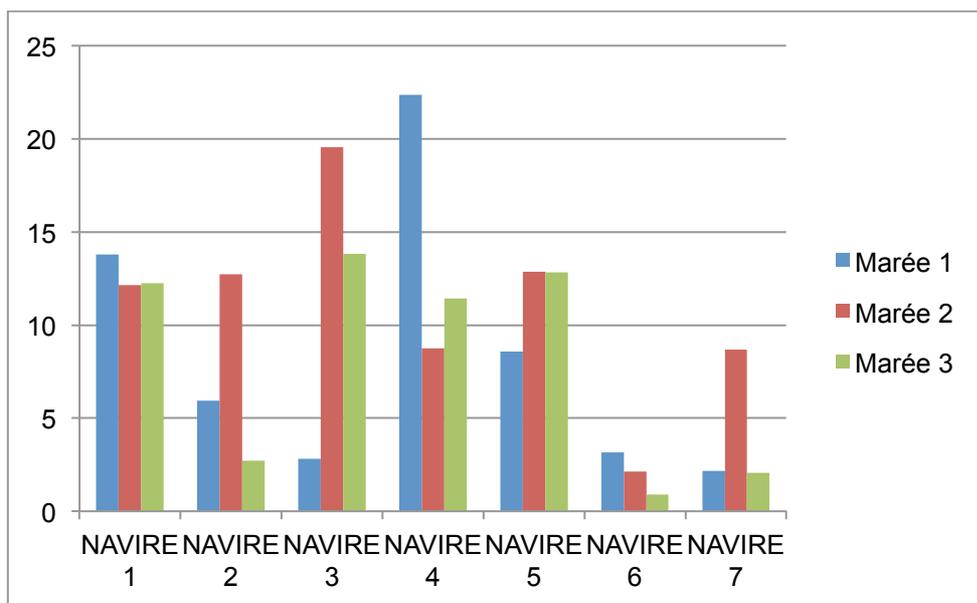


Figure 1. Quantities of juvenile toothfish (<60cm) caught by vessel for three trips (2014-15).

In 2014, the TAAF and MNHN made new arrangements to increase the number and speed of otoliths readings age determination. Data from 2,149 fish were used to estimate a Kerguelen-specific growth model for toothfish to be presented to the 2015 CCAMLR FSA WG.

The stock assessment model of the fishery around Kerguelen was developed further with the recruitment of a full-time modeller at the MNHN (see section 4.3) and through a close collaboration with Australian and New Zealand modellers from the CCAMLR working group.

The assessment model submitted in September 2014 (WG-FSA-14/36 Rev. 1) does not provide an estimate of long-term yield, but estimates the Standing Stock Biomass (SSB) in 2014 to be 65% of the estimated B_0 of 217,062 tonnes, which is above the CCAMLR decision rule of $50\%B_0$. In October 2014, the WG-FSA-14 agreed “that model KR3.3 with fixed year-class strength as described in WG-FSA-14/36 Rev. 1 could be used to provide management advice for 2015 (2014/15). Although a maximum catch limit was not calculated, the current catch limit of 5 100t satisfied the CCAMLR decision rules” (CCAMLR FSA, 2014). In effect, the Kerguelen toothfish TAC has been set at 5,150 tonnes since 2012 (Table 6), the extra 50 tonnes being allocated by TAAF towards research contribution during the season between the vessels in the fleet or the research vessel for POKER research cruises.

Table 6. Toothfish TAC and landings (tonnes*) at Kerguelen for the last three seasons to 2014/2015 (1st September to 31st August, from TAAF).

Fishing seasons	2012/13	2013/14	2014/15
TAC (tonnes)	5,150.00	5,141.45	5,150.00
Landings (tonnes)*	5,160.73	5,118.61	5,157.88

*Landings figures differ from CCAMLR reports because of different season dates

The 2014/15 catch data were used, together with an increasing number of age determinations to estimate growth parameters specific to the Kerguelen stock and continue updating the stock assessment model (Sinegre and Duhamel, 2015). The model was used to test a proposed TAC increase at 5,300t, which keeps SSB above the CCAMLR 50%B₀ decision rule. However, the CCAMLR FSA and CCAMLR Scientific Committee meet in October and November respectively, and therefore any change in the model assumptions and data could only be validated for the following fishing season (2015/16).

A new (n°8) recommendation is issued under Principle 3, for the introduction of new management measures and any TAC changes to take place after the scientific advice is discussed and validated by the CCAMLR working groups in November, for the fishing season starting in September the following year (see section 4.3).

4.2. Principle 2

4.2.1. Background

There is a scientific observer on board each of the fleet seven vessels, tasked in particular to observe 25% of the lines set and hauled. The catch and observer (COPEC) data are kept and analysed by the MNHN and TAAF. For each possible ecosystem impact, the vessels' performance is included in annual toothfish vessel quota allocation criteria.

Measures to reduce ecosystem impacts of the fishery are given below, for each type of impact.

Bycatch and discards

The fishery bycatch consists mainly of three species groups: grenadiers (macrourids, mainly *Macrourus carinatus*), rays (mainly *Bathyraja eatonii* and *B. irrasa*) and *Antimora* spp. Both grenadiers and rays were assessed as retained bycatch while *Antimora* spp. were assessed as discards.

- All discards, with the exceptions of sharks and rays, are required to be brought into the factory aboard the vessels, sorted and their catch reported in logbooks before discard;
- Areas with high densities of non target species should be noted and their depth in order to be avoided in the future;
- Sharks cannot be targeted and should be released alive if possible;
- All rays must be 'cut-off'; the hook removed and must be released live if possible, immediately after being de-hooked according to CCAMLR protocol. The vessel must move on by more than 2.5 nautical miles after hauling a line with >50 rays /1,000 hooks.

The monitoring system for bycatch has been fully functional for all retained species, including grenadiers and rays. The 2011 MNHN Code of Conduct for bycatch (retained and discarded species) has been developed further for rays and is now supplemented by the CCAMLR picture guide to assess chances of survival as the fish is being hauled in with the line. The guide is annexed to the new Fisheries regulation (arrêté n°2014-78 TAAF, 2014) and the cut off and move on rule mandatory is mandatory for the season 2014/15. It now integrates

CCAMLR's colour photographic identification guide for the severity of wounds for rays (4 states: 4 -good, 3- average, 2-bad, 1-dead).

Bird mortality

Bird mortality was identified as a key issue for this fishery under the ETP species component. Although accidental catch of albatrosses substantially reduced by limiting fishing operations to night time, there was concern about interactions with the white-chinned petrel (*Procellaria aequinoctialis*) and grey petrel (*Procellaria cinerea*), both of which forage at night. Measures to limit interactions with seabirds include:

- Night line shooting only;
- Closed season from 1 February to 15 March;
- TAAF Seabird Action plan which includes provisions on weighted lines (50g/m minimum), use of streamer lines during setting and Brickle curtain during hauling to scare birds away, discarding of offal and food waste etc. Vessels cannot discard dead birds and must provide data on bird interactions and mortality after each trip (cf. Public Certification Report, 2013);
- Any bird casualties must be handed over to the observer.

Depredation

- Lines must not be hauled in the presence of orcas (to avoid depredation);
- Hauling must stop if orcas are sighted;
- Discards of bait or non-target species takes place away from lines.

Ecosystem protection

- Any benthic features/specimen must be kept and reported using the Vulnerable Marine Ecosystem (VME) identification guide and data reporting form; a sample >1kg/1,000 hooks trigger the vessel to move on (2.5nm);
- No discarding at sea of plastic, rubbish or hooks.

Finally, the species and quantities of bait used were brought up during discussions with the client group at the 1st surveillance audit, which led to a recommendation (n° 8) for annual summaries to be compiled.

4.2.2. Update

The COPEC scientific observers incorporate the data they collect concerning grenadiers, rays and all fish species into the TAAF and MNHN databases as they disembark.

Retained and discarded species

For retained and discarded species, the data collection system is fully functional for with the e-logbooks and validation by observers (COPEC) for 25% of the lines hauled on board each vessel. The cut off and move on rules for rays were made mandatory from the 2014/15 season (TAAF, 2014 annex), and catch figures appear to have declined significantly from 3.9 rays/1000 hooks in 2013/14 to 2.9 in 2014/15 (Figure 2).

However, in its presentation to the C3P, the TAAF DCPN notes that the cut-off rule may not be applied correctly. Most of the rays are immediately cut-off as opposed to only those that may survive as per the CCAMLR guidelines, with just 2 of the 7 vessels in the fleet process a small proportion of the rays they catch. TAAF is designing a study protocol to estimate the survival of released rays.

As per Condition 2, management measures are due to be revised in Year 4 of the certification, and a full analysis of the data is expected at the next surveillance audit.

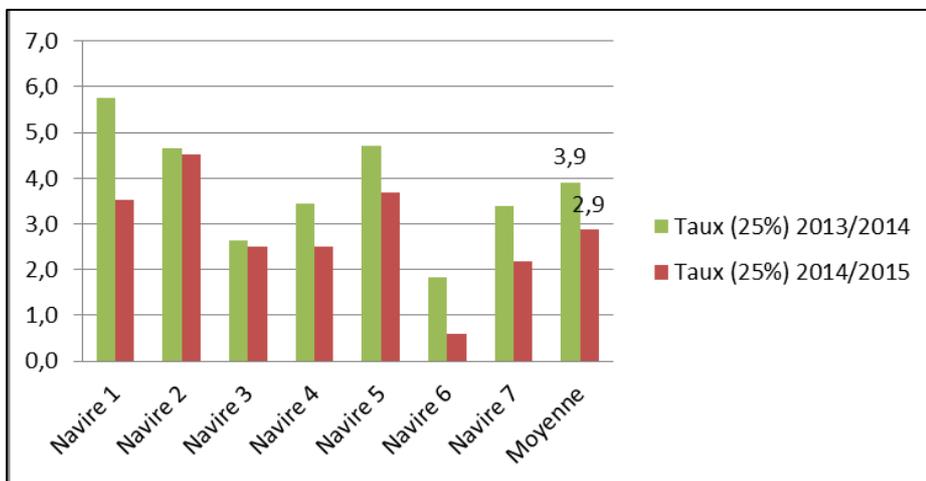


Figure 2. Number of rays caught /1000 hooks observed by the COPEC for each vessel and mean in 2013/14 and 2014/15 (TAAF DCPN).

Around Kerguelen, the capture of grenadiers decreased overall between 2012/13 and 2013/14 with some differences between vessels (2014 surveillance 1 audit). There has been no specific analysis of grenadier catches for 2014/2015 as only partial data were available because of a late end of the season. Catch data are used to compute fishing licence fees (see TAAF, 2015a) and have not flagged noticeable changes.

Bait species

The audit team issued a recommendation (n°6) during the 1st surveillance audit, for the client group to collate and present information annually summarising the quantities of bait used, by species and FAO stocks/ areas of origin, per year. In particular, there was concern regarding the use of mackerel (*Scomber scombrus*) from FAO fishing area 21 (Northwest Atlantic), a stock that is currently in decline (NOAA, 2015). By contrast, the Northeast Atlantic mackerel (FAO area 27) stock is in a healthy state (ICES, 2014), with numerous MSC certified

fisheries (see <https://www.msc.org/track-a-fishery/fisheries-in-the-program/fisheries-by-species/fisheries-by-species - mackerel>), although these were recently suspended because of a breakdown of the Coastal States agreement.

Due to a late finish of the 2014/15 season, data are only available for the first three of four fishing trips and for 5 of the 7 vessels (Table 7). The SARPC data collection revealed that only 4 vessels out of the seven in the fleet were using North American suppliers, and their sourcing strategy is now changing.

Table 7. Species, origin and quantities of bait used in the Kerguelen fishery in 2014/15 (SARPC partial season 4 out of 4 trips and 5 out of 7 vessels¹).

Common name	Scientific name	FAO zone	Tonnes	N ^o of vessels
Mackerel	<i>Scomber scombrus</i>	FAO 21	323.704	4
Mackerel	<i>Scomber scombrus</i>	FAO 27	116.950	1
Horse mackerel	<i>Trachurus trachurus</i>	FAO 27	0	
Squid	Various		0	
Others			0	

ETP species

The total number of birds observed to be dead or wounded during fishing operations was 16 for the 2014-15 season and 20 birds interacted with, from 25% of all lines hauled by the fleet. Using a simple interpolation, this would amount to 80 birds in total for all lines set and a total of 20,112,498 hooks. Observations by the vessel crew from the deck counted 34 in total (Table 8). From the COPEC 25% observations, the 16 birds wounded or killed during the 2014/15 season is higher than the 10 in 2013/14 but lower than the 26 in 2012/2013 (Figure 3). In their presentation to the captains (C3P see section 4.3), the TAAF Nature Conservation Department (DCPN) noted that, given the remaining differences between vessels (from 1 to 12 birds recorded by the crew), it was still possible to improve. In addition, differences between i) numbers reported by the crew (34 interactions) and ii) numbers (20*4 would be 80 interactions) observed on the 25% of the lines by the COPEC need to be better explained and need to decrease overall (TAAF C3P, 2015).

Table 8. Fishing operations impact on birds (25% lines observed and vessels) 2014-15.

Bird	Species	Dead	Wounded	Apparently fine	Total interactions
White-chinned petrel	<i>Procellaria aequinoctialis</i>	10	0	0	10
Grey petrel	<i>Procellaria cinerea</i>	3	0	0	3
Giant petrel	<i>Macronectes spp.</i>	0	3	4	7

¹ 6 out of the 7 vessels provided data but one vessel aggregated the data across Kerguelen and Crozet, so these data were not used in this report.

² <http://www.colto.org/2015/06/29/toothfish-fisheries-lead-the-world/>

	Total (25%)	13	3	4	20
	Totals reported by crew	26	3	5	34

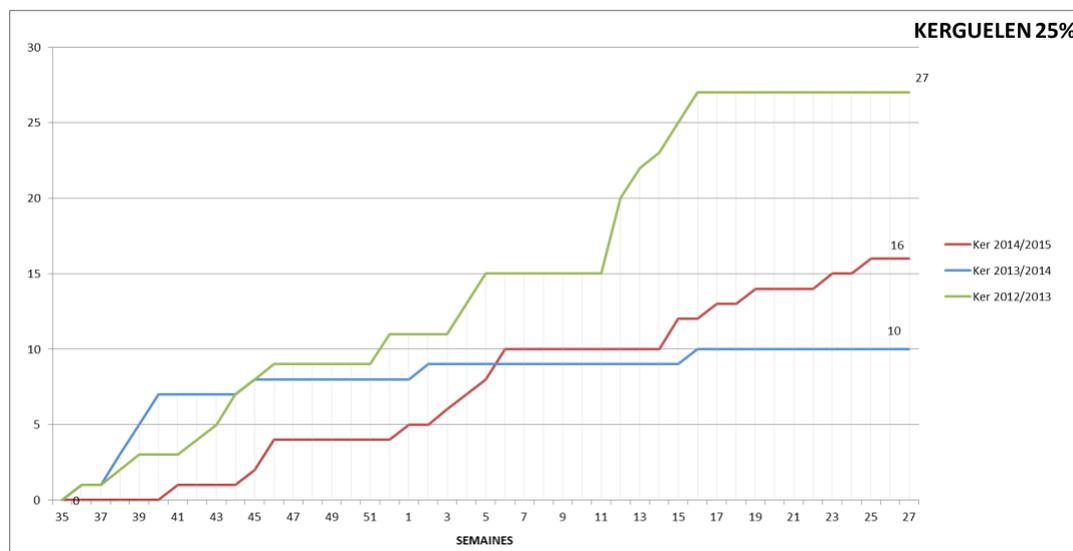


Figure 3. Number of birds found dead or wounded from COPEC observations of 25% of all lines hauled (TAAF DCPN 2014/15 in red, 2013/14 in blue, 2012/13 in green).

Measures in place to avoid attracting marine mammals to the fishery operations, in particular avoiding interactions with *Orca* are still in place (see [PCR report](#)). Depredation is thought to have decreased as a result, although there has been no new analysis. Fishing operations reported no capture of marine mammals.

Habitats and ecosystems

The initial assessment concluded that the fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm. A recommendation was made, however, to continue research into the mapping of benthic habitats and the identification of VMEs at Kerguelen (PI 2.4.2 Habitats management, see section 5.2), and some data and benthic specimens were collected during POKER 3. Taking effect from the 2014/15 fishing season (TAAF, 2014) all benthic specimens found on the 25% of lines observed have to be kept on board and examined in detail by the COPEC. The specimens will be identified and classified as from VMEs according to the CCAMLR VME classification guide (annexed to the regulation. Any rare specimen spotted by the crew will be reported. A limit of 10kg/1000 hooks is now set to trigger a move on rule (2.5 nautical miles). The identification picture guide from a recent CCAMLR VME report (CCAMLR, 2013) is now annexed to the fisheries regulation. A new member of staff was recruited at the MNHN in 2015, to analyse the information collected and compile annual reports.

Observer reports consulted during the 1st surveillance audit include a summary of the numbers of hooks set, hauled and the number of lost hooks. The potential effect is deemed important enough for the TAAF to include hook loss as a new environmental protection criterion in its vessel quota allocation formula from the 2014/15 season. It was therefore recommended that, for the next annual surveillance audit, SARPC and TAAF compile an annual summary per vessel per trip, similar to that for rays and for birds.

The first compilation is presented in Table 9, and indicates an average loss rate of 1.1% of the hooks set. The late finish of the fishing season for some vessels (end of August, just 2 weeks before the surveillance audit) has meant that only partial data are available. The table needs to be completed and include the length of lines set.

Table 9. Numbers of hooks set and lost and length of lost longline (m) for 2014/15 (partial: 3 out of 4 fishing trips and 5 vessels out of 7).

Hooks set	Hooks lost	Lost lines (m)
5,945,048	62,821	75,385
5,391,557	60,325	72,390
5,148,506	61,592	73,910
16,485,111	184,738	221,686

Nevertheless, the data provides a first indication. The differences between vessels and fishing trips will need to be analysed in order to assess the magnitude of hook and leaded line losses and assess potential effects on the ecosystem in more detail. This impact of the fishery, together with incidental mortality of birds and rays, may be discussed further by TAAF DPCN at a C3P cooperative task group in order to identify risk factors and opportunities for improvements and develop best practice guidance with the vessel captains.

Finally, the Coalition of Legal Toothfish Operators (COLTO) founded in 2003, held an Industry-Science workshop in Norway in June 2015 attended by an SARPC representative. The meeting brought together toothfish operators, scientists, government, gear suppliers (longlines and hooks) and toothfish wholesalers (see press release²). The workshop agreed to form two scientific working groups on i) orca (*Orcinus orca*) and sperm whale (*Physeter macrocephalus*) depredation in toothfish fisheries, ii) international scientific collaborative program development notably to collect environment data, and another on iii) Public education and marketing information on toothfish and the fisheries.

4.3. Principle 3

4.3.1. Background

The TAAF is a French administrative autonomous territory grouping several island and Antarctic territories with no permanent civilian population. The administrative services are based in La Réunion and headed by a senior administrator or Préfet. The Préfet sets annual Total Allowable Catch (TAC) and other fisheries management measures by taking into

² <http://www.colto.org/2015/06/29/toothfish-fisheries-lead-the-world/>

account the scientific advice of MNHN, the advice of CCAMLR as well as those of the three ministries of the French government responsible for fisheries, overseas territories, and foreign affairs (see Public Certification Report for detail).

The French Natural History Museum (Muséum National d'Histoire Naturelle - MNHN) based in Paris provides scientific advice for this fishery. Its research laboratory focuses mainly on the marine and fisheries ecology of the TAAF sub-Antarctic area and maintains the PECHEKER database, which contains all fisheries data available for Kerguelen. The MNHN also operates the periodic POKER research cruises for the TAAF (POKER 1 – 2006, POKER 2 – 2010, POKER 3 – 2013). In response in part to the MSC certification of the fishery, in 14/15 the MNHN has recruited a mathematical modeller permanently in charge of the fisheries assessment, and an early career scientist to work on VMEs. The national research institute CNRS at Chizé in France has research programmes on marine mammals and seabirds around Kerguelen. Each of the seven SARPC vessels in the fishery has a scientific “contrôleur de pêche” (COPEC - fishing controller employed by the TAAF and also reporting to the MNHN) on board, with a dual role in enforcement and scientific data collection, tasked to examine 25% of all longlines hauled.

Traditionally, scientific advice has been provided by the MNHN directly to TAAF often informally, and two of the four conditions of certification for this fishery focus on the lack of structured formal scientific stock assessment for management advice (n°1) and to inform a management plan (n°4). The team noted that MNHN scientists met with SARPC in 2013 to present development of the resource assessment models presented at CCAMLR. However, MNHN was not present at the C3P meeting in 2014 when guidelines regarding the TAC were presented by the TAAF, which appeared to be in contradiction with MNHN findings of a healthy biomass.

The 1st surveillance audit noted that the C3P process could be more transparent and more positive in showcasing the significant joint conservation achievements of TAAF and SARPC and the latest scientific advice from MNHN, key aspect to developing an effective Management system under the condition 4.

The team also noted some confusion regarding the precise details of the vessel quota allocation criteria used by TAAF to reward contributions, and conversely penalise any contravention to its fisheries policy point system. TAAF's conservation measures, regarding birds and rays especially, have been embraced by SARPC vessels, but there was no public document issued by the TAAF giving clear details and justification of vessel quotas changes from year to year and the precise basis for the point system to compute vessel quota. Furthermore, fishing companies are reportedly sanctioned (as noted above, it is not clear how) if they fail to land their entire quota – this is presumably the cause of the regular annual overshoot of the quota by a small percentage, which, while unlikely to have any impact on the stock, is not really desirable.

The Centre régional opérationnel de surveillance et de sauvetage en mer – La Réunion (CROSS-RU - part of the DMSOI de la Réunion et des îles Eparses) is the organisation responsible for MCS. Historically and until 2011, there was IUU fishing activities in the Kerguelen zone, but not since. CROSS-RU has the use of a dedicated satellite surveillance system (all vessels are equipped with VMS system), radar surveillance, and the use of French navy frigate patrol days as well as a dedicated surveillance vessel, the Osiris. The CROSS-RU also cooperates on Port State measures at regional level. The TAAF means has its own vessel register, which means that all fishing vessels have to land their catch in La

Réunion (France) in sealed containers that are systematically inspected by customs/ clearing agents upon landing at La Réunion.

4.3.2. Update

The TAAF published a Management Plan for the fishery published in the TAAF Official Journal in August 2015 (TAAF, 2015c). The management plan documents brings together all recent regulatory changes and 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.

Key stakeholders reviewed the draft plan numerous times, although not collaboratively, which may explain some remaining discrepancies. A revision of the management is scheduled after three years (2018 or by Year 5 of the certification), but the current version of the management plan will likely be fine tuned before then and therefore progress against this part of condition 4 (PI 3.2.1 Fishery-specific objective) condition 4 is now back on target overall (details given below).

In order to finalise the management plan on time for the next surveillance audit, quantitative well-defined Harvest Control Rules (HCR) consistent with the harvest strategy have to be defined ensure that the exploitation rate is reduced as limit reference points are approached.

Finally, the Kerguelen fishing season starting on 1st September, means that fisheries management decisions have to be taken before any changes in models or scientific advice can be validated by CCAMLR. This was the case for a TAC increase to 5300 tonnes decided for Kerguelen 2015/16 on the basis of new model developments. A new recommendation is issued regarding effective decision-making processes (PI 3.2.2) and linked to Principle 1 (see 4.1.2). It is important that decisions regarding TAC changes are delayed until after the CCAMLR meetings, to ensure that the fishery's assessment model and exploitation scenarios are validated and can provide TAAF with robust scientific advice (see n°8 section 5.2). Therefore it is recommended that TAC changes should apply to the season following CCAMLR meetings.

Questions also remain regarding changes in the criteria used to allocate vessel quota, which changed again for the 2015/16 season and have been questioned by some of SARPC fishing companies. The lack of a transparent and clear basis for the calculation is undermining the legitimacy of the management system; the decision-making processes are still not co-operative enough to follow best practice. For this aspect of condition 4 (PI 3.2.2 Decision-making processes), the management plan description of consultative mechanisms (1-8 "Les instances de consultation") gives an impression of consultation that is not apparent to vessels owners or vessel captains and not at all apparent in the documents available, which only include TAAF information and prescriptions. This aspect of condition 4 could not be closed at this stage.

The Kerguelen fishing area remains a high-risk zone for IUU activities. There are regular radar sightings of un-registered fishing vessels on the High Seas at the edge of the Kerguelen and there were incursions in the HIMI EEZ in 2014. There has been no IUU catch in the Kerguelen zone since 2011 (CCAMLR, 2014a Fishery Report). A vital element of this

successful record against IUU is the Osiris fisheries patrol vessel, which provides approximately 150 days a year of presence on the fishing grounds. In addition, according to the CROSS-RU, SARPC vessel captains actively collaborate to monitor the fishing zone against IUU while steaming and when fishing in the zone, and are kept informed of any incursion risk. None of the vessels in the fleet had non-compliance records.

4.4. Harmonisation with Australian HIMI toothfish fishery

The Australian Heard Island & McDonald Islands (HIMI) fishery is part of the same meta-population as the Kerguelen SARPC fishery. To reflect this link, a condition was on their PI 3.1.2 score, for “managers of both (*French and Australian*) fisheries to develop compatible management goals”, which was initially linked to the condition imposed on the SARPC fishery. In 2015, it was found “inconsistent with MSC harmonization requirements to retain the condition” for the HIMI fishery. The (*HIMI fishery*) 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”. The condition was closed at their 3rd annual audit in August 2015 (SCS Global Services, 2015).

5. Conditions and Recommendations

5.1. Conditions

Table 10. Condition 1: Sustainable stock assessment process

Performance Indicator & Score	PI number	Scoring issue/scoring guidepost	Score
	1.2.4 – Stock assessment	a. The assessment is appropriate for the stock and for the harvest control rule.	70
Condition	By the end of the five-year certification period, the fishery must have in place a sustainable stock assessment process which i) evaluates the fishery with reasonable regularity; ii) is used to inform decisions about the level of the TAC by TAAF and other stakeholders and iii) is presented for regular review by CCAMLR WG-FSA.		
Milestones	<p>Year 1: Implement WG-FSA work plan. Start to put in place resources (financial and human) to ensure that the stock assessment process is sustainable.</p> <p>Year 2: Finalise the establishment of a sustainable, long-term stock assessment process, which will i) evaluate the resource on a regular basis; ii) provide the main input into scientific advice on management, notably the level of the TAC; and iii) work with CCAMLR WG-FSA and other bodies as appropriate.</p> <p>Year 3 and ongoing: Continue stock assessment process as integral part of fisheries management system</p>		
Client action plan	<ol style="list-style-type: none"> 1. Implement WG-FSA work plan (2012) and submit a report to WG-FSA 2013 and if necessary to WG-FSA 2014 in order to finalise the establishment of a sustainable, long term stock assessment model. By the end of Year 2 of certification. 2. Get the stock assessment model fully approved by CCAMLR scientific committee. By the end of Year 4 of certification. 3. Resources (financial and human) will be put in place to ensure that the stock assessment process is sustainable. By the end of Year 4 of certification. 4. Continue stock assessment process as integrate part of fisheries management system (including data from Poker 3). On-going basis - Poker 3 at the end of 2013. 		
Progress on Condition Year 1	<p>Since the fishery's certification, the MNHN has appointed a stock assessment specialist, on a full-time contract. No updated stock assessment was presented for toothfish in Kerguelen at the CCAMLR WG-FSA in October 2013. It was explained that the third POKER campaign (POKER 3) had only just terminated at that stage and that its biomass estimates would be incorporated into the stock evaluation for the following year.</p> <p>Some provisional results were presented at CCAMLR-FSA in 2013, however, following adjustments in the analysis in collaboration with Australian Heard Island fisheries scientists, in terms of the number of fisheries and seasons used, weighting of data according to the method of Francis and incorporation of biomass and length-frequency estimates following the POKER 3 campaign. The revised stock assessment model is to be presented at CCAMLR-FSA in 2014. Results were also</p>		

	<p>presented and discussed by the MNHN with TAAF and with SARPC. This demonstrates that progress has been made against the CCAMLR WG-FSA work plan for a more robust stock assessment.</p>
<p>Progress on Condition Year 2</p>	<p>A regular collaboration between the MNHN and the Australian modellers through annual meetings since 2014 has led to significant progress in model development. The improved model presented at CCAMLR WG-FSA in October 2014, which incorporates data from the Poker3 research cruise. The FSA commended the work progress so far and found that the model could be used to provide short-term management advice. Points 1 and 4 of the Client action plan above are therefore met.</p> <p>The stock-assessment specialist at the MNHN has been recruited on a long-term contract, with a clear commitment from the French Ministry (DPMA) that the post is made permanent. Point 3 of the Action Plan is therefore met ahead of schedule.</p> <p>New model developments are to be presented at the CCAMLR meetings in October 2015, which include new Kerguelen-specific ageing data and simulations to evaluate harvesting scenarios. Point 2 is on schedule.</p> <p>To remain on target with the client action plan, the stock assessment process should be approved by WG-FSA as the basis for ongoing (rather than just short term) scientific advice by audit Year 4 (i.e. CCAMLR meeting 2016, assuming audit timing remains the same).</p> <p>In relation to the milestones set by the MSC assessment team, Year 2 required '<i>...the establishment of a sustainable, long-term stock assessment process, which will i) evaluate the resource on a regular basis; ii) provide the main input into scientific advice on management, notably the level of the TAC; and iii) work with CCAMLR WG-FSA and other bodies as appropriate</i>'. This is essentially met, as noted above. However, the audit team were concerned about how the scientific advice feeds into the TAC-setting process (point ii) – notably the lack of transparency around how TAAF sets the TAC and allocates individual quotas. It appears to the team that the MNHN analysis is mainly used as a post-hoc process to check that the TAC set by TAAF is within sustainable limits, rather than as an upfront basis for deciding what the TAC should be. This has not, for the moment, impacted on the sustainability of the fishery, however (although it is not ideal), and hence is more a question related to Condition 4 (harvest control rules and tools, decision-making process) and is discussed further in that context.</p>
<p>Status of condition</p>	<p>Progress against this condition is 'on target'.</p>

Table 11. Condition 2: Systematic monitoring of grenadiers, rays and bycatch code of conduct

	PI numbers	Scoring issue/ scoring guidepost	Score
<p>Performance Indicators & Scores</p>	<p>2.1.1</p>	<p>a. Main retained species are highly likely to be within biologically based limits</p> <p>c. 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.</p>	<p>60</p>

	2.1.2	<p>a. 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.</p> <p>c. There is some evidence that the partial strategy is being implemented successfully.</p>	70
	2.1.3	<p>b. Information is sufficient to estimate outcome status with respect to biologically based limits.</p> <p>d. 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)</p>	70
Condition	<p>A monitoring system needs to be put in place for grenadiers and rays, appropriate to the scale of the fishery, which will provide indication of possible risks to the stock. This may be by analysis of trends in CPUE or by some other suitable method.</p> <p>The assessment team needs to see evidence of the systematic implementation of the code of conduct.</p> <p>A process of review and revision of the code of conduct in the light of trends in the fishery is required. Future iterations of the code of conduct should be more specific about management requirements, and circumstances under which vessels should move on, and these should be formalised in management regulations as required.</p> <p>The fishery should provide data on catch of rays and grenadiers at each annual audit.</p>		
Milestones	<p>1. Monitoring of grenadiers and rays: Year 1: Consult with MNHN on a monitoring systems for grenadiers and rays, including resource requirements. Year 2: Finalise and implement the monitoring system for grenadiers. Year 3 and on: Continue implementation. Review management as required in the light of monitoring results.</p> <p>2. Implementation of code of conduct Year 1 and on: Provide evidence that the code of conduct is being implemented systematically by all SARPC members (e.g. examples of decisions taken, data on bycatch).</p> <p>3. Review and revision of code of conduct Year 3: After two years of data, work with MNHN to review the results of the code of conduct in terms of reduction in bycatch rates. Year 4: Revise code of conduct as required in the light of monitoring and review results.</p>		
Client action plan	<p>1. Finalise the implementation of the monitoring system for grenadiers and skates by-catch - MNHN with data provided by TAAF observer collected on SARPC Fishing Vessels - Fully operational by start of Year 2 of certification.</p> <p>2. Vessels moving on when high catches of bycatch species are obtained, avoiding hotspot areas - DPMA / TAAF observers - Fully operational by start of Year 2 of certification.</p> <p>3. Assessment of the code of good practice in terms of reduction in by-catch</p>		

	<p>rates. – MNHN - Fully operational by start of Year 3 of certification.</p> <p>4. Revision of the code of good practise and issuance of conservative measures if necessary - MNHN, TAAF, DPMA, SARPC - Fully operational by start of Year 2 of certification.</p>
<p>Progress on Condition Year 1</p>	<p>Monitoring system for bycatch is fully functional for grenadiers, rays and any other fish species, checked by observers (COPEC) on board each vessel. Code of conduct for rays/skate supplemented with CCAMLR picture identification of wounds signs and health state of rays to guide cut off decisions. Catch figures show a decrease of the two main species of ray caught by the fishery over the past three seasons. From season 2014/15, the cut off and move on rules are mandatory.</p>
<p>Progress on Condition Year 2</p>	<p>Monitoring systems are in place for all species groups, based on the detailed COPEC observation of 25% of the lines hauled. The 2011 MNHN Code of conduct has been supplemented by CCAMLR guidelines to cut off rays that may survive, and management measures have been adapted (TAAF, 2014). Observer data suggest that mandatory cut off and move on rules from 2014/15 may have reduced ray catches substantially (from 3.9 to 2.9/1000 hooks), but a detailed analysis has not yet been done by MNHN.</p> <p>In terms of the client action plan, points 1 and 2 are met and progress against points 3 and 4 is on target. In terms of the milestones, the monitoring system is in place (point 1 – all milestones met); evidence of implementation of the code of conduct is provided by observer reports (point 2 milestone met).</p> <p>For the next surveillance audit, TAAF and MNHN will need to analyse all available information in terms of bycatch rate reduction, in order to evaluate the effectiveness of the code of conduct prior to any revision following on from Gasco and Duhamel (2011) (milestones point 3, client action plan, point 3).</p>
<p>Status of condition</p>	<p>Progress against this condition is 'on target'.</p>

Table 12. Condition 3: Targets and best practice for grey petrels

Performance Indicator & Score	PI number	Scoring issue/ scoring guidepost	Score
Condition	2.3.1	b. 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 - for grey petrels	75
Milestones	<p>Declines in bird mortality need to continue until all vessels are performing at the best possible level. There should be an improvement (decline) in bird mortality each year of certification, with a target at the end of Year 4 of certification of not more than 25 birds for each vessel, and/or an overall average of 20 birds/vessel at Kerguelen (all species combined). (Note: it is not possible to set quantitative targets for grey petrels specifically because the bycatch numbers are too small to make this realistic – this is explained in detail in the response to stakeholder comments, PCR Annex 6.)</p> <p>In addition, a monitoring system is required to identify the level of risk posed by the fishery to the Kerguelen grey petrel population, including specific bycatch targets for grey petrels.</p> <p>Figures for estimated bird bycatch by species and by vessel should be provided at each annual audit.</p> <p>Year 1: Continued implementation of bird action plan by all vessels. Establish system within SARPC to lower performing vessels to learn from best performers. Start discussion with TAAF and bird experts on requirements for monitoring and bycatch targets for the Kerguelen grey petrel population.</p> <p>Year 2: Implementation of bird action plan by all vessels. Finalise plan for grey petrel monitoring, and bycatch targets for grey petrels.</p> <p>Year 3: Implement monitoring programme, and evaluate population status and bycatch impacts. Revise bycatch targets as required.</p> <p>Year 4: If bycatch targets are not met, develop a second action plan, which identifies the main causes of on going bycatch and how to address them. Year 5 and on: Implement second action plan if required.</p>		
Client action plan	<p>1. Continue implementation of bird action plan by all vessels. TAAF- SARPC On going process already started.</p> <p>2. Establish system within SARPC with agreement of TAAF to allow lower performing vessels to learn from best performers. SARPC-TAAF In place by Year 2.</p> <p>3. Continuation of the Assessment of the Kerguelen grey petrel population. Results will be presented to ACAP 2013 by Year 2 of certification and on going (TAAF).</p> <p>4. Bycatch figures compiled and analysed by species and by vessel TAAF Year 1 and on going.</p>		
Progress on Condition Year 1	<p>On going implementation of the Action Plan by all vessels and detailed monitoring is in place and has shown a dramatic decrease of numbers of birds</p>		

	<p>caught in the fishery during Year 1 of certification. Some sharing of best practice through C3P and between vessels takes place through SARPC.</p>
<p>Progress on Condition Year 2</p>	<p>In terms of measures, implementation by the vessels and reporting of results, the condition is way ahead of target, with continued low number of birds caught, below the quantitative targets set by the MSC team (at the insistence of stakeholders). The bird action plan is fully implemented according to observer reports, and is a mandatory requirement.</p> <p>In terms of grey petrels, DCPN monitor and report bird deaths and injuries by species, with impacts on grey petrels amounting to 3 dead animals (reported) in the 2013-14 season. Quantitative targets have not been set, but the team accepted the argument that this level of mortality would be below any likely target (or maximum) levels.</p> <p>On this basis, the Year 1 and 2 milestones and action plan requirements have been met.</p> <p>Further progress may be limited by a lack of transparency regarding individual vessel results, which are only discussed with individual vessels by TAAF and not shared cooperative in discussions between vessel captains.</p> <p>The C3P does not currently allow for discussion and exchange of best practice between the best and least performing vessels. Results are briefly presented by TAAF, but SARPC would rather the discussion be more transparent and cooperative with TAAF DCPN and bird experts and openly between vessels. Furthermore, the basis by which TAAF 'rewards' good performing vessels with additional quota is unclear and un-transparent. In this respect, more analysis and a Task group process are needed to ensure that current results keep improving – as acknowledged by TAAF.</p>
<p>Status of condition</p>	<p>Bird mortality has decreased significantly; the overall results are on target through TAAF DCPN monitoring and control of individual vessels. As yet, there is no system cooperative system for vessels to openly share, discuss and learn from their implementation of best practice within the fleet.</p>

Table 13. Condition 4: Fishery management plan

Performance Indicators & Scores	PI numbers	Scoring issue/ scoring guidepost	Score
		1.2.2	Harvest control rules and tools
	3.2.1	Fishery-specific objectives	75
	3.2.2	Decision-making processes	70
Condition	Produce a management plan for this fishery, focusing on the management of the toothfish resource (i.e. Principle 1). The plan should set out for the short- term (~5-10 years), i) the objective of management; ii) how that objective will be achieved; i.e. the harvest control rules which control how decisions on the TAC will be taken, iii) what information will be used and how it will be used and iv) how the management plan will be evaluated, reviewed and revised on an on going basis. The management plan should be available to stakeholders on a transparent basis.		
Milestones	<p>Year 1: Consultation on management plan between SARPC, TAAF and MNHN. Methods and means for drafting plan agreed.</p> <p>Year 2: Draft plan and present for review to stakeholders.</p> <p>Year 3: Finalise plan.</p> <p>Year 4 and on: Implement plan.</p>		
Client action plan	<ol style="list-style-type: none"> 1. Finalising and approving the plan of management of the fishery, which is based on the draft memo issued by TAAF. By the end of Year 2 of certification Draft management plan and Year 3 Final management plan. 2. Assess the implementation of the Management plan as stated by the TAAF and approved by all stakeholders By the end of Year 4 of certification. 3. Review and improvement of the management plan by Year 5 of certification 		
Progress on Condition Year 1	<p>Significant progress has been made on developing the stock assessment model (condition 1) with the Australian scientists providing scientific management advice for the HIMI stock of the Kerguelen Plateau. Once this step is validated at the forthcoming CCAMLR 2014 meeting, a Fisheries Management Plan will be produced. It will bring together existing elements in a coherent and comprehensive manner.</p> <p>Progress against this condition is behind target. New sets of conservation measures to strengthen management have been introduced but consultation on the management plan has not been initiated. Information presented at the 2014 C3P meetings does not correspond to MNHN analyses on the state of stock.</p> <p>To stay on target, the following will need to be finalised before the next surveillance audit:</p> <ul style="list-style-type: none"> • Harvest control rules, which control how decisions on the TAC will be taken; • Communication of information used and the rules of the vessel quota allocation formula, publicly available summary data tables for toothfish, main 		

	<p>retained, discarded and ETP species (indicating corrections for 25% observation rule);</p> <ul style="list-style-type: none"> • Communication of the agenda and minutes of C3P meetings; • A process for the evaluation and revision of the Management Plan.
<p>Progress on Condition Year 2</p>	<p>A draft management was circulated among stakeholders, and published in August 2015 (TAAF, 2015c). The Management Plan evaluation is scheduled after three years (2018). Progress for this condition is therefore back on target in relation to the milestones and the client action plan, although some essential aspects are missing from the draft plan for the condition to be closed as yet:</p> <ul style="list-style-type: none"> • <u>Harvest control rules (HCRs) are not yet sufficiently clear and transparent.</u> The team accepted the argument that this is due to the fact that the process of full development of the stock assessment model is still ongoing. However, to remain on target, transparent harvest control rules will need to be incorporated into the management plan once the new model developments are validated by CCAMLR to provide a firm basis for TAC decision rules. <u>Progress on this point by next year's audit is essential;</u> • Some detailed information was presented by TAAF at the C3P meeting regarding vessel performance with respect to rays, birds and the hook/line loss criteria now part of the vessel quota allocation rules. Some changes in the rules for 2015/16 have not been openly communicated and have been part of an ongoing discussion between stakeholders. The criteria system will need to be published and explained (or incorporated into the management plan) in order to serve its purpose as a basis for transparent decision-making; • The C3P will need to convene as a more transparent task group to analyse information from the vessel captains and encourage open discussions between vessels and with TAAF and MNHN scientists to collaborate identifying further best practice rules.
<p>Status of condition</p>	<p>Progress for this condition 'on target' overall</p>

5.2. Progress against recommendations

Table 14. Recommendation 1: On-board tag detectors

Performance Indicator	PI number	Scoring issue/ scoring guidepost
		1.2.3
Recommendation	<i>Both peer reviewers queried whether tag returns in this fishery might be lower than those on the Australian side, and whether this makes the data less useful overall. It is therefore recommended by the assessment team, that SARPC investigate the utility of equipping all the vessels with tag detectors, as is reported standard in the HIMI zone.</i>	
Progress on Recommendation Year 1	There appears to be a very high variability in toothfish tag return rates between fishing zones, fishing gear (higher from fish marked from trawl than from longline), areas and years within CCAMLR fisheries, which is not yet explained. CCAMLR's recommendations have been to provide additional training to scientific observers for a selection of the healthiest fish and proper tagging techniques. The COPECs note support from the crew during tagging and a strong motivation to return tags. FSA-WG report, 2013 and Observer reports.	
Progress on Recommendation Year 2	<p>The client group reported a continued and full support from the vessel captains and crew for any tagging and tag reporting tasks, which was confirmed by TAAF (including ex-COPEC) and the MNHN staff at the site visit.</p> <p>It was also noted that tag detectors on board the Australian vessels are for electronic tags, which are not used in Kerguelen because of the much larger fishing area.</p> <p>The team concluded that the existing strategy is appropriate. This recommendation is met.</p>	

Table 15. Recommendation 2: Evaluation of ray discard mortality

Performance Indicator	PI number	
		2.1.2
Recommendation	In addition to the condition, the team recommends that further information is sought, either from a desktop review or from field studies, on the survivorship of rays at Kerguelen after being cut off the line, to elucidate the apparent differences between Kerguelen and South Georgia, which could relate to the species mix, the ecosystem or fishing practices, or a mixture. On the basis of this information, the conservation strategy for rays could be reviewed.	
Progress on Recommendation Year 1	No specific progress on this aspect.	
Progress on Recommendation Year 2	A first analysis by TAAF DCPN of the numbers of rays processed, discarded and cut off was presented to the vessel captains, showing that most rays are presently cut off irrespective of their survival prospects. A study is planned.	

Table 16. Recommendation 3: Focus bird objectives on grey petrels specifically

Performance Indicator	PI number	
	2.3.2	There is evidence that the strategy is being implemented successfully for grey petrels
Recommendation	It would be useful to evaluate the effectiveness of the above measures, and of individual vessels, in relation to grey petrels specifically, and if necessary re-focus on those measures which reduce mortality of grey petrels in particular. We note that further to the PCDR stage of this report, TAAF have started this process (draft note on conservation objectives in relation to grey petrels provided to assessment team, July 2013).	
Progress on Recommendation Year 1	TAAF and SARPC are actively working on reducing interactions with grey petrels. Only 8 grey petrels were reported caught (dead) for 2013/2014. With the extrapolation from only 25% of the lines fully observed, this correspond to about 1 bird for each for two of the SARPC seven vessels. The current process of bird mortalities is discussed by TAAF with each vessel concerned individually after each fishing trip and best practice guidelines that have emerged are proving very effective. However, figures are not shared or discussed by TAAF openly with all vessels captains present, which limits shared understanding within the fleet.	
Progress on Recommendation Year 2	Three grey petrels were reported caught (dead) for 2014/15 on the 25% lines observed. The TAAF DCPN is monitoring progress and urging for further decrease. A possible cooperative TAAF-SARPC task group, to identify and openly discuss further improvements constraints and opportunities between vessels is considered.	

Table 17. Recommendation 4: On-going habitat mapping

Performance Indicator	PI number	
		2.4.2
Recommendation	Further to stakeholder comments at the PCDR stage of this assessment, it was requested that the assessment team add a recommendation that research be continued into the mapping of benthic habitats and the identification of VMEs at Kerguelen. The assessment team is aware that this research is on going, and is a key part of the long-term objectives of the POKER cruises, and is happy to add this recommendation.	
Progress on Recommendation Year 1	Some identification of benthos and benthic habitats took place during POKER 3, but there has been no recent dedicated research cruise. However, taking effect from the 2014/15 fishing season, the new fisheries regulation (TAAF, 2014) dictates to keep on board all benthic specimens found on the 25% of lines examined in detail by a COPEC. The specimens are to be identified and classified as from VMEs according to the CCAMLR guide annexed to the regulation (arrêté). Any rare specimen spotted by the crew will also be reported. A limit of 10kg of benthos/1000 hooks is now set to trigger a move on rule (2.5 nautical miles) (POKER 3 report and presentations from the C3P meeting August 2014)	
Progress on Recommendation Year 2	The CCAMLR VME guide (2013) is now annexed to the TAAF fisheries legislation. COPECs are tasked to keep all VME elements found on the 25% lines observed for further studies. A dedicated member of staff was recruited at the MNHN to monitor and analyse the specimens collected. This recommendation is met.	

Table 18. Recommendation 5: On going research into Kerguelen marine ecosystem

Performance Indicator	PI number	
		2.5.1
Recommendation	Further to stakeholder comments at the PCDR stage of this assessment, it was requested that the assessment team add a recommendation that research into the Kerguelen ecosystem and the role of toothfish within it should continue. The team is happy to add this recommendation.	
Progress on Recommendation Year 1	There is a comprehensive programme of ecosystem research on Kerguelen, covering the terrestrial as well as the marine side. The appointment of a full-time fisheries scientist at the MNHN dedicated to the Kerguelen fisheries triggered an increase in the collaboration with Australia and New Zealand. In La Réunion, the TAAF has just recruited a young scientist in charge of the environmental monitoring of fisheries impacts	
Progress on Recommendation Year 2	On going as above. This recommendation is met.	

Table 19. Recommendation 6: Compile quantities species and FAO stocks/ areas of origin of bait used (from 1st Surveillance audit)

Performance Indicator	PI number	
	2.1.3	Information is adequate to support a partial strategy to manage main retained species.
Recommendation	The team recommends that SARPC compiles a summary table per fishing season indicating the quantities of bait used, by species and FAO stocks/ areas of origin, per year	
Progress on Recommendation Year 1	There was concern regarding the use of mackerel (<i>Scomber scombrus</i>) from FAO fishing area 21 (Northwest Atlantic), a stock that is currently in decline (NOAA, 2015). A first compilation by SARPC shows that only 4 of the 7 vessels used some for bait. They have now changed supply source to use more sustainably sourced Northeast Atlantic species instead. A summary table will be compiled by SARPC annually.	
Progress on Recommendation Year 2	An annual summary table was provided. The recommendation is met.	

Table 20. Recommendation 7: Compile total number of hooks and length of leaded lines lost during fishing operations (from 1st Surveillance audit)

Performance Indicator	PI number	
	3.2.2	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.
Recommendation	The team recommends that TAAF/SARPC compiles a summary table per fishing season indicating the total number of hooks and the length of leaded lines (per fishing trip/campaign) lost during fishing operations	
Progress on Recommendation Year 1	TAAF has reportedly included hook loss as a new environmental protection criterion in its vessel quota allocation formula from the 2014/15 season (although these criteria are not public so this could not be verified). A first compilation by SARPC gives an average hook loss rate of 1.1%. The differences between vessels and fishing trips will need to be analysed in order to assess the magnitude of hook and leaded line losses, discuss potential effects on the ecosystem, and develop guidance for best practice. A possible cooperative TAAF-SARPC task group, to identify and openly discuss further improvements constraints and opportunities between vessels is considered.	
Progress on Recommendation Year 2	An annual summary table was provided. The recommendation is met.	

6. Tracking and Traceability

There has been no change to the traceability system for SARPC products and all vessels in the client group have separate chain of custody certification (CoC). CoC audits for 2015 were completed in November.

7. Conclusion and Certification Recommendation

The audit team concludes that progress has been made towards all conditions that were set and with non-binding recommendations. The fishery’s overall progress is considered to be on target.

The stock assessment process (Condition 1) has being strengthened and the MNHN capacity is now permanently assured. The models to support management advice are still being developed, with new information (age determination and POKER research cruise) incorporated. Advice to support the harvest strategy is being developed. Progress is therefore on target for Condition 1.

The monitoring systems for retained and bycatch species (Condition 2) are in place, the MNHN code of conduct is implemented and now completed by CCAMLR guideline on cut off for rays. Bycatch is being reduced and new measures included, more detailed analyses are planned. Progress is on target for Condition 2.

Condition 3 concerned the fisheries impact on grey petrels specifically is also on target, with greatly reduced accidental catches. Further analyses and collaborative work is planned between TAAF and vessel captains to ensure improvements can be shared between vessels. Condition 3 is on target.

A Fishery Management Plan (Condition 4) has just been published. Some elements, such as more precise Harvest Control Rules, however, need to be refined. In the Year 1 audit, the audit team suggested that this should be a milestone for Year 2 (i.e. this audit), but the audit team this year accepted the argument that it was appropriate to wait for the final development of the stock assessment model and system. Overall, therefore, Condition 4 remains on target for the moment. The issue of clear harvest control rules and a transparent TAC-setting, quota-allocation and decision-making process will, however, be subject to particular scrutiny at next year’s audit.

The surveillance audit brought up one aspect that concerns Principle 1 and Principle 3 and the coming 2015/16 season, namely the risk that the fishery management decisions regarding changes in TAC are taken before new scientific advice can be validated by the CCAMLR scientific working groups. The following recommendation (n°8) is issued in order to avoid such risk in the future.

Table 21. Recommendation 8: Compile total number of hooks and length of leaded lines lost during fishing operations (from 2nd Surveillance audit)

Performance Indicator	PI number	
	3.2.2	Effective decision making processes
Recommendation	The team recommends that TAC changes should apply to the season following CCAMLR meetings at the earliest.	

On the basis of the above, MEC recommends that SARPC should retain its MSC certification for the Kerguelen toothfish fishery for another year.

In accordance with the Certification Requirements v1.3, the frequency of future surveillance visits was calculated for this fishery. The initial surveillance score of 5 (see PCR, 2013) remains unchanged, with a normal surveillance level through annual on-site surveillance audits.

8. References

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