Echebastar Indian Ocean Skipjack Tuna Purse Seine Fishery

MSC Certificate code: MSC-F-30029

Surveillance Report

FEBRUARY 2020

Conformity Assessment Body (CAB)	Bureau Veritas Certification Holding SAS
Assessment team	Kevin Stokes, José Ríos
Fishery client	Pesqueras Echebastar S.A. (Echebastar)
Assessment Type	First Surveillance

1 Contents

2 Glossary

The terms below do not contradict terms used in the MSC-MSCI Vocabulary

ACDR	(MSC) Announcement Comment Draft Report
AM	Acoura Marine
ANABAC	Asociación Nacional de Armadores de Buques Atuneros Congeladores
ASAP	Age structured assessment program
ASPM	Age structured production model
AZTI	Spanish (Basque) fisheries research institute
BET	Bigeye tuna
Blim	Limit biomass reference point
Bmsy	Biomass achieving maximum sustainable yield
BV	Bureau Veritas
CDR	Certifier Desk Review
CEPESCA	Confederaciónón Española de Pesca
CITES	Convention on International Trade in Endangered Species of Flora and Fauna
CPUE	Catch per unit effort
CR	MSC Certification Requirements
DEA	Electronic Logbook (Diario Electrónico de a Bordo)
dFAD	drifting Fish Aggregating Device
EAFM	Ecosystem Approach to Fisheries Management
EC	European Commission
EEZ	Exclusive Economic Zone
EIO	Echebastar Indian Ocean
ESWG	Echebastar Sustainability Working Group
ETP	Endangered, threatened and protected species
EU	European Union
F	Fishing Mortality
FAD	Fish aggregating device
FAM	MSC's Fisheries Assessment Methodology
FAO	Food and Agriculture Organisation of the UN
FAO	United Nations Food and Agriculture Organisation
FCI	Fisheries Certification International
Flim	Limit reference point for fishing mortality
FMC	Fisheries Monitoring Center
F_{MSY}	Fishing mortality achieving maximum sustainable yield
Fpa	Fishing mortality expected to maintain the SSB at the precautionary reference point
FSC	Free School
HCR	Harvest Control Rule
IO	Indian Ocean
IOTC	Indian Ocean Tuna Commission
IPNLF	International Pole and Line Foundation
IUU	Illegal, unreported and unregulated fishing
LL	Longline
LME	Large marine ecosystem
MAPAMA	Spanish Ministry of Agriculture, Food and Environment (Ministerio de Agricultura, Alimentación y Medioambiente)
MCS	Monitoring, Control and Surveillance
MFAg	Ministry of Fisheries and Aquaculture of Seychelles
MSC	Marine Stewardship Council
MSE	Management Strategy Evaluation
MSY	Maximum Sustainable Yield
NGO	Non-Governmental Organisation
OPAGAC	Organización de Productores Asociados de Grandes Atuneros Congeladores
P1	MSC Principle 1
P2	MSC Principle 2
P3	MSC Principle 3

PCR	MSC Public Certification Report
PI	MSC Performance Indicator
PNA	Parties to the Nauru Agreement
PRI	Point of Recruitment Impairment
PSA	productivity-susceptibility analysis
RBF	MSC's risk based framework
RFMO	Regional Fisheries Management Organisation
SA	MSC Surveillance audit
SC	Scientific Committee of the Indian Ocean Tuna Commission
SFA	Seychelles Fishing Authority
SFPA	Sustainable Fisheries Partnership Agreements
SGCI	Spanish Sub-directorate for Fisheries Control and Inspection (Subdirección General de Control e Inspección)
SGP	Spanish General Secretariat for Fisheries (Secretaría General de Pesca)
SI	Scoring Issue (MSC)
SICA	Scale Intensity Consequence Analysis
SIDS	Small Island Developing States
SKJ	Skipjack tuna
SONAR	Sound navigation and ranging
SS3	Stock Synthesis 3. Length based stock assessment modelling
SSB	Spawning Stock Biomass
SWIOP	Development and Management of Fisheries in the Southwest Indian Ocean
t	Metric tons, Unit of weight used in referring to catch or landings
TAC	Total Allowable Catch
UoC	Unit of Certification
UNCLOS	United Nations Convention on the Law of the Sea
VMS	Vessel Monitoring System
WPB	Working Party on Billfish
WPEB	IOTC Working Party on Ecosystems and Bycatch
WPTT	IOTC Working Party on Tropical Tunas
WWF	World Wide Fund for Nature
YFT	Yellowfin tuna
PRI	Point of Recruitment Impairment
PSA	productivity-susceptibility analysis
RBF	MSC's risk based framework
RFMO	Regional Fisheries Management Organisation
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WWF	World Wide Fund for Nature
YFT	Yellowfin tuna

3 Executive summary

The fishery got the MSC certificate in November 2019. The initial assessment was undertaken as part of the MSC's pilot 'streamlining process' (formerly simplification) (https://improvements.msc.org/database/streamlining) that aimed to streamline the CR2.0 assessment process. Current surveillance audit was conducted against FCP2.1 and MSC Full Assessment Reporting Template v2.01 was used to elaborate current report.

As summarised in **table 3-1**, 8 binding conditions were raised on P2 and P3 related Performance Indicators (PIs): 2.3.3, 2.4.1, 2.4.2, 2.4.3, 2.5.3, 3.1.2, 3.2.1, 3.2.2. Also, 3 non-binding conditions were set on PIs 1.2.1, 2.3.3 and 2.4.3.

This fishery was initially assessed and certified by Lloyd's Register. However, the client decided to change the CAB before the first surveillance audit. Bureau Veritas as the succeeding CAB reviewed the reasons for the requested transfer, conducted a desk-based pre-transfer review in accordance with GR 4.11.3(c) and accepted the contract and continued with the certificate holder's existing surveillance program since no risks were identified at that stage. Then, the client confirmed Lloyd's Register the intent to transfer and the 'transfer date' was agreed between all parties and MSC was notified in accordance to GR4.11.8. Bureau Veritas issued a new certificate which was updated in the MSC-database and website. In accordance with GR 4.11.17, the transfer of certificate between CABs did not affect:

(i) The expiry date, which remains the same as the expiry date of the preceding CAB's certificate the conditions
(ii) All conditions raised by the preceding CAB remain applicable, unless they are closed or revised as a result of an on-site assessment or audit by the succeeding CAB
(iii) The surveillance audit plan set by the preceding CAB will be followed

As a result of current surveillance audit PI 1.2.1 and PI 1.2.2 were re-scored (see **section 5.4**) and two new conditions were set (conditions 9 and 10 in **section 5.2**). New action plans developed by the client to address these new conditions are presented in **section 5.3**. For both new conditions set during the first surveillance audits (on PI 1.2.1 and 1.2.2), evidence for scoring at SG80 will take time to accrue, slightly beyond the period of certification. FCP 7.18.1.5 is therefore invoked with the conditions drafted to result in improved performance to the 80 level at the first surveillance following re-assessment.

Also, during the site visit it became clear that editorial errors occurred with the wording of Conditions 7 & 8, since justifications and milestones for both conditions were mixed. Thus, modified justification and milestones for these 2 conditions are presented in the current surveillance audit. The re-wording was done during the site visit in agreement with the ESWG. Corrected client action plans were presented by the client for these 2 conditions (see section 5.3).

All the conditions set during the initial assessment were found to be 'On Target', but for Condition 8 which was found to be 'Ahead Target'.

Table 1-1 presents scores given to each MSC Principle as published at the PCR and after current surveillance audit, while **table 1-2** presents scores for each Performance Indicator.

Table 1-1. Scores obtained by the fishery for each MSC Principle as published at the PCR and subsequent surveillance audits.

Final Principle Scores		
Principle	**Score (PCR)**	**Score (1SA)**
Principle 1 – Target Species	90.0	86.7
Principle 2 – Ecosystem	80.7	=
Principle 3 – Management System	81.9	=

Table 1-2. PIs scores of the certified fishery as published at the PCR and subsequent SAs (in orange scores below 80, meaning a condition was raised for that PI).

Principle	Component	Performance Indicator (PI)		PCR	1SA
One	Outcome	1.1.1	Stock status	100	=
		1.1.2	Stock rebuilding	N/A	=
	Management	1.2.1	Harvest strategy	85	70
		1.2.2	Harvest control rules & tools	80	75
		1.2.3	Information & monitoring	90	=
		1.2.4	Assessment of stock status	85	=
Two	Primary species	2.1.1	Outcome	90	=
		2.1.2	Management strategy	85	=
		2.1.3	Information/Monitoring	95	=
	Secondary species	2.2.1	Outcome	80	=
		2.2.2	Management strategy	85	=
		2.2.3	Information/Monitoring	85	=
	ETP species	2.3.1	Outcome	80	=
		2.3.2	Management strategy	85	=
		2.3.3	Information strategy	70	=
	Habitats	2.4.1	Outcome	70	=
		2.4.2	Management strategy	75	=
		2.4.3	Information	75	=
	Ecosystem	2.5.1	Outcome	80	=
		2.5.2	Management	80	=
		2.5.3	Information	75	=
Three	Governance and policy	3.1.1	Legal &/or customary framework	80	=
		3.1.2	Consultation, roles & responsibilities	75	=
		3.1.3	Long term objectives	100	=
	Fishery specific management system	3.2.1	Fishery specific objectives	75	=
		3.2.2	Decision making processes	75	=
		3.2.3	Compliance & enforcement	85	=
		3.2.4	Monitoring & management performance evaluation	80	=

The main findings of current surveillance audit are listed below:

- The client has constituted a working group (Echebastar Sustainability Working Group, ESWG) to deal with needs derived from maintaining the MSC certificate. Besides, a website (https://echebastar.com/echebastar-certificada-por-msc/msc-up-to-date/) was created to provide updated information related the different sustainability activities where the company is involved. Analysed catch data for 2017 and 2018 based on data recorded by observers on board the Echebastar fleet can be downloaded from this site, together with semi-annual landing reports and active fishing licences from each of the certified vessels.
- Based on the actions triggered as part of the different sustainability activities where the company is involved (SIOTI, Echebastar Strategy & Operational Plan, Echebastar FAD Management Plan…) and the new Policies and Plans developed by the Government of Seychelles (the 'Seychelles Fisheries Sector Policy And Strategy 2019' and the 'Fisheries Comprehensive Plan'), progress on all conditions set during initial assessment was found to be 'ON TARGET', but for Condition 8 which was found to be 'AHEAD OF TARGET'.

- New information on Indian Ocean skipjack catches in 2018 raises concerns at scoring issues 1.2.1a and especially 1.2.2c. These scoring issues have both been rescored below 80 and conditions have been raised for PI 1.2.1 and PI 1.2.2. We note that while the motivating factor for rescoring the two PIs is the same, the rationales differ with respect to the different scoring guidelines. The rescoring does not reduce the overall Principle 1 score to below 80, largely because the skipjack stock is at a level above (the implicit) Bmsy and at the target level of 40%B0, with the score of 100 at PI1.1 remaining unchanged.
- A number of fisheries in the Indian Ocean will reach the ACDR stage in 2020 and will become overlapping fisheries to be considered under harmonization. Currently, only the Maldives Pole and Line fishery for skipjack tuna needs formally to be considere
- d under harmonization. That fishery underwent a first surveillance early in 2019 when the 2018 Indian Ocean skipjack tuna catches were not yet published. Given there are (at least) two fisheries for which ACDRs are being prepared, a wider harmonization exercise may be warranted in 2020.
- New information on yellowfin and bigeye tuna became available through IOTC processes after the site visit. An expected new stock assessment for yellowfin tuna did not eventuate and information is limited. The yellowfin stock remains overfished and subject to overfishing but no rescoring has taken place at this surveillance at PI 2.1.1 nor at 2.1.2 which considers UoA strategy; while overall catches of yellowfin have increased in the IOTC Area of Competence, catches by purse seiners against the Seychelles catch limits have been constrained. A new stock assessment on bigeye tuna estimates the stock to be subject to overfishing but the status of the stock for MSC scoring at PI 2.1.1 in not affected.
- The new Order regulating the Spanish purse seiners targeting yellowfin tuna in the IO in 2020 (*Order APA/93/2020, de 4 de febrero, por la que se regula el ejercicio de la pesca de rabil y túnidos tropicales en el Oceano Indica en la campaña 2020*) establishes a double limitation system operating together. On the one hand, a limitation of individual yellowfin tuna according to GT (as in 2018 and 2019) and, on the other, a limitation in relation to the total volume of catches of the 3 main tropical tuna species: yellowfin tuna, bigeye and skipjack.
- A delay ratifying the Fisheries Partnership Agreement between Seychelles and the EU forced 40 EU tuna purse seiners (French and Spanish purse seiners) and 8 longliners to stop fishing and leave the Seychelles EEZ as of January 18, 2020. This is expected to be solved quickly, but at the time of preparing this report the official ratification has not yet been concluded.
- According to the SFA no infringements were detected during the inspections performed in 2017 and 2018 to the certified fleet. However, the SGP detected infringements among the Spanish purse seine fleet targeting tropical tunas in the IOTC area in 2017 and 2018. Some of these infringements also affected the Echebastar vessels flying the Spanish flag. Since these results are part of a monitoring and control process still being implemented by the SGP (see **section 4.2.4.2** for more details), the team decided not to re-score until the sanctioning procedure started in 2018, and also the specific inspection plan for the Spanish purse seine fleet operating at the IOTC implemented in 2019 are completed.
- UoA observed catch composition and total estimated catches in 2017 and 2018 were shared with the team. Results show a clear improvement in the % of observed sets in recent years, with observed sets raising up to 87% and 90% of the total FAD and FSC sets respectively in 2018 (compared to 27% and 56% respectively in 2014).
- Species composition of the UoA catches are consistent with the data assessed during the initial evaluation: yellowfin tuna and skipjack tuna are the species accounting for a higher percentage of the catch volume in FSC sets, while in FAD sets that position correspond to skipjack tuna. The remaining primary species (mainly albacore and several species of billfishes) are all 'minor'. Based on the information shown above, it is not considered necessary to update the evaluation of the impact of UoA on minpor primary species.
- As found during the initial assessment, no main secondary species are impacted by the UoA, while there is a number of minor secondary species (some small tunas and mainly small bony, pelagic or neritic finfish) accounting less than 2% of the total catches. Data presented in tables above lead the team to consider that there is no need to revise the impact of the UoA on these species
- ETP species identified in the UoA catches between 2017 and 2018 matches with those identified during the initial assessement (i.e. several species of rays, sharks and sea turtles). Only the whale shark is a new species compared to the PCR. However, a single interaction with 1 individual was recorded between

2017 and 2018, and this individual could be released alive to the sea. The team considers that the information for PI scores has not changed significantly.

- At client's request, and after performing some checks and a traceability exercise (see **section 4.2.5**) the team considers that Port Louis (Mauritius) can be added as an authorised landing port within the existing MSC-Fishery Certificate. Since the current certificate does not details the landing ports covered by the certificate, there is no need to amend the existing MSC-Fishery certificate.

The assessment team concludes that **the MSC Certificate for this fishery shall remain active**, subject to the agreed annual surveillance schedule and progress on the current conditions (10).

4 Report details

4.1 Surveillance information

Table 4.1. Surveillance information

1	**Fishery name**			
ECHEBASTAR INDIAN OCEAN SKIPJACK TUNA PURSE SEINE FISHERY				
2	**Unit of Assessment**			
UoA	Target stock:	Skipjack Tuna (*Katsuwonus pelamis*). Indian Ocean stock		
	Fishing Area:	FAO 51 & 57		
	Fishing method:	Purse seine including all set types, specifically Fish Aggregating Device (FAD or associated) and free school (FSC or non-associated)		
	Fishing operators:	Purse seiners owned and operated by the Echebastar Group – Pesqueras Echebastar S.A. (Echebastar Fleet SLU and Hartswater Limited). The updated list of vessels can be downloaded from the MSC website		
	Other elegible fishers	There are no other eligible fishers		
3	**Certificate details**			
Certificate code	MSC-F-30029			
Date certified	09/11/2018		Date of expiry	08/11/2023
4	**Surveillance level and type**			
Level	The surveillance level determined in the PCR was 6 (4 on-site surveillance audits). The only amendment done to the initial surveillance and type was to bring down the number of auditors from 3 to 2 (see **Appendix 7.3** for more details).			
Type	Current surveillance audit was carried out as an on-site audit. However, due to personal issues, the Team Leader had to cancel his trip unexpectedly but he joined remotely to all meetings (see **Appendix 7.1.1** for more details).			
5	**Surveillance number**			
1st Surveillance	X			
2nd Surveillance				
3rd Surveillance				
4th Surveillance				
Other (expedited etc)				
6	**Assessment team**[1]			

[1] See the Surveillance announcement at the MSC website for more details on how the team meets the competency criteria and the areas that they are responsible.

Team leader	José Ríos
Team member 1	Kevin Stokes
7 Audit/review time and location	
On-site visit. Meetings were held in Bermeo between November 26 and 28.	
8 Assessment and review activities	
During the site visit, the team conducted assessment activities in accordance with FCP 7.28.15-18. In the case of the current fishery the team concentrated in: (i) checking for any relevant modification affecting the fishery; (ii) assess progress against conditions set to the fishery. See **Appendix 7.1** for details on the people interviewed and for details on the stakeholder engagement strategy, and **Appendix 7.2** for details on topics discussed during the site visit and other stakeholder inputs. Harmonization activities with overlapping fisheries are described in **Appendix 7.4**	
9	**Conformity Assessment Body (CAB)**
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Contact	Macarena García
10	**Client**
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Phone	+34946186500
Contact	Jose Luis Jauregui

4.2 Background

4.2.1 Personnel involved in science, management or industry

The most significant change in relation to personnel involved in science, management or fishing industry is that a new fisheries consultation body was set up in 2019 at the Seychelles: the national Fisheries committee (see **Appendix 7.2.1**). This is a consultation body comprised by different sectors, such as finance, environment, blue economy, trade, fisheries, etc. The role of this committee is to provide guidance on fisheries policy matters.

Apart from that, no other significant changes were identified by the team. However, the team wants to reflect here the following updates regarding these issues:

- At the SGP: Antonio Lizcano has been newly elected as Subdirector of General Agreements and RFOs of the Spanish Ministry of Agriculture, Fisheries and Food; while Teresa Molina Schmid is acting as Deputy Subdirector.
- At the Seychelles Ministry of Fisheries and Agriculture: Jude Talma is the newly elected Ministry of Fisheries
- Roles at the Seychelles Fisheries Management: according to SFA representatives interviewed during the site visit (see **Appendix 7.2.1**), the role of managing tuna fisheries in Seychelles has until recently remained under the sole purview of the Seychelles Fishing Authority. However, over the recent 3 years, the Ministry of Fisheries and Agriculture, has enhance its capacity in regards to the development of policies. Subsequently matters in regards to tuna fisheries management at policy level currently rest with the Ministry. Nonetheless, the Ministry often seek advices of technical experts from the Seychelles Fishing Authority. The 'Seychelles Fisheries Sector Policy and Strategy 2019 (MFAg 2019a) states the following: *"The Government of Seychelles has the overall responsibility for policy development and oversight. The policy provides a framework for Development Plans by the Ministry of Fisheries and Agriculture (MFAg). Development Plans can serve to guide the*

implementation of the policy by the Seychelles Fishing Authority (SFA). The SFA as Government's lead technical executive arm for fisheries and aquaculture will continue to discharge its responsibility and functions as defined by its Act. The Ministry responsible for Fisheries and SFA will work in close collaboration with other Ministries, government departments and agencies, to support the decision-making and policy implementation processes as well as support efficient service delivery".

4.2.2 Certified fleet and client group

The client group owning the certificate remains the same: Pesqueras Echebastar S.A. Bureau Veritas updated the list of vessels included in the certificate in June 2019, and it is available at the MSC website.

Echebastar has got together a working group comprised by one representative of the company (Kepa Etxebarria, CEO of Echebastar) and a close advisor (Jose Luis Jauregui, former Commercial Director in Echebastar), an independent fisheries consultant (Ian Scott from Trident Sustainable Fisheries) and 2 representatives from AZTI (Ane Iriondo and Marga Andrés). This working group is referred to in the client's documents as the Echebastar Sustainability Working Group (ESWG). The ESWG was constituted in January 2019 and has been meeting on a monthly basis since then and to ensure transparency the Company has created a website were meetings, minutes, documents produced by the ESWG and other related documents are shared. The website is: https://echebastar.com/echebastar-certificada-por-msc/msc-up-to-date/. Interested stakeholders may register on this site to have access to the regularly updated information related the different sustainability activities where the company is involved. Further, analysed catch data for 2017 and 2018 (observed and total estimated catch) based on data recorded by observers on board the Echebastar fleet can be downloaded from this site, together with semi-annual landing reports and active fishing licences from each of the certified vessels.

The ESWG has defined and is implementing an action plan for the completion of the conditions set for the MSC certificate ('Strategic approach to meeting the conditions to MSC certification & strengthening the sustainability credential of the fishery', Echebastar 2019a) and also an 'Strategy and operational plan for a sustainable purse seine tuna fishery in the Indian Ocean 2019-2023' (Echebastar 2019b). This Strategic and operational plan covers activities related to MSC-Fishery Certification, the SIOTI FIP and specific company initiatives.

4.2.3 Fishery management and regulatory framework

4.2.3.1 Issues related to IOTC Res 16/02

Issues related to implementation of IOTC Res 16/02 on HCRs for skipjack tuna in the IOT area of competence are considered below at 4.2.6.

4.2.3.2 Update on the IOTC Res 19/01

In Resolution 19/01 on an interim plan for rebuilding the IO YFT stock in the IOTC area of competence, the limitation of yellowfin tuna catches established in Resolution 16/01 is maintained for 2020, forcing the Contracting Parties of this Organization to reduce their catches in 2017, 2018 and 2019 by 15% compared to the 2014 level. Further, Resolution 19/01 also establishes the obligation to adjust the number of auxiliary records that can provide service to each vessel from a flag state, determining that, for 2020, 2 auxiliary vessels will support a minimum of 5 purse seiners, all from the same flag State. Thus, IOTC Resolution 19/01 implies the maintenance of specific and singular measures, which translates into a limitation of catches, without implying the establishment of a Total Allowable Catch (TAC). Likewise, the Resolution 19/01 obliges flag states to submit capacity reduction plans for auxiliary vessels that support freezer tuna vessels between 2018 and 2022.

The aforementioned Resolution 19/01 establishes as appropriate methods to guarantee the reduction of yellowfin catches both the reduction of capacity and the limitation of effort. Therefore, participation in the fishery is limited to vessels that have had yellowfin tuna catches in the Indian Ocean in 2019 and that request Temporary Fishing Permit to carry out the activity in 2020, that is, those vessels that are going to have effective activity in the fishing ground. In addition, fishing opportunities in the Indian Ocean will not be assigned to active vessels that are using fishing opportunities in other fishing grounds so as not to increase the temporary fishing effort on that species since an increase in the number of vessels in the fishing ground could mean increased pressure on the resource.

4.2.3.3 Update on the Spanish Order regulating the tuna purse-seine fleet targeting tropical tunas in the IO

In view of the yellowfin tuna rebuilding plan and the catch limit established by the IOTC Res 16/01, the EU Council decided to set a YFT Total Allowable Catch (TAC) for the EU and establish an allocation by Member State (the quota allocated to Spain was 45.682 tons for 2017, 2019 and 2019). Thus, since 2018 the Spanish fleet is also regulated by an annual regulation (Ministerial Order) issued by the Ministry of Agriculture, Fisheries and Food. This Order has been establishing catch limits per vessel depending on its Gross Tonnage (GT), trying to avoid that the Spanish fleet overages the yellowfin quota allocated to Spain (45.682 tons). According to the Order applicable for the 2019 fishing season (*Orden APA/22/2019 de 16 de Enero, por la que se regula el ejercicio de la pesca de rabil para la flota atunera de cerco congeladore en el oceano Indico en la campaña 2019*), vessels with a GT ≥ 3,500 GT could catch up to 3,377 t of yellowfin tuna, while vessels with a GT ≤ 3,500 GT could catch up to 2,658 t of yellowfin tuna. This regulation also limited the number of supply vessels in accordance with IOTC Res 18/01 (1 supply vessel for every 2 fishing vessels from a particular flag State).

Point 12 of the IOTC Resolution 19/01 states that appropriate methods will be established to achieve catch reductions. In order to guarantee the sustainability of the resource, while allowing adequate planning for the fleet operating in this fishing ground, the SGP considered necessary to re-establish an interim system for limiting catches during the 2020 fishing season. For this purpose, the Order regulating the Spanish purse seiners targeting yellowfin tuna in the IO in 2020 (*Order APA/93/2020, de 4 de febrero, por la que se regula el ejercicio de la pesca de rabil y túnidos tropicales en el Oceano Indica en la campaña 2020*) establishes a double limitation system operating together. On the one hand, a limitation of individual yellowfin tuna according to GT (as in 2018 and 2019) and, on the other, a limitation in relation to the total volume of catches of the 3 main tropical tuna species: yellowfin tuna, bigeye and skipjack.

The catch limit of tropical tunas per vessel is established on the basis of scientific reports provided by the Spanish Institute of Oceanography (IEO) regarding the proportions of different species in tropical tuna fishing, in which yellowfin accounts for at least 30% of the tropical tuna catches. This establishes a catch limitation for the 3 tuna species, calculated as the ratio between the yellowfin catch limitation and the 0.30 rate. The objective of this limitation in the total catch is to avoid yellowfin overfishing, in a fishery where it is not possible to exclude this species from the rest. See table below:

Table 4.2.1 List of Spanish tuna purse seiners authorised to target tropical tunas in the IO, showing their respective catch limits. **First column**: Name of the vessel; **second column**: Gross Tonnage; **third column**: YFT catch limit (Kg) in 2020; **Fourth column**: Catch limit for the 3 tropical tuna species in 2020. Source: Orden APA/93/2020, del 4 de febrero, por la que se regula el ejercicio de la pesca de rabil y túnidos tropicales en el Oceano Indico en la campaña 2020

Nombre	GT	Límite captura de rabil en kilos 2020	Límite captura de patudo, listado y rabil en conjunto en kilos 2020
ALAKRANA.	3.716	3.377.000	11.256.667
ALBACORA UNO.	3.584	3.377.000	11.256.667
ALBATUN DOS.	4.406	3.377.000	11.256.667
ALBATUN TRES.	4.406	3.377.000	11.256.667
DONIENE.	3.674	3.377.000	11.256.667
IZURDIA.	4.089	3.377.000	11.256.667
TXORI ARGI.	4.134	3.377.000	11.256.667
TXORI ZURI.	3.671	3.377.000	11.256.667
ALBACAN.	2.347	2.658.000	8.860.000
ALBACORA CUATRO.	2.082	2.658.000	8.860.000
ELAI ALAI.	2.217	2.658.000	8.860.000
ITSAS TXORI.	2.994	2.658.000	8.860.000
PLAYA DE ARITZATXU.	2.458	2.658.000	8.860.000
TXORI GORRI.	2.937	2.658.000	8.860.000
ATERPE ALAI.	2.789	2.658.000	8.860.000
Total.		45.622.000	152.073.336

Likewise and as an accessory measure directly linked to the limitation of fishing effort, a maximum of six auxiliary vessels active in the Indian Ocean are established in 2020, which were already limited in 2018 and 2019 with respect to the ten active support vessels in 2017. Companies whose ratio of auxiliary vessels to tuna vessels exceed two to five allowed, may only apply for a Temporary Fishing Permit for a number of vessels that meet this ratio.

4.2.3.4 Update on the Fisheries Partnership Agreement between EU and Seychelles

The fisheries agreement between EU and the Seychelles expired on January 17, 2020. Both parties started to negotiate a new protocol for next 6 years in August 2019, and the EU announced that conversations had concluded successfully in October 2019 (click **here** to check news). However, a delay ratifying the protocol forced 40 EU tuna purse seiners (French and Spanish purse seiners) and 8 longliners to stop fishing and leave the Seychelles EEZ as of January 18, 2020. This is expected to be solved quickly, but at the time of preparing this report the official ratification has not yet been concluded.

4.2.3.5 Update on the new Policy and Plan developed by the Ministry of Fisheries and Aquaculture of Seychelles

The Government of Seychelles has recently published the 'Seychelles Fisheries Sector Policy And Strategy 2019' (MFAg 2019a). Arising from the strategy, Seychelles has prepared a 'Fisheries Comprehensive Plan' (MFAg, 2019b). More details on these two documents can be found at progress on Condition 6 and 7 (see **Condition 6 and Condition 7** in **Section 5.2**)

4.2.4 Compliance

During the site visit the team had the chance to get feedback from the competent authorities of the flag States of the certified fleet: the SFA in Seychelles, and the SGP in Spain. The team is not aware of any allegations raised against the certified fleet by any of the coastal countries where the fleet operates under bilateral agreements. The only case raised during the site visit was an allegation from Maldives in 2017 but, according to the client, it was due to the need for one of the certified ships to unexpectedly enter Maldivian waters and go to port because a member of his crew suffered a heart attack.

As presented below, according to the SFA no infringements were detected during the inspections performed in 2017 and 2018 to the certified fleet. However, the SGP detected infringements among the Spanish purse seine fleet targeting tropical tunas in the IOTC area in 2017 and 2018. Some of these infringements also affected the Echebastar vessels flying the Spanish flag. Since these results are part of a monitoring and control process still being implemented by the SGP (see **section 4.2.4.2** for more details), the team decided not to re-score PI 3.2.3 SI(b)&(c) until the sanctioning procedure started in 2018, and also the specific inspection plan for the Spanish purse seine fleet operating at the IOTC implemented in 2019, are completed.

4.2.4.1 Seychelles Fishing Authority (SFA)

The number of inspections in ports performed to the certified fleet in 2017 and 2018 by the SFA are shown in the table below. No infringements were detected during any of the inspections performed during those years (see **appendix 7.2.1**). No data was still available regarding 2019.

Table 4.2.2. Number of inspections on ports performed to the certified fleet in 2017 and 2018 by the Seychelles authorities. Source: SFA

Vessel Name	2017	2018
Izaro	7	2
Elai Alai	3	1
Euskadi Alai	7	1
Jai Alai	11	3
Alakrana	6	3

Due to limited human resource capacity, SFA is currently unable to monitor 100% of tuna landings/ transshipments from large purse seiners in Seychelles. SFA focuses mainly of Seychelles Flagged purse seiners for the implementation of the yellowfin quota.

For foreign vessels landing in port Victoria, Seychelles has an obligation to cover at least 5% (full monitoring from start to finish) of landings/transshipment. In 2018, SFA only managed 4.5%.

For vessels, which are under MSC certification, special arrangement are made for SFA's observers to monitor 100% landings/transshipment, which are later certified by the Observer or the Observer Logistic Coordinator.

Institutional capacity enhancement is plan for 2020 with the objective of improving the monitoring of landing/transshipment in port Victoria.

The applicable quota for the Seychelles purse seine fleet, in accordance to IOTC Resolution 18/01 is 33,221 tons of yellowfin tuna (15% reduction from the 39,072 tons of yellowfin tuna caught in 2015 base year).The quota was linearly distributed amongst the 13 tuna purse seiner, resulting in an individual allocation of 2,555 tons of yellowfin. The following measures were implemented in order to monitor compliance with the allocated quota:

i. *weekly reporting of logbook via email (from the usual reporting upon completion of a fishing trip).*
ii. *monitoring of landings and transshipment through landing/ transshipment declaration forms.*
iii. *deployment of human observer at sea*
iv. *scientific port sampling to determine species composition of catches*
v. *inspection of landing and transshipment in port*

vi. *review of the legal framework to allow penalties for non-compliance.*

The SFA also confirmed that yellowfin tuna quota consumption by the Seychelles tuna purse seiners (including 3 of the vessels from Echebastar: Izaro, Jai Alai and Elai Alai) has been closely monitored and the quota was respected.

4.2.4.2 Spanish General Secretariat of Fisheries (SGP)

According to the information provided by the SGP representatives interviewed during the site visit, before 2017 the SGP was only carrying inspections on reefers landing in Spain tuna catches from Spanish fishing vessels operating in the IO. However, the implementation of the IOTC rebuilding plan for YFT in 2017 (IOTC Res 16/01) forced to a closely monitoring the YFT quota update for each vessel and infringements were detected. This was done in two phases:

i. 2018. Initiation of sanctioning procedures: the Sub-directorate General for Control and Inspection carried out in 2018 an analysis of the fishing activities of all Spanish purse seiners authorised to fish during 2017 in the IOTC area of competence (electronic logbook, catch, landing, sales, transhipment, etc.), in order to detect any posible under-declaration in 2017 and stablish the appropiate sanctions according with the State Maritime Fisheries Law 3/2001 of 26 March.
ii. 2019. Specific Inspection Plan for tropical tuna vessels: a specific inspection plan for tropical tuna vessels was designed in coordination with the Seychelles authorities. An agreement was reached with the Seychelles authorities to continue collaborating and exchanging information, including the possibility that Spanish inspectors act as observers during the inspections taking place in Seychelles. This also implied a reinforcement of inspections in those Spanish ports in which reefers are entering with transhipped tuna from the IOTC area of competence. As confirmed by SGP representatives during the site visit, different teams of inspectors were sent to the Seychelles along several months to inspect all Spanish vessels landing at the Seychelles and check for the species composition of the catches.

These actions are detailed in the Report of Implementation for the year 2018 (IOTC Agreement Article x) prepared by the SGO for the IOTC Secretariat and submitted before April 2019. The results of the inspection activities described above are listed below:

- In 2018, a total of 8 inspection records were raised against 8 different Spanish fishing vessels operating in the IOTC area in 2018 with alleged violations for yellowfin under reporting during the 2017 fishing season. One of the Echebastar certified vessels received 2 inspection records with alleged infraction for under reporting of catches and other deficiencies in the electronic logbook (DEA). These inspection reports were issued in 2018 but deal with events that occurred in 2017.
- In 2019, research is carried out on events occurred in 2018 with the Spanish tuna fleet operating in the IO (see **section 4.2.4.2.1** for more details). The results showed that alleged infractions were committed by up to 16 vessels. The infractions vary with respect to each vessel and are related to: Other diary deficiencies/ Do not record data related to transhipment of a fishing trip/ Fishing Logbook: Under/Over reporting / and continue fishing once quota of yellowfin had run out. Among the certified fleet, 2 out of the 3 certified Spanish vessels have inspection records:
    - One of the vessels has 3 records with alleged infractions where the following alleged infractions have been detected: Other diary deficiencies / Do not record data related to transhipment of a fishing trip/ Fishing Logbook: Under/Over reporting / and continue fishing once the quota of yellowfin had run out.
    - The second vessel has two records with alleged infraction where the following alleged infractions were detected: Other deficiencies of the logbook / Fishing Logbook: Under/Over reporting.

Table 4.2.3 presents data on YFT annual quota consumption reported by Spain to IOTC. However, these data are still not definitive, since the corresponding quota adjustments will be made from the result of the current research (see **section 4.2.4.2.1** for more details), so the reported figures are pending revision according to the SGP. According to the preliminary data shown there was an overage of about 700 kg in 2017, while in 2018 the Spanish fleet caught about 400kg below the annual quota. This was possible due to the approval of the Ministerial Order APA/17/2018 and the individual allocation of quotas for 2018, as reported in 2019 by the SGP in the Report of Implementation for the year 2018 to the IOTC Secretariat.

Table 4.2.3. YFT annual quota allocated to Spain in 2017 and 2018 and total YFT annual catches of the Spanish fleet

Year	YFT quota allocated to Spain	Total YFT catches Spanish fleet
2017	45.682 t	46.386 t
2018	45.354 t	44.964 t

4.2.4.2.1 New method used to produce estimates of nominal catch for Spanish purse seiners

The SGP produced a document (SGP 2019) for the IOTC Secretariat entitled "Adoption of a new methodology to produce nominal catch statistic for the industrial tuna purse seine fleet of EU-Spain operating in the IOTC Area of Competence". The paragraphs below are excerpts quoted from SGP (2019) which was handed by the SGP to the assessment team during the site visit:

Abstract

"(…)This document responds to a request from the Working Party Tropical Tuna of the IOTC which, at its 21st Session, identified discrepancies in catch estimates for EU-Spain and was informed that they originated from changes in reporting procedures introduced by the Secretariat of Fisheries of Spain, applicable since 2018. The SGP has introduced those changes in order to follow EU Procedures for stocks subject to multi-annual plans, which call for EU member States to use data from landing reports and sale slips to monitor the utilization of quotas by individual vessels. The new system is based on landing reports and sale slips which are verified through inspection in port, carried out by inspectors under the SGP. The SGP consider that the catches recorded in such reports reflect more timely and accurately the retained catches of individual purse seine vessels, as opposed to previous catch estimates, which used a complex algorithm to raise catch estimates for scientific purposes. The SGP is currently evaluating the implementation of the new system and will inform the IOTC WPDCS regarding any future reviews to the system or time-series of catch for the Spanish fleet, as deemed appropriate".

Background

"(…) Until 2017, the Spanish Government used logbook and landing statistics to produce estimates of total catch for each individual vessel trip, with the catches of yellowfin tuna and bigeye tuna of more and less of 10kg round weight reported separately. The catches recorded in logbooks under each size category and for each set during a trip were then broken by species using proportions by species obtained from data collected through sampling in port, through a complex catch estimation algorithm. This meant that the samples used to correct the catches of each individual set for a given vessel trip came from many different vessels, regardless of purse seine flag or size.

(…) This means that, while the system could be useful to obtain estimates of catch in bulk, for the combined purse seine fleet, it cannot be used to monitor the utilisation of quota at the individual vessel level. In addition, the system cannot be used to monitor quota utilization in near real time, as catches are estimated at the end of each quarter (due to the type of stratification used).

The estimation procedures previously used by France, Spain and Seychelles, generally referred to as T3, are currently under review. The main reason is potential biases that have been identified when comparing estimates from T3 for each individual vessel against data from sale slips collected on EU-Spain and Seychelles purse seiners both in the Atlantic and Indian oceans (Herrera & Báez, 2019); and through the analysis of stratification and catch estimation procedures, which tend to confirm that current estimates of catches of tropical tunas might be subject to various types of bias (Duparc et al., 2018, 2019a,b).

Since 2017, the Indian Ocean yellowfin tuna stock has been subject to an interim Rebuilding Plan (IOTC Resolution 19/01 at present). In 2017, the SGP noted a discrepancy between the catch reports originating from Spanish purse seiners (sale slips) and estimates obtained using T3. In order to maintain the consistency of estimates, the SGP decided to report scientific estimates and data from landing reports for that year. This was also possible because the SGP monitored the implementation of the yellowfin tuna quota in bulk, as purse seiners were not assigned individual quotas during that year. However, in 2018 the SGP adopted Individual Vessel Quotas which for the reasons indicated in the previous paragraphs cannot be monitored using T3. It was then decided to use sale slips for the control of quota utilization by Spanish purse seine vessels".

New method used to produce estimates of nominal catch for Spanish purse seiners

"In 2018, the SGP adopted a new system to estimate nominal catches of tropical tunas, which is based primarily on Council Regulation (EC) No 1224/2009 establishing a Community control system for ensuring compliance with the rules

of the common fisheries policy (Anon. 2009). Appendix 1 includes provisions of the referred Regulation which are relevant to the control of stocks subject to a multi-annual plan.

The method implemented by the SGP for 2018 relies on the sale slip data reports available, which cover all the unloadings of tuna corresponding to fishing sets made by Spanish purse seiners over the year 2018. This is in line with provisions in Council Regulation (EC) No 1224/2009. (…)

All Spanish flagged purse seiners carry onboard an electronic logbook, known as the DEA (Diario Electrónico de abordo). Data on all fishing sets and activities is reported in nearreal time to the SGP (DEA1). In addition, data from landing and transhipment in port are reported electronically, through the same system (DEA2).

According to the Regulations in place, the difference between logbook catch reports and landing declarations cannot exceed 10% for all species whose retained catch is over 50kg. In addition, the amounts recorded in landing declarations and sale slips must be the same. The SGP Control Agency monitors the consistency of reports and shipowners are controlled on that basis, with penalties established according to the regulation, where appropriate.

In addition to the above, the SGP has concluded an Inspection Protocol that has been implemented to control the catches of yellowfin tuna unloaded in ports of the Indian Ocean. So far, a team of inspectors from the SGP has been based in Seychelles, carrying out inspections of Spanish purse seine vessels in port, at unloading. The team might move to other ports as unloading activities increase in those ports, according to the seasonality of the fishery".

Next steps

"In order to validate the new system implemented, the SGP is collating all landing data and information on inspections. The results of these inspections will be used to validate landing declarations, and also compared to estimates obtained using T3 for those trips. The results of this work will inform future adjustments to the monitoring system, as required.

While the SGP acknowledges the concerns expressed by the WPTT that the proportion of bigeye tuna reported by Spain for 2018 differs markedly from that recorded in previous years, it should be noted that the catches reported for 2018 were not obtained using T3, for the reasons explained above. A preliminary evaluation of the sale slip data collected by the SGP over the period 2014-2018 showed that the proportions of bigeye tuna in sale slips reported by Spanish purse seiners is higher than that estimated using T3. This is presented in Table 1. It is also important to note that, since 2017, Spanish purse seiners have refrained from fishing on free-schools, fishing almost exclusively on FADs. This may explain why the contribution of bigeye tuna to the total catch of tropical tunas has been higher in 2017 and 2018.

Table 1 (from SGP, 2019). Amount (metric tons) of bigeye tuna reported on sale slips and estimated using T3, and proportion (%) that those catches represent over the total catches of tropical tunas, for purse seiners flagged in Spain, over the period 2014-2018

Year	2014	2015	2016	2017	2018
MT BET SALE SLIPS	11,802	10,519	12,785	24,146	26,174
%BET SALE SLIPS	8.7	8.6	9.1	12.5	12.8
MT BET T3	8,988	9,832	9,371	12,345	*na*
%BET T3	7.1	8.6	7.1	8.2	*na*

As indicated above, the SGP is collating additional information to validate the new system and will decide if future revisions of the estimates or time-series are required, according to the results of this work. At present, SGP is evaluating the eventual sources of discrepancies that could be related to change on fishing patterns, catch estimates or a combination of both.

Once the SGP adopts the new system for the production of catch statistics, more work will be devoted to the preparation of other datasets, in particular catch-and-effort and catch-at-size, which at present should be considered preliminary".

Conclusion

"TAC and quota systems, catch limits, or similar regulations, may lead to significant changes in the way fisheries operate. In the case of industrial tuna purse seine fisheries in the Indian Ocean, Spanish scientists have documented changes in the fishery following the adoption of catch limits for yellowfin tuna (Báez & Ramos, 2019). The main changes

reported referred to purse seine skippers refraining from catching free-swimming schools of yellowfin tuna, to avoid reaching the yellowfin catch limit too soon. This operationalchange in the behaviour of the fleet resulted in an inflection point in the trends from timeseries (Báez & Ramos, 2019). In addition, while fishing mostly on FADs all purse seinefleets seem to have been avoiding large concentrations of juvenile yellowfin tuna onFADs, as the contribution of skipjack and/or bigeye tuna to the total catches on FADs hasincreased considerably since the implementation of the catch limit (IOTC 2019)[2].

The SGP consider that the catches recorded in landing reports and sale slips reflect more timely and accurately the retained catches of individual purse seine vessels, as opposed to previous catch estimates, which originated from a complex algorithm and could not be assigned to the individual vessel. In addition, at present monitoring in near real-time is only possible through landing reports and sale slips, as T3 cannot be used for this purpose.

The SGP is currently evaluating the implementation of the new system and will inform the IOTC WPDCS regarding any future reviews to the system or time-series of catch for the Spanish purse seine fleet, as deemed appropriate".

4.2.5 Traceability issues

During the site visit the client made the team aware about their interest in adding a new authorised port within the MSC-Fishery certificate: Port Louis in Mauritius.

Currently, the only landing port covered by the certificate is Port Victoria in Seychelles, since this is the main port for the Echebastar fleet. However, these vessels also go to Mauritius for repairing and maintance, and the client group owns a processing plant there.

Mauritius is a member of the IOTC and also party to the Convention of CCAMLR, and collaborate with both RFOs in implementation of management measures related to IUU fishing. Mauritius is Party of the FAO Agreement on Port State Measure (PSMA) since August 31, 2015, the same situation as for Seychelles (http://www.fao.org/port-state-measures/background/parties-psma/en/).

The Fisheries Management Service (FMS) at the head office of the Ministry of Fisheries is basically responsible for monitoring of fisheries and enforcement of the Fisheries and Marine Resources Act which is carried out by the Fisheries Protection Service (FPS).

The setting up of the Fisheries Protection Service (FPS) began in the year 1947 with the arrival of Mauritian National ex Servicemen. The then British Government constituted a small team that was paid a minor allowance to control fishing activities around the island. After independence, the need to strengthen the FPS was badly felt. Accordingly, the Fisheries Act No 22 of 1970 was enacted and the FPS recruited massively. The process continued and in 1983 the labour force of the FPS constituted of more than two hundred staff members. Today, the FPS is a full-fledged enforcement arm of the Ministry of Ocean Economy, Marine Resources, Fisheries & Shipping with proper infrastructure, logistic and equipment. It caters for an efficient control over the fishing activities not only in lagoon and off lagoon but also in respect of regional fishing under bilateral conventions and regional cooperation with joint patrol under the Monitoring, Control and Surveillance (M.C.S) Programme in the EEZ and over territorial waters of Mauritius. Officers of the FPS operate at its Head Office in Port Louis and at four regional headquarters with a number of Fisheries Posts under each regional headquarter and its Flying Squads. The actual number of FPS staff members are 199, most of them are Protection Officers (http://blueconomy.govmu.org/English/Pages/default.aspx).

The requirements for any fishing vessel are in accordance with the UN Fish Stock Agreement that means:

(i) Prior notice together with a declaration of catch on board by any vessel is required when it enters the port,

[2] Data presented in **table 4.2.4** seems to confirm that YFT quota system implemented in 2017 has changed the pattern of the certified fishery operations, increasing the % of FAD sets to the detriment of FSC in order to restrict the yellowfin tuna catches. This might be an unintended consequence of implementing YFT quotas. However, the yellowfin tuna quota was only been recently implemented and more data are needed to assess whether this regulation has significantly modified the fishing pattern of the fleet.

(ii) Once in port, a vessel is inspected (catch and log book etc. to verify whether there has not been any breach of license conditions or management measures in place by RFMOs).

A traceability exercise with product caught by one of the certified vessels (Elai Alai), transhipped at port to a reefer (Auxis, from Mauritius) and exported to a processing plant in Mauritius was performed during the site visit, in order to understand the different documents generated and check that traceability of the product is ensured. The different documents revised were:

1. Custom declaration form. This document has two parts, one fulfilled before discharge and another one to be fulfilled after discarged. This document details the estimated volume of the catches per species before and after landing or transhipment (at port) to a reefer. This document, among other information, details the exporter (in this case Echebastar), and the importer (in this case a company based in Mauritius)
2. Bigeye Statistical Document. This is a compulsory document for exporting Bigeye tuna. Required by the buyer. This document, among other information, details the vessel name (in this case the Elai Alai), the point of export (Port Victoria, Seychelles) and the volume of BET to be exported.
3. EU-Catch certificate. Since the vessel flies the EU-Spanish fleet, this is a compulsory document. Provides all the necessary details of the fishing vessel and also about the landing/transhipment at port (point of landing/transhipment, name of the reefer), including the volumes per species.
4. Certificate of Owner. This document is mandatory to start unloading in Mauritius. The owner of the fishing vessel/s declares different details about the ownership of the vessels to the company based in Mauritius.
5. Fish Certificate Discharge issued by the buyer. The buyer certifies that the final volumes received from each of the different species/products, the date of discharge, and the origin (name of the fishing vessel, name of the reefer). This document is signed both by the company owning the fishing vessel and the buyer.
6. Invoice/s. The invoice issued by the fishing company details the fishing vessel, the fishing trip, the reefer (in case of transhipment at port), the final volumes sold of each of the different species/products, the price and the total cost.

All this set of documents would be essentially the same in the case of landing directly in Mauritius, instead of transhipping to a reefer in Seychelles and then sail to Mauritius. Therefore, the traceability of the MSC product is not endangered by including Port Louis (Mauritius) as an authorised landing port for the MSC certified catches caught by the Echebastar fleet.

The team considers that Port Louis (Mauritius) can be added as an authorised landing port within the existing MSC-Fishery Certificate. Since the current certificate does not details the landing ports covered by the certificate, there is no need to amend the existing MSC-Fishery certificate.

The client declared that there are no other changes in relation to traceability as described in the PCR, and the team has not identified any changes in regulations affecting this matter.

4.2.6 Scientific based information related to P1

4.2.6.1 PI 1.1.1

A new stock assessment was undertaken by the IOTC in 2017. This is reported in (IOTC, 2017). The status summary and supporting information are available at:

https://www.iotc.org/science/status-summary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species-impacted-iotc.

The stock assessment uses a spatially aggregated, age-structured model implemented in the package SS3. The assessment uses all available data and estimates management-related metrics to support decision-making. Notably, given multiple uncertainties, a grid approach is used to explore the impact of key data and assumptions on management-related estimates. A total of 144 models running permutations of parameters/assumptions was used to provide final advice.

The assessment was carried out by the IOTC Secretariat and reviewed/considered during standard IOTC processes, with the final advice provided to the Commission by the scientific Committee. The summary advice

differs in format to previous years and does not include a Kobe II Strategy Matrix as referred to in previous scoring. The assessment results, using updated data and making some corrections and changes in assumptions, differ to previous results and need careful interpretation in the context of MSC scoring.

The Echebastar certification assessment scores both PI1.1.1 SIa and SIb at 100. The new stock assessment does not explicitly estimate the latest spawning biomass relative to 20%B0, taken as the default PRI for MSC scoring purposes. It does, however, report on SB2016/SB0 with associated 80% CI. The reported estimate is 0.4 (0.35-0.47). It follows that it is at least highly likely (SA2.2.1.2) that the stock is above the PRI. Whether there is a high degree of certainty (SA2.2.1.3) requires judgment.

Given the estimation that there is at least a 90% probability of the stock being above 0.35SB0 it is reasonable to expect there is a 95% probability of being above 0.2B0, still meeting the SG100 level at Pi1.1.1 Sia. However, even if the score were reduced to SG80, there would be no material impact on the certification.

For Sib scoring, the new assessment does not report SBmsy. The stock assessment document, in discussion on estimating SBmsy/SB0, suggests a value near to the adopted limit reference point of 0.2SB0. In the absence of an estimated value, it is convenient to score PI1.1.1 Sib with reference to the adopted IOTC target reference point of 0.4SB0, recognising that this is well above any likely analytically determined level. The current best estimate is that the stock is at 0.4SB0 (the target reference point) with uncertainty represented through the grid and estimated 80% CI of 0.35-0.47.

This is evidence of the stock being at or near SBmsy or a conservative proxy thereof. The trajectory of SBmsy is not shown by the IOTC but can be seen from the Kobe plot shown in the OTC status summary (link above). The plot illustrates that the general picture is of gradual decline through time such that the stock is now estimated to be at the SBtarget of 0.4SB0 but may be above or below. The outlook provided in the stock status summary is that the stock should fluctuate around this level if the adopted harvest control prescriptions are adhered to.

Overall, while it is not as clear cut as at certification assessment that the PI1.1.1 Sib SG100 level is met, all evidence suggests SG100 is still met at this time. Given Sib also still meets the SG100 requirements, no rescoring at PI1.1.1 is required.

PIs 1.2.1, 1.2.2, 1.2.3 & 1.2.4

We are aware of new MSC assessments in progress and it is possible PI 1.2.3 and 1.2.4 may be reconsidered by those and that there may be future, harmonised changes at PI 1.2.3 and 1.2.4. However, while there have been changes in the stock assessment, there do not appear to be any issues at PI 1.2.3 and 1.2.4 that would cause material change in PI scoring and given the high PI 1.1.1 score, no overall P1 score of less than 80 is possible. We do not, therefore, re-score PI 1.2.3 and 1.2.4 at this point.

At PI 1.2.1 and 1.2.2, however, new information on catches in 2018 is available that needs to be considered and which does have a material impact on PI scoring and the need for conditions. We note that there is currently one other certified, overlapping fishery – the Maldives Pole and Line fishery. That re-assessed fishery was the basis for harmonised scoring of the Echebastar fishery at assessment. It underwent a first surveillance in 2019 (Stokes & Chaudhury, 2019) but at that time (May,2019) information on 2018 catches was not available and no re-scoring was carried out.

In 2016, the IOTC adopted Resolution 16/02, setting out reference points and the conditions for application of a harvest control rule (HCR) to set catch limits on skipjack tuna on a three-yearly basis. Res 16/02 does not, however, define tools to limit catches of skipjack. Nor does it set the basis for allocated catches of skipjack, something which has been under discussion at IOTC for several years but on which no agreement has yet been reached but on which proposals have been made (e.g., IOTC, 2019b and IOTC, 2019c, presented at IOTC plenary 2019).

Following the new stock assessment in late 2017, the IOTC Scientific Committee advised the Commission that the skipjack HCR had been triggered and that the resulting catch limit for 2018-2020 fishing years is 470,029 t. The next Annual Meeting (AM) of the IOTC took place in May 2018, already well in to the 2018 fishing year, the first year in which the triggered catch limit should apply. In the report of the 2018 AM (IOTC, 2018), there is no discussion on the catch limit, though it is noted at paragraph 29 that "*The IOTC Secretariat has informed the CPC's of the catch limit to be implemented for 2018-2020*". Nor is there any discussion on measures to limit catches of skipjack. At the 2019 AM, there is still no discussion of the catch limit or how to

implement it though at paragraph 36 it is noted that "*The Commission needs to ensure that catches of skipjack in the 2018–2020 period do not exceed the agreed limit".* At that time (June, 2019), interim catch statistics on catches in 2018 would have been available, though these were not finalised until October 2019. The catches in 2018 were 607,701 t, 29% higher than the catch limit set by triggering of the HCR.

From an MSC scoring perspective, concerns arise at PI 1.2.1c and at PI 1.2.1a. New scoring tables are at **section 5.4** and Conditions at **section 5.2**. In principle, scoring at PI 1.2.1c might also be reconsidered but would make no material difference to outcome and has potential for introducing double jeopardy with scoring at PI 1.2.1a; for this reason, it is not re-scored at this time.

4.2.7 Scientific based information related to P2

4.2.7.1 UoA observed catch composition and total estimated catches in 2017 and 2018

At the time of preparing the Public Certification Report (DeAlteris et al 2018), the availability of data on observed UoA catches and total estimated UoA catches was restricted to 2014, 2015 and 2016. During the current surveillance audit, the client has provided analysed data from 2017 and 2018, while data from 2019 were still under preparation and will be audited in the following surveillance audit. These data are available in PDF format at the Echebastar website: https://echebastar.com/en/echebastar-obtains-msc-certification/msc-up-to-date/2019-annual-surveillance-audit/documents/ (click **here** for downloading data on 2017, and **here** for downloading data for 2018). Further, during the site visit the client also provided these data on Excel format to the team.

The Republic of Seychelles initiated a National Scientific Observer Programme in July 2013. The programme is carried out by the Seychelles Fishing Authority (SFA) and follows the methodology in use in the European purse seine fleet, i.e. the same observer protocol and the software ObServe to acquire and manage the data sets. The programme is carried out by the Seychelles Fishing Authority (SFA) and follows the methodology in use in the European purse seine fleet. After some preliminary trials in 2013, the Seychelles purse seine observer programme really started in 2014 with the methodology in use in the European fleet operating in the Indian Ocean. Thus, the observer protocol in use in the Seychelles purse seine fishery is the one used on all European purse seiners operating in the Atlantic and Indian Oceans.

The observer protocol is composed of five inter-related forms:

* Form A: Route and environment

* Form B: Fishing characteristics

* Form C1: Targeted species size measurements

* Form C2: Non-targeted species size measurements

* Form D:FOB-related activities

AZTI Foundation is in charge providing training to the observers, verify observer coverage and the quality of data collected, as part of their task to audit the implementation of the Code of Good Practices adopted by the OPAGAC and ANABAC tuna fleets in 2012 (ANABAC/OPAGAC, 2017). This Code details best practices such as the use of non-entangling FADs and best release practices for the different species groups. Azti has prepared a document (AZTI 2019) listing recent meetings and workshops related to sustainable fishing initiatives in which Echebastar personnel have participated and actively collaborated. AZTI (2019) details all the meetings of the Steering Committee for the ANABAC/OPAGAC Code of Conduct since 2013 (a total of 14 different meetings between February 2013 and July 2019) to discuss bycatch mitigation options and best FAD practices in tropical tuna purse seine fisheries. As a result of these meetings the text of the Code has been modified in 2 ocassions since its adoption in 2012: in 2015 and in 2017 (current version). AZTI (2019) also details the annual workshops conducted with skippers, crew and other relevant stakeholders as part of the ISSF commitments.

Additional information on the Seychelles purse seine fishery observer program is available at Lucas et al 2017.

Below are presented observed and processed data for the Echebastar fleet in 2017 and 2018.

4.2.7.1.1 Observer coverage

All fishing trips are observed, since there is always an observer on board and all sets should be observed. However, up to date not all sets are sampled and reported. This is the final goal, but it is still a work in progress. **Table 4.2.4** shows the trend of the percentage of observed (and sample) sets out of the total of sets performed by the Echebastar fleet. It can be observed a clear improvement since 2017, with observed sets raising up to 87% and 90% of the total FAD and FSC sets respectively in 2018.

Data presented in **table 4.2.4** also confirms that YFT quota system implemented in 2017 has changed the pattern of the fishery operations, increasing the % of FAD sets to the detriment of FSC in order to restrict the yellowfin tuna catches. For instance, in 2018 up to 98% of the sets performed by the UoA were FAD sets. This might be an unintended consequence of implementing YFT quotas. However, the yellowfin tuna quota was only implemented in 2018 and more data are needed to assess whether this regulation has significantly modified the fishing pattern of the fleet.

Table 4.2.4 Results based on real total FAD and FSC set proportion and updated data. Source: AZTI

Year	Gear	Observed sets	Total observed sets	Total sets	% set by gear	% observed sets from total
2014	FAD	221	347	831	**64%**	**27%**
	FSC	126		227	**36%**	**56%**
2015	FAD	672	831	1161	**81%**	**58%**
	FSC	159		192	**19%**	**83%**
2016	FAD	613	684	1512	**90%**	**41%**
	FSC	71		160	**10%**	**44%**
2017	FAD	1074	1207	1250	**89%**	**86%**
	FSC	133		213	**11%**	**62%**
2018 (*)	FAD	1197	1223	1369	**98%**	**87%**
	FSC	26		29	**2%**	**90%**

(*) Sets are assigned according to the end of the fishing trip, unless a fishing trip starts on year 1 and finishes in year 2, in that case sets will be assigned to year 1.

4.2.7.1.2 UoA observed catch and total estimated catch in 2017

Table 4.2.5 shows that 98,41% of the FAD catches caught by the Echebastar fleet were comprised by skipjack (69%), yellowfin (19%), bigeye (9%) and albacore (2%). While, in the case of the FSC catches (**table 4.2.6**) the percentage rises up to 99.69% but the tuna species composition varies, since yellowfin is the dominant species in this type of sets comprising almost 72% of the catches, followed by skipjack (20%), bigeye (5%) and albacore (3%).

Also, FAD catches account for a higher number of species/species groups (55) compared to FSC catches (21). ETP species are restricted to rays, sharks (*Carcharhinus falciformis* and *C.longimanus*) and turtles, but the diversity of ETP species is much lower in FSC (4) than in FAD (11). The number of individuals from ETP species impacted by the UoA during 2017 is reduced for all species apart from the Carcharhinus (a total of 4,874 silky sharks (*C.falciformis*) and 126 oceanic whitetip sharks (*C.longimanus*) were caught by FAD sets in 2017). Up to 66% of the silky sharks were released alive, while this percentage is higher for the oceanic white tip shark (85%). Also 66% of rays were released alive. No direct mortality was found in any of the 13 turtles caught by the Echebastar fleet during 2017, all were released alive to the sea.

Table 4.2.5. UoA catch on FADs. Observed catch and total estimated catch 2017

Species / Species group	Observed Catch (Total)		Observed Catch (thrown alive into de sea)		% Total Wt.	Estimated Total Catch	
	Tons	Individuals (non-tuna)	Tons	Individuals (non-tuna)		Tons	Individuals (non-tuna)
Billfishes							
Istiophoridae	0,044	2			0,00%	0,05	2
Makaira indica	24,405	264			0,07%	28,40	307
Makaira nigricans	7,262	53			0,02%	8,45	62
Xiphias gladius	0,124	1			0,00%	0,14	1
Other bony fishes							
Ablennes hians	0,004	8	0,0010	2	0,00%	0,00	9
Acanthocybium solandri	40,296	3.646	0,2966	32	0,11%	46,90	4.243
Aluterus monoceros	0,176	205	0,0082	11	0,00%	0,21	239
Aluterus scriptus	0,015	30			0,00%	0,02	35
Belonidae	0,003	5			0,00%	0,00	6
Canthidermis maculata	25,046	32.980	10,2310	10882	0,07%	29,15	38.385
Carangidae	0,034	68			0,00%	0,04	79
Caranx sexfasciatus	0,252	503			0,00%	0,29	585
Coryphaena equiselis	1,408	352			0,00%	1,64	410
Coryphaena hippurus	111,726	9.449	2,7531	425	0,31%	130,04	10.997
Coryphaenidae	0,015	3	0,0150	3	0,00%	0,02	3
Decapterus macarellus	1,314	3.676	0,1124	172	0,00%	1,53	4.278
Diodontidae	0,001	1	0,0005	1	0,00%	0,00	1
Echeneis naucrates	0,001	1	0,0005	1	0,00%	0,00	1
Elagatis bipinnulata	62,590	23.232	13,5526	4745	0,18%	72,85	27.039
Kyphosus cinerascens	0,228	455	0,0150	30	0,00%	0,26	530
Kyphosus sp.	0,003	5			0,00%	0,00	6
Kyphosus vaigiensis	0,070	140	0,0125	25	0,00%	0,08	163
Lagocephalus lagocephalus	0,004	7	0,0035	7	0,00%	0,00	8
Lobotes surinamensis	3,311	1.208	0,1484	73	0,01%	3,85	1.406
Masturus lanceolatus	0,010	1			0,00%	0,01	1
Mola mola	0,150	2	0,1500	2	0,00%	0,17	2
Naucrates ductor	0,001	1			0,00%	0,00	1
Osteichthyes	0,003	6			0,00%	0,00	7
Platax sp.	0,123	245	0,0010	2	0,00%	0,14	285
Platax teira	0,027	53	0,0015	3	0,00%	0,03	62
Scomber japonicus	0,133	265	0,0150	30	0,00%	0,15	308
Seriola rivoliana	0,023	46			0,00%	0,03	54
Sphyraena barracuda	3,352	623	0,1967	30	0,01%	3,90	725
Tylosurus crocodilus	0,001	1			0,00%	0,00	1
Uraspis secunda	0,739	1.477	0,0025	5	0,00%	0,86	1.719
Uraspis sp.	0,127	253			0,00%	0,15	294
Rays							
Dasyatidae	0,009	3	0,0060	2	0,00%	0,01	3
Dasyatys violacea	0,006	2	0,0060	2	0,00%	0,01	2

Manta birostris	0,192	2	0,1921	2	0,00%	0,22	2
Mobula japanica	0,600	4	0,6000	4	0,00%	0,70	5
Mobula mobular	1,200	8	0,6000	4	0,00%	1,40	9
Mobula sp.	1,050	7	0,4500	3	0,00%	1,22	8
Sharks							
Carcharhinus falciformis	74,314	4.188	53,2930	2782	0,21%	86,49	4.874
Carcharhinus longimanus	7,055	108	5,3592	92	0,02%	8,21	126
Tunas							
Auxis rochei	0,100				0,00%	0,12	0
Auxis thazard	74,390				0,21%	86,58	0
Euthynnus affinis	26,440				0,07%	30,77	0
Katsuwonus pelamis	24.360,000				68,67%	28.351,96	0
Thunnus alalunga	855,000				2,41%	995,11	0
Thunnus albacares	6.696,380				18,88%	7.793,74	0
Thunnus obesus	2.997,300				8,45%	3.488,48	0
Turtles							
Caretta caretta	0,380	6	0,3804	6	0,00%	0,44	7
Eretmochelys imbricata	0,094	2	0,0944	2	0,00%	0,11	2
Lepidochelys olivacea	0,032	2	0,0320	2	0,00%	0,04	2

Table 4.2.6. UoA catch on FSC. Observed catch and total estimated catch 2017

Species / Species group	Observed Catch		Observed Catch (thrown alive into de sea)		% Total Wt.	Estimated Total Catch	
	Tons	Individuals (non-tuna)	Tons	Individuals (non-tuna)		Tons	Individuals (non-tuna)
Billfishes							
Billfishes: Makaira indica	1,45	10			0,04%	2,32	16
Other bony fishes							
Acanthocybium solandri	0,09	27			0,00%	0,14	43
Canthidermis maculata	0,17	255	0,0537	80	0,01%	0,27	408
Caranx sexfasciatus	0,01	10	0,005	10	0,00%	0,01	16
Coryphaena hippurus	4,70	317	0,0764	10	0,14%	7,53	508
Decapterus macarellus	0,02	45	0,00625	25	0,00%	0,02	72
Elagatis bipinnulata	0,18	60			0,01%	0,29	96
Kyphosus cinerascens	0,01	10			0,00%	0,01	16
Lobotes surinamensis	0,01	13			0,00%	0,01	21
Platax teira	0,01	12			0,00%	0,01	19
Sphyraena barracuda	0,01	2	0,00815	2	0,00%	0,01	3
Uraspis secunda	0,00	7			0,00%	0,01	11
Rays							
Mobula mobular	0,45	3	0,3	2	0,01%	0,72	5
Sharks							
Carcharhinus falciformis	0,65	39	0,5254	22	0,02%	1,04	62
Carcharhinus longimanus	0,51	3	0,496	2	0,02%	0,81	5
Tunas							
Auxis thazard	2,00	0			0,06%	3,20	0

Katsuwonus pelamis	667,00	0			19,97%	1.068,20	0
Thunnus alalunga	95,00	0			2,84%	152,14	0
Thunnus albacares	2.402,00	0			71,93%	3.846,81	0
Thunnus obesus	165,00	0			4,94%	264,25	0
Turtles							
Dermochelys coriacea	0,25	1	0,246	1	0,01%	0,39	2

4.2.7.1.3 UoA observed catch and total estimated catch in 2018

Table 4.2.7 shows that 98,08% of the FAD catches caught by the Echebastar fleet were comprised by skipjack (65%), yellowfin (21%), bigeye (9%) and albacore (3%). While, in the case of the FSC catches (**table 4.2.9**) the percentage rises up to 99.85%. These are consistent with data from previous year. However, the species composition of the FSC in 2018 varies from previous years, since skipjack and yellowfin contributions to the total catch are similar (SKJ: 40% and YFT:37%), while bigeye comprised up to 23%.

Again, FAD catches account for a higher number of species/species groups (53) compared to FSC catches (8). The only ETP species caught by FSC during 2018 was C.falciformis (4 individuals which were released alive to the sea), while in the case of FAD sets interactions with ETP species also include *C.longimanus*, *Rhincodon typus*, and different rays and turtles. The estimated number of individuals from ETP species impacted by the UoA in 2018 is reduced for all species apart from the Carcharhinus (a total of 7,671 silky sharks (*C.falciformes*) and 137 oceanic whitetip sharks (*C.longimanus*) were caught by FAD sets). Up to 69% of the silky sharks were released alive, again this percentage is higher for the oceanic white tip shark (74%). In the case of rays, 60% of them were released alive. The only whale shark interacted was released alive. Up to 27 sea turtles interacted with the UoA during 2018, 22 of them were olive ridley sea turtles and 10 died as a result of those interactions.

Table 4.2.7. UoA catch on FADs. Observed catch and total estimated catch 2018

Species / Species group	Observed Catch (Total)		Observed Catch (thrown alive into de sea)		% Total Wt.	Estimated Total Catch	
	Tons	Individuals (non-tuna)	Tons	Individuals (non-tuna)		Tons	Individuals (non-tuna)
Billfishes							
Istiophoridae	0,39	6			0,00%	0,44	7
Istiophorus platypterus	0,13	8			0,00%	0,14	9
Makaira indica	14,28	231	0,0998	1	0,03%	16,33	264
Makaira nigricans	21,27	171			0,05%	24,33	196
Tetrapturus angustirostris	0,01	2			0,00%	0,01	2
Tetrapturus audax	1,16	6			0,00%	1,33	7
Xiphias gladius	1,22	3			0,00%	1,40	3
Other bony fishes							
Acanthocybium solandri	36,04	4.970			0,08%	41,21	5.684
Aluterus monoceros	0,72	391	0,002865	18	0,00%	0,83	447
Aluterus scriptus	0,01	20			0,00%	0,01	23
Autre poisson non identifiÃ©	0,00	1			0,00%	0,00	1
Belonidae	0,04	70	0,0125	25	0,00%	0,04	80
Canthidermis maculata	28,56	44.430	10,01469	14940	0,06%	32,67	50.814
Carangidae	0,04	80			0,00%	0,05	91
Caranx sexfasciatus	0,12	245			0,00%	0,14	280
Coryphaena equiselis	0,72	181			0,00%	0,83	207
Coryphaena hippurus	167,65	17.685	0,4574	50	0,38%	191,74	20.226

Coryphaenidae	0,75	150			0,00%	0,86	172
Decapterus macarellus	0,59	775	0,0307	38	0,00%	0,68	886
Diodontidae	0,00	4	0,0015	3	0,00%	0,00	5
Elagatis bipinnulata	81,93	29.854	6,43916	2202	0,19%	93,71	34.144
Kyphosus cinerascens	0,11	219			0,00%	0,13	250
Kyphosus vaigiensis	0,21	418			0,00%	0,24	478
Lobotes surinamensis	2,56	1.036	0,02512	11	0,01%	2,93	1.185
Masturus lanceolatus	0,01	1	0,01	1	0,00%	0,01	1
Mola mola	0,15	2	0,15	2	0,00%	0,17	2
Naucrates ductor	0,00	1			0,00%	0,00	1
Platax sp,	0,08	155	0,01	20	0,00%	0,09	177
Platax teira	0,23	464			0,00%	0,27	531
Scomber japonicus	0,02	30			0,00%	0,02	34
Seriola rivoliana	0,01	28			0,00%	0,02	32
Sphyraena barracuda	3,40	551			0,01%	3,88	630
Tylosurus crocodilus	0,00	1			0,00%	0,00	1
Uraspis secunda	0,51	1.013	0,0205	41	0,00%	0,58	1.159
Rays							
Dasyatys (Pteroplatytrygon) violacea	0,02	8	0,012	4	0,00%	0,03	9
Manta birostris	0,05	1	0,0504	1	0,00%	0,06	1
Manta sp,	0,48	2	0,4797	2	0,00%	0,55	2
Mobula japanica (rancureli)	1,35	9	1,05	7	0,00%	1,54	10
Mobula sp,	1,36	9	0,458	3	0,00%	1,55	10
Sharks							
Carcharhinus falciformis	145,51958	7667	98,38472	5298	0,33%	166,43	8.769
Carcharhinus longimanus	6,1361	137	4,6126	101	0,01%	7,02	157
Prionace glauca	0,634	2	0,634	2	0,00%	0,73	2
Rhincodon typus	5,393	1	5,393	1	0,01%	6,17	1
Turtles							
Caretta caretta	0,0216	1	0,0216	1	0,00%	0,02	1
Chelonia mydas	0,1514	2	0,1514	2	0,00%	0,17	2
Eretmochelys imbricata	0,0131	2	0,0131	2	0,00%	0,01	2
Lepidochelys olivacea	0,58172	22	0,58172	12	0,00%	0,67	25
Tunas							
Auxis thazard	112,155	0			0,25%	128,27	0
Euthynnus affinis	211,225	0			0,48%	241,58	
Katsuwonus pelamis	28540,556	0			64,71%	32.641,62	
Thunnus alalunga	1335,76	0			3,03%	1.527,70	
Thunnus albacares	9329,095	0			21,15%	10.669,62	
Thunnus obesus	4051,04	0			9,19%	4.633,14	

Table 4.2.8. UoA catch on FSC. Observed catch and total estimated catch 2018

Species / Species group	Observed Catch (Total)		Observed Catch (thrown alive into de sea)		% Total Wt.	Estimated Total Catch	
	Tons	Individuals (non-tuna)	Tons	Individuals (non-tuna)		Tons	Individuals (non-tuna)
Billfishes							
Makaira indica	0,0529	2			0,02%	0,06	2
Other bony fishes							
Canthidermis maculata	0,0536	80			0,02%	0,06	89
Rays							
Mobula sp,	0,15	1	0,15	1	0,05%	0,17	1
Rhinoptera sp,	0,003	1	0,003	1	0,00%	0,00	1
Sharks							
Carcharhinus falciformis	0,1681	4	0,1681	4	0,06%	0,19	4
Tunas							
Katsuwonus pelamis	115				40,43%	128,27	
Thunnus albacares	104				36,56%	116,00	
Thunnus obesus	65				22,85%	72,50	

4.2.7.2 Primary species

Species composition of the UoA catches are consistent with the data assessed during the initial evaluation. In relation to primary species: yellowfin tuna and skipjack tuna are the species accounting for a higher percentage of the catch volume in FSC sets, while in FAD sets that position correspond to skipjack tuna.

It is confirmed that the 'main' primary species are yellowfin and bigeye tuna, so an update of their status and management is offered below to assess if the information for PI scores has changed. The remaining primary species (mainly albacore and several species of billfishes) are all 'minor'. Based on the information shown above, it is not considered necessary to update the evaluation of the impact of UoA on these species.

4.2.7.2.1 Yellowfin tuna

After the first surveillance audit to the Maldives pole & line skipjack tuna fishery Stokes & Chaudhury (2019) noted:

"At re-assessment [of the Maldives Pole and Line fishery], PI2.1.1 was scored at SG80. This was not contentious but the same rationale and score, used in the harmonised EIO [Echebastar Indian Ocean] assessment, was objected to. Following lengthy proceedings, the SG80 was upheld. However, there is now [as of 2018] an updated stock assessment for yellowfin tuna and this needs to be revisited. As for skipjack tuna, a stock status summary and supporting material for yellowfin tuna can be found at: http://www.iotc.org/science/statussummary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species-impacted-iotc.

The updated stock assessment remains pessimistic about stock status and it seems there is a high degree of certainty that the stock is below SBmsy and that F is above Fmsy. This is the reason for IOTC measures outlined in resolutions RES 16/01, Res 17/01 and Res 18/01. However, the updated assessment estimates SB2017/SB0 as 0.30 (0.27-0.33). This is in fact more optimistic than the previous stock assessment used to score at certification re-assessment – that was 0.23 (0.21-0.36). The latest stock assessment is an update and not a full assessment and only utilises a smaller grid to explore uncertainty than used previously. Care is therefore needed not to overinterpret CI. Nevertheless, on the evidence available, in MSC language, it remains highly likely that yellowfin tuna is above the PRI of 0.20SB0. There is therefore no need to rescore at this time.

It should be noted, however, that with a new stock assessment due in 2019 this issue will need to be revisited at the second surveillance audit and rescoring may (or may not) be required".

According to the IOTC Schedule of Stock Assessments, a new assessment for yellowfin tuna was, as indicated in the Maldives first surveillance, scheduled in 2019. However, technical difficulties have led to no new assessment being reported by the latest scientific Committee (which met in the week following the Echebastar surveillance site visit). The Scientific Committee has reported that despite progress made to reduce uncertainties in the fishery/assessment, no new advice could be provided in 2019. The latest stock assessment is thus the 2018 update to the 2016 stock assessment as considered at the Maldives first surveillance.

As assessed for the Echebastar fishery certification, an 80 score was awarded based on the estimate of stock assessment in 2016, harmonised with the Maldives re-assessment. There was, however, considerable debate about the probability of the stock being above the PRI and, in particular, whether this is "highly likely" (i.e., there is an 80% probability). With no new stock assessment beyond the 2018 update, there is little to guide further consideration though some pieces of information may be relevant.

First, the 2018 Kobe II Strategy Matrix reported in the summary status document suggests the probability of B2020<Blim (0.4xBmsy) is 0.23 with catches at the 2017 level (409,567t), rising to 0.42 at 110% of the 2017 catch level (450,523t). Kobe II Strategy Matrices, however, need to be treated with extreme caution as the "probabilities" represent proportions of binary outcomes across an array of models with no model weighting, balancing of the array, and typically no detailed model tuning within the array. Second, catch data since the updated assessment are limited, though the October 2019 published catch data suggest catches of yellowfin across the IOTC Area of Competence were 396,635t in 2014, 390,999t in 2015, 409,129t in 2016, 409,567t in 2017 and 423,393 in 2018, despite constraining catches for some fisheries in line with yellowfin rebuilding resolutions. 2019 catches are not yet been reported, though following Resolutions 17/01, 18/01 (and perhaps 19/01) may have been reduced. Third, notwithstanding point 2, the scientific Committee notes 2018 yellowfin catches "*increased by around 9% from 2014/15 levels*".

Given these limited and uncertain information points, it is difficult categorically to state that the yellowfin tuna stock remains highly likely above the PRI and rescoring of PI 2.1.1 needs to be contemplated. At this point, given in-progess attempts to reduce stock assessment uncertainty and cognisant of the Maldives first surveillance outcome, certification assessments in progress which will also potentially impact on cumulative impact considerations and application of SA3.4.6d and GSA3.4.6, no rescoring is undertaken. However, it is envisaged that there may be need for harmonisation on this issue once consultation on in-assessment fisheries takes place.

Since assessment of the Echebastar fishery, and following IOTC Resolution 18/01, the Seychelles has a national allocation of 33,221t of yellowfin tuna (a reduction of 15% from the 2015 base year). The quota has been distributed to13 purse seiners, including Echebastar vessels flying the Seychelles flag. Each vessel is allocated 2,555t per year. A number of measures have been implemented to monitor compliance (see **section 4.2.4.1** for more details). Discussions with the Seychelles Fishing Authority during the site visit (and *via* e-mail) suggest there have not been any problems in implementation on the yellowfin quotas and we note from Table 9 of the 2019 Working Party on Tropical Tunas report (IOTC, 2019c) that the Seychelles purse seine catches in 2018 are reported to be about 4,000t (or 10%) less than the allocation. No rescoring is required at PI 2.1.2 at this time.

In the case of the Echebastar vessels flying the Spanish flag, the individual quota allocation is regulated through the annual Orders as detailed in **section 4.2.3.3**. The Order applicable for 2020 (Order APA/93/2020, January 4) establishes a double limitation system operating together: (i) a limitation of individual yellowfin tuna according to GT (as in 2018 and 2019) and (ii) a limitation in relation to the total volume of catches of the 3 main tropical tuna species: yellowfin tuna, bigeye and skipjack. See table 4.2.1. As explained in section 4.2.4.3, according to the preliminary data handed by the SGP there was an overage of about 700 kg in 2017, while in 2018 the Spanish fleet caught about 400kg below the annual quota. This was possible due to the approval of the Ministerial Order APA/17/2018 and the individual allocation of quotas for 2018, as reported in 2019 by the SGP in the Report of Implementation for the year 2018 to the IOTC Secretariat. The effect of the double limitation introduced in 2020 can only be considered in 2021. On the other hand, the SGP has adopted a new methodology to produce nominal catch statistics for the Spanish tuna purse seine fleet operation in the IOTC and this issue, which is still under discussion, is presented in **section 4.2.4.**4.2.7.2.2 Bigeye tuna

At the time of the site visit which finished on 28/11/19, no new stock assessment had been reported since certification and comments by the Scientific Committee in the available, updated IOTC stock status summary suggested no expected change in status or need for rescoring. However, a new stock assessment has been

carried out in late 2019, in line with the IOTC Schedule of Stock Assessments, and was considered by the IOTC Scientific Committee in the week following the site visit for the first Echebastar surveillance. The Scientific Committee report was published on 12/12/19 (IOTC, 2019e).

IOTC (2019e) reports that the new stock assessment for bigeye tuna suggests an update to stock status. Previously, the stock was estimated to be subject neither to overfishing nor being overfished. Now, though the stock is still estimated to be not overfished, it is estimated to be subject to overfishing with a probability of circa 60% of reducing the stock below SBmsy by 2021 at current fishing levels. The Scientific Committee advice is unclear but seemingly suggests a reduction in catch of 10% from current levels is required to reduce the probability of breaching SBmsy to 50%. It is unclear if the Scientific Committee took account of multiple IOTC Resolutions made in 2019 (e.g., Res 19/05 on a ban on discards on *inter alia* bigeye tuna which came into effect in late 2019) in providing advice.

At this time, the IOTC has not had an opportunity to react to the new bigeye stock assessment and advice from the Scientific Committee and it is unclear what proposals for managing bigeye tuna catches will be put to the IOTC Annual Meeting. With the stock still estimated above SBmsy and well above the PRI, scoring at PI 2.1.1 is not affected by the new status estimation. With various new resolutions in place that affect bigeye tuna but no opportunity yet for the IOTC to respond to the new assessment, no rescoring is undertaken at PI 2.1.2, though it could become necessary as new MSC fishery assessments and surveillances take account of future IOTC decision-making.

4.2.7.2 Secondary species

As found during the initial assessment, no main secondary species are impacted by the UoA, while there is a number of minor secondary species (some small tunas and mainly small bony, pelagic or neritic finfish) accounting less than 2% of the total catches. Data presented in tables above lead the team to consider that there is no need to revise the impact of the UoA on these species.

4.2.7.2 ETP species

As for the PCR, ETP species identified in the UoA catches include several species of rays, sharks and sea turtles. Only the whale shark is a new species compared to the PCR. However, a single interaction with 1 individual was recorded between 2017 and 2018, and this individual could be released alive to the sea.

Also, figures shown in tables 4.2.5, 4.2.6, 4.2.7 and 4.2.8 are consistent with the estimated average annual interactions (in number of individuals) with ETP species and also with the % of individuals released alive per species as described in the PCR (both for FAD set and FSC sets, see tables 23 and 24 in DeAlteris et al 2018). The only exception are the 27 sea turtles impacted by the UoA in 2018, which was mainly due to a high encounterability with the olive ridley sea turtles (22 individuals). Further, the post-capture mortality for this species was found to be very high 81,5%. Subsequent surveillance audits should monitor future interactions and post-capture mortality in relation to this species.

Silky sharks (*C.falciformis*) are still caught in high numbers in FAD sets, although the % of individuals released alive is higher (66% in 2017 and 69% in 2018) than estimated in DeAlteris et al 2018 (50%). However, post-capture survival rate is thought to be low (10-20%) according to the references quoted in page 49 in DeAlteris et al (2018).

Silky sharks are one of the most abundant large sharks inhabiting warm tropical and subtropical waters throughout the world. Apart from being caught as incidental catches in the large industril purse seine fisheries targeting tropical tunas, silky sharks are often targeted by some semi-industrial, artisanal and recreational fisheries. Sri Lanka has had a large fishery for silky sharks for over 40 years. This species is the most common shark landed in Indonesian waters, including the Indian Ocean. From 2005 to 2015, the total production of sharks fluctuated between 2500 tons/year and 6700 tons/year, and one-fifth were dominated by Carcharhinidae (Simeon et al 2018). However, even though they are frequently caught, there is a lack of information on the population and abundance of silky sharks in the Indian Ocean. Simeon et al (2018) found that standardized catch-per-unit-effort (CPUE) or abundance indices of silky shark in the Indonesian Fisheries Management Area (FMA) 573 (where Cilacap and Tanjung Luar, two of Indonesia's shark fishery hotspots, are located) increased from 2015 to 2016. The authors suggest that fish immigration and decreasing fishing pressure may affect the fish abundance in

To conclude, the team considers that the information for PI scores has not changed significantly. Based on the UoA observed and estimated catches, and considering that the percentage of observed sets is increasing up to levels close to 90% (and the objective is to achieve full coverage), the team would rather accumulate more data than update the list of ETP species and re-score the impact of the UoA after every surveillance audit.

4.3 Version details

Details on the version of the fisheries program documents used for this assessment are presented in table 2.4, as required in the 'MSC Surveillance Reporting Template v2.01'.

Table 4.3.1 Fisheries program documents versions

Document	Version number, date of publication (and date effective)
MSC Fisheries Certification Process	Version 2.1, 31 August 2018 (28 February 2019)
MSC Fisheries Standard	Version 2.0, 1 October 2014 (1 April 2015)
MSC General Certification Requirements	Version 2.4.1, 7 May 2019 (28 September 2019)
MSC Surveillance Reporting Template	Version 2.01, 28 March 2019 (28 March 2019)

5 Results

5.1 Surveillance results overview

5.1.1 Summary of conditions

For both new conditions set during current surveillance audit (on PI 1.2.1 and 1.2.2), evidence for scoring at SG80 will take time to accrue, slightly beyond the period of certification. FCP 7.18.1.5 is therefore invoked with the conditions drafted to result in improved performance to the 80 level at the first surveillance following re-assessment.

Table 5.1.1 Summary of conditions

Condition number	Condition	Performance Indicator (PI)	Status	PI original score	PI revised score
1	By the fourth annual surveillance audit, the client must demonstrate that information is adequate to measure trends and support a strategy to manage impacts on ETP species	2.3.3	On target	70	Not revised
2	By the fourth annual surveillance audit, the client must demonstrate that FADs are highly unlikely to reduce structure and function of coral reefs to a point where there would be serious or irreversible harm.	2.4.1	On target	70	Not revised
3	By the third annual surveillance audit, the client must provide evidence that a partial strategy in place that is expected to result that it will be highly unlikely that derelict FADs could reduce structure and function of the coral reefs to a point where there would be serious or irreversible harm	2.4.2	On target	75	Not revised
4	By the fourth annual surveillance audit, the client must provide evidence that information is adequate to allow for identification of the main impacts of derelict FADs on coral reefs, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear.	2.4.3	On target	75	Not revised

5	**SIa.** By the fourth annual surveillance audit, the client must provide evidence that the main impacts of the FADs used in the UoA/UoC on these key ecosystem elements can be inferred from existing information, and some have been investigated in detail. **SId.** By the fourth annual surveillance audit, the client must provide evidence that there is adequate information on the impacts of the UoA on these components to allow some of the main consequences for the ecosystem to be inferred.	2.5.3	On target	75	Not revised
6	By the third annual surveillance audit, the management system in the Seychelles includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.	3.1.2	On target	75	Not revised
7	By the second annual surveillance audit, 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-specific management system.	3.2.1	On target	75	Not revised
8	By the third annual surveillance audit: SId. Information on the fishery's performance and management action relevant to the Seychelles fishery and private agreements 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.	3.2.2	Ahead of target	75	Not revised
9	By the first annual surveillance audit following re-certification (anticipated to be in 2024), the client must demonstrate that the harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving stock management objectives reflected in PI 1.1.1 SG80 (i.e., it is highly likely that the stock is above the PRI and is at or fluctuating around a level consistent with MSY).	1.2.1	NEW	85	70
10	By the first annual surveillance audit following re-certification (anticipated to be in 2024), the client must demonstrate that available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.	1.2.2	NEW	80	75

5.1.2 Total Allowable Catch (TAC) and catch data

Currently, no TAC has been established for the skipjack tuna in the IO, only a annual catch limit of 470, 029 t for the period 2018-2020. No further quota allocation system is established for this species. UoA Catches from 2019 are preliminary (based on the landing reports for each of the Echebastar vessels available at the Echebastar website (https://echebastar.com/en/echebastar-obtains-msc-certification/msc-up-to-date/2019-annual-surveillance-audit/documents/). UoA annual catches represented between 7.2 and 6.5% of the total catch limit for the skipjack in the IO in 2018 and 2019 respectively.

Table 5.1.2 Catch limit set in 2018 and 2019 for the skipjack tuna in the IO and skipjack catches corresponding to the Echebastar fleet

Year 2019	
Catch limit **(*)**	**470,029 t.**
UoA/UoC share of Catch limit	**NA(**)**
Total green weight catch by UoC	**30,682 t**
Year 2018	
Catch limit **(*)**	**470,029 t.**
UoA/UoC share of Catch limit	**NA(**)**
Total green weight catch by UoC	**33,866 t**

(*) As established at the IOTC Res 16/02 for the period 2018-2020
(**) There is no further quota allocation

5.1.3 Recommendations

Recommendation 1

Table 5.1.1 – Recommendation 1

Performance Indicator	1.2.1
Justification	*No rationale was provided at the PCR*
Recommendation	Observers estimate and report on discarded catch and reasons for discarding
Progress on Recommendation (Year 1)	Discarding any of the tropical tuna species targeted by the industrial purse seine fleet operating in the IOTC area is ban since the adoption of the IOTC Res 19/05. This Resolution states that Contracting Parties and Cooperating Non-Contracting Parties shall require all purse seine vessels to retain on board and then land all bigeye tuna, skipjack tuna, and yellowfin tuna caught, except fish considered 'unfit for human consumption' (see below for a detailed description of this term). Further, Contracting Parties and Cooperating Non-Contracting Parties shall require all purse seine vessels to retain on board and then land, to the extent practicable, the following non-targeted species or species group; other tunas, rainbow runner, dolphinfish, triggerfish, billfish, wahoo, and barracuda, except fish considered 'unfit for human consumption', and/or species which are prohibited from retention, consumption, or trade through domestic legislations and international obligations. The Resolution also establishes the following procedures for the implementation of full retention requirements: a) No bigeye tuna, skipjack tuna, yellowfin tuna and non-targeted species referred to in paragraph 2 caught by purse seine vessels may be discarded after the point in the set when the net is fully pursed and more than one half of the net has been retrieved. If equipment malfunctions affect the process of pursing and retrieving the net in such a way that this rule cannot be complied with, the crew must make efforts to release the tunas and the non-targeted species as soon as possible. b) The following two exceptions to the above rule shall apply: i. Where it is determined by the captain of the vessel that tuna (bigeye tuna, skipjack tuna or yellowfin tuna) and the non-targeted species as listed in Para 2 caught are unfit for human consumption, the following definitions shall be applied: - "unfit for human consumption" are fish that: - is meshed or crushed in the purse seine; or - is damaged due to depredation; or

	- has died and spoiled in the net where a gear failure has prevented both the normal retrieval of the net and catch, and efforts to release the fish alive; - "unfit for human consumption" does not include fish that: - is considered undesirable in terms of size, marketability, or species composition; or - - is spoiled or contaminated as the result of an act or omission of the crew of the fishing vessel. ii. Where the captain of a vessel determines that tuna (bigeye tuna, skipjack tuna or yellowfin tuna) and the non-targeted species as listed in Para 2 were caught during the final set of a trip and there is insufficient storage capacity to accommodate all tuna (bigeye tuna, skipjack tuna or yellowfin tuna) and the non-targeted species caught in that set. This fish may only be discarded if: - the captain and crew attempt to release the tuna (bigeye tuna, skipjack tuna or yellowfin tuna) and the non-targeted species alive as soon as possible; and - no further fishing is undertaken after the discard until the tuna (bigeye tuna, skipjack tuna, and/or yellowfin tuna) and the non-targeted species on board the vessel has been landed or transhipped. The Resolution also determines that where the captain of the vessel determines that fish should not be retained on board in accordance with Clauses (i) and (ii) above, the captain shall record the event in the relevant logbook including estimated tonnage and species composition of discarded fish; and estimated tonnage and species composition of retained fish from that set. Therefore, since 2019 discarding skipjack is totally prohibited, and in the case of non-retention the event shall be recorded by the captain. Further, the certified fleet has 100% observer coverage and observers do report all individuals' discarded (mainly silky sharks), detailing fate (alive/dead). The client confirmed during the site visit that no skipjacks are discarded, even before the IOTC Resolution 19/05 on discards ban, as stated in the rationale given to SI(f) of PI 1.2.1 (see **section 5.4**, PI 1.2.1)
Status	CLOSED
Additional information	*N/A*

Recommendation 2

Table 5.1.2 – Recommendation 2

Performance Indicator	2.3.3
Justification	*No rationale was provided at the PCR*
Recommendation	A higher percentage of observer data is available for review each year at annual surveillance audits to better assess impacts on ETP species
Progress on Recommendation (Year 1)	See Condition 1
Status	CLOSED

Additional information	This recommendation was created prior to final assessment scoring and the creation of Condition 1. The recommendation is no longer required.

Recommendation 3

Table 5.1.3 – Recommendation 3

Performance Indicator	2.4.3
Justification	*No rationale was provided at the PCR*
Recommendation	Echebastar maintains a database of the number of lost FADs by area and date.
Progress on Recommendation (Year 1)	See Condition 4
Status	CLOSED
Additional information	This recommendation was created prior to final assessment scoring and the creation of Condition 4. The recommendation is no longer required.

5.2 Conditions

Condition 1

Table 5.2.1.– Condition 1

Performance Indicator	**2.3.3 ETP species information**
Score	**70**
Justification	**SIb Information is adequate to measure trends and support a strategy to manage impacts on ETP species** More than three years of information is needed to measure trends and support a strategy to manage impacts on ETP species. and ensure that ETP bycatch levels remain at levels consistent with those for 2014-2016.
Condition	By the fourth annual surveillance audit, the client must demonstrate that information is adequate to measure trends and support a strategy to manage impacts on ETP species.
Milestones	**Years 1-3**. Echebastar must provide evidence at the 1-3 annual surveillance audits that the amount of processed data available has been significantly improved and that protocols for data processing have been established to assure the provision of the data required in future years. Expected score = 70. **Year 4**. Echebastar must provide evidence to the fourth annual surveillance audit that the processed data available for the period 2014 – 20 is adequate to measure trends

	and support a strategy to manage impacts of the fishery on ETP species. Expected score = 80.
Consultation on condition	*Include details of any verification required to meet requirements in FCP v2.1 7.19.8*
Progress on Condition (Year 1)	The requirement for the first annual audit is clear (i) the data available on catch is sufficient to assess the risk to ETP species and identify trends and (ii) the protocols and practices on data collection must be sufficient to give confidence that robust data will continue to be collected in the future. Updated observers' data for 2017 and 2018 has confirmed that ETP species impacted by the UoA are sharks (mainly silky and oceanic whitetip shark), Manta and devil rays and sea turtles (see **tables 4.2.5, 4.2.6, 4.2.7 and 4.2.8**). Emphasis has been placed on improving the efficiency of the observer programme and the quantity and quality of the data. Table 4.2.4 shows the increasing trend on data reported for observed sets, with observed sets raising up to 87% and 90% of the total FAD and FSC sets respectively in 2018. This had also led to better input of the observer data into the system and subsequent analysis with priority given by SFA to Echebastar data (see, in Appendix 7.2.1, confirmation by the SFA in relation to the agreement reached to increase coverage for the certified fleet). In the SFA offices in Seychelles, efforts have been increased in the collection of observer data. Additionally, the vessel skippers have been instructed to collect the information from observers for back up prior to disembarkation, while all vessel crew have been trained by AZTI in relation to the MSC certification including the protocol and importance of data collection (AZTI 2019). The latter is in the context the ANABAC/OPAGAC Code of Good Practices implemented on the certified fleet (ANABAC/OPAGAC 2017) and also part of the ISSF commitments. Additional information on the Seychelles purse seine fishery observer program is available at Lucas et al 2017. Data shown and discussed in **section 4.2.7.1** on the UoA observed catch composition and total estimated catches in 2017 and 2018 prove that information is being collected with an adequate level of detail. Further, this information is available at the Echebastar website: https://echebastar.com/en/echebastar-obtains-msc-certification/msc-up-to-date/2019-annual-surveillance-audit/documents/ (click **here** for downloading data on 2017, and **here** for downloading data for 2018). This proves that the client is comprised with transparency in relation to this issue. At the time of preparing the Public Certification Report (DeAlteris et al 2018), the availability of data on observed UoA catches and total estimated UoA catches was restricted to 2014, 2015 and 2016. During the current surveillance audit, the client has provided analysed data from 2017 and 2018, while data from 2019 were still under preparation and will be audited in the following surveillance audit. However, during the site visit the client argued that data from observers are quarterly reported to avoid problems in terms of providing data on a regular basis. As shown in **sections 4.2.7.1.2 and 4.2.7.3**, it is possible to start to identify trends in capture. However, given the low % of observed sets in 2014 -2016 data and potential changes in the pattern of the fishing operations since the implementation of the yellowfin tuna quota (See **section 4.2.7.1**), 3 more years data are required to confirm these and support a strategy. As part of the Echebastar Strategic approach (Echebastar 2019b), there are other activities also aimed to improve information.

	IPG 11 (Information is adequate for the assessment of impacts and their management) of the SIOTI action plan (SIOTI 2019) relates to 2.3.3 ETP species information. The Year 1 and Year 2 targets for SIOTI were: • *Y1: Scientific report on the mortality of ETP species after their release from fishing gear, and an analysis of the likely impact of such mortality on Indian Ocean populations.* • *Y2: Study on the impact of purse seine gear on ETP species and likely consequence for Indian Ocean populations and improved vessel-level reporting of ETP interactions.* The year 2 SIOTI report found that the FIP was on target • *An OPAGAC FIP supported study in 2018 (IOTC-2018-WPDCS14-26)* ***https://www.iotc.org/sites/default/files/documents/2018/11/IOTC-2018-WPDCS14-26_Rev1.pdf*** *as also reported under IPG4, estimated levels of bycatch and ETP species interactions with purse seine gear relative to other gears in the Indian Ocean. The findings of this study indicate the ETP interactions are lower for purse seine than other gears. However, levels of post-release mortality were not directly estimated, with only existing estimates used in the analysis, which were not available for all gears.* • *SIOTI is in discussions with WWF to support further work on this in 2019, especially given the historical bycatch data provided under IPG9 and 10 and increased levels of observer data reporting in recent years. A major focus of the work will be to improve the estimates of the earlier work, including estimation of uncertainty. The TOR is being drafted and the work will be initiated by bringing scientific expertise to a workshop later in 2019.* • *The OPAGAC study also makes clear recommendations for improved reporting.* During the site visit, Echebastar representatives confirmed that they are proposing a number of initiatives that were presented to the SIOTI meeting held in Paris on November 4 & 5. These proposed activities are: ▪ Tagging of released sharks ▪ Mapping of the differences in the proportion of silky sharks caught by set ▪ Correlation of the silky shark by catch with the total catch per set
Status	The team found the progress on this condition to be ‘ON TARGET’.
Additional information	NA

Condition 2

Table 5.2.2 – Condition 2

Performance Indicator	**2.4.1 – Habitats outcome**
Score	**75**
Justification	**SIb. VME habitat status. The UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.** While there is evidence that it is unlikely that derelict FADs reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm, due to the potential impact over a number of years and lack understanding of the real nature of the issue, it cannot be concluded that this is highly unlikely. More evidence is required.
Condition	By the fourth annual surveillance audit, the client must demonstrate that FADs are highly unlikely to reduce structure and function of coral reefs to a point where there would be serious or irreversible harm.
Milestones	**Year 1.** Echebastar must provide evidence to the first annual surveillance that a plan has been implemented to ensure that FADs are highly unlikely to reduce structure and function of coral reefs to a point where there would be serious or irreversible harm. Expected score = 75. **Year 2**. Echebastar must provide evidence to the second annual surveillance that the plan has been fully implemented with a description of the actions undertaken. Expected score = 75. **Year 3**. Echebastar must provide evidence to the third annual surveillance that actions continue and that results of the activities are being collected and analysed. Expected score = 75. **Year 4**. Echebastar must provide evidence to the fourth annual surveillance to prove that FADs are highly unlikely to reduce structure and function of the coral reefs (VME) habitats with lost FADs to a point where there would be serious or irreversible harm. Expected score = 80.
Consultation on condition	The overall approach will be developed, coordinated and implemented by AZTI.
Progress on Condition (Year 1)	A number of actions provide the evidence that a plan has been implemented with the objective of ensuring that FADs are highly unlikely to reduce structure and function of coral reefs to a point where there would be serious or irreversible harm. One key issue for Echebastar strategy was the definition of a FAD Management Plan (Echebastar 2019c). Echebastar will review the number of FADs that it operates. Among other measures, it is expected that the reduction of total FAD will reduce the number of lost FADs. Echebastar fully complies with IOTC FAD limits. Indeed, in 2016 the company unilaterally reduced the number of FADs it used below the number permitted by the IOTC. The number of FADs and suplly vessels permitted by IOTC has reduced since the assessment.

In relation to the Echebastar FAD Management Measures, the following actions are defined in relation to number of buoys:

- All FADs should be deployed and tracked with instrumented buoys, which should be made operational on-board.
- Until 31 December 2020, Echebastar will respond to IOTC Res 19/02 with a maximum number of 300 operational buoys followed per purse seiner vessel at any one time, with a maximum annual purchase per purse seiner vessel of 500 instrumented buoys.
- From 1st January 2021, Echebastar will voluntarily reduce the number of operational buoys per purse seiner vessel followed at any one time to 275 with a maximum annual purchase per purse seiner vessel of 475 instrumented buoys.
- From 1st January 2022, Echebastar will voluntarily reduce the number of operational buoys followed per purse seiner vessel at any one time to 250 with a maximum annual purchase per purse seiner vessel of 450 instrumented buoys.

Echebastar will construct FADs from bio-degradable materials to reduce the potential risk to corals.

To reduce the risk of damage from lost FADS, all FADS deployed by Echebastar will be constructed from bio-degradable materials that are presently under study, for its rapid implementation. According to IOTC resolution 19/02, by year 2022 all deployed FADs will be biodegradable FADs.

Echebastar fully cooperates with the BIOFAD project SC07 "Testing designs and identify options to mitigate impacts of drifting FADs on the Ecosystem – EASME/EMFF/2017/1.3.2.6 - FWC EASME/EMFF/2016/008 Provision of SAF Beyond EU waters". This project seeks to test the use of specific biodegradable materials and designs for the construction of drifting FADs in natural environmental conditions. Options to migigate drifting FADs impacts on the ecosystem will also be identified, and the socio-economic viability of the use of BIO FADs (i.e. non-entangling and biodegradable) in the purse seine tropical tuna fishery will be assessed. AZTI publicly declared (https://echebastar.com/wp-content/uploads/2019/09/AZTI_letter_ECHEBASTAR_participation_BIOFAD_02092019 20v2.pdf) that Echebastar vessels has contributed to the project with the activities shown in table below during the period from April 2018 to September 2019. Besides, Echebastar provides the echo-sounder buoys needed (and the data collected by them) to attach to the experimental biodegradable FADs to be deployed in the project. This contribution is an in-kind contribution of Echebastar to the project.

Name Vessel	BIOFAD deployments	BIOFAD Visits	BIOFAD Sets	BIOFAD Transfer
ALAKRANA	7	0	1	4
ELAI ALAI	24	7	4	6
EUSKADI ALAI	24	1	0	0
IZARO	17	2	2	9
JAI ALAI	20	2	1	2

Progress on this BIOFAD project can be consulted at Zudaire & Murua (2018), and preliminary results have been recently presented (August 22, 2019) to IOTC in Zudaire et al (2019).

FAD Traceability

A number of activities are relevant to establish a system to account for lost FADs and reduce the uncertainty about their actual number:

- Echebastar only deploys FADs with satellite tracking buoys.

- Echebastar is working with AZTI so that by early 2020, all 2019 FAD purchases, activation, status and recovery will be fully documented and available for inspection.
- Echebastar has contracted AZTI to develop a data base on the FADs purchased and activated by the company to avoid losses (see Echebastar 2019c, Section 11).
- As part of the ANABAC/OPAGAC Code of Good Practices (ANABAC/OPAGAC 2017), AZTI is responsable for implementing, compiling and analysing data from the FAD logbook to support a FAD management system for the ANABAC/OPAGAC vessels. AZTI is also responsable to verify the implementation of the good practices on FADs adopted by these vessels. AZTI regularly presents the results of this activities and verification at the Steering Committee for the Code of Conduct, see AZTI (2019) for a detailed account of the meetings held since 2013.
- The SIOTI action plan for Years 3 and 4 states:

  Y3: All FADs operated by FIP participants are tracked, losses are registered and best practical efforts made for their location and recovery.
  Y4: A review of the FAD reporting system indicates that the loss of FADs is minimised and they are highly unlikely to impact on VMEs; FAD management study results are published

FAD recovery

- Echebastar will continue to work with other tuna catching companies and stakeholders in "FAD Watch programme" and seek to work with local stakeholders in other countries to replicate the experience. The FAD Watch project is a collaborative initiative to minimize the impact of FADs in coastal ecosystems. The FAD-Watch project is a first multi-sectorial initiative developed to prevent and mitigate FAD beaching across islands in Seychelles, in which the coastal recovery is applied as a mitigation measure. It is the result of a collaborative work among the Spanish Tuna Purse Seiner fishing representatives (OPAGAC), Island Conservation Society (ICS), Islands Development Company (IDC) and Seychelles Fishing Authority (SFA). The FAD detection system was setup by OPAGAC for 6 buffer areas (Alphonse, Farquhar, Desroches, Poivre, Aride and Silhouette islands), which make possible alerting ICS when FADs crossed buffer areas within 5 and 3 nautical miles of any of these islands. For each intercepted FAD, ICS collected information about the location, habitat type, purse seiner vessel, FAD design, entangled fauna, and fate (removed or not; & disposal method). In order to evaluate the beaching rate and entangling potential of FADs of the target fleet, information was complemented both by buoy tracked data and by data collected on the frame of the voluntary agreement for the application of good practices. More details can be found at (Zudaire et al 2018). In November 2019, a MoA was signed to include the FAD WATCH project as par of the SIOTI action plan (click here to download the MoA: https://echebastar.com/wp-content/uploads/2019/11/SIOTI-FAD-WATCH-MOA-FINAL-DOCUMENT.pdf). This MoA was signed by the SFA, ICS, IDC and SIOTI.
- The SIOTI (2019) reports that the FAD Watch programme that locates and intercepts FADs that may become derelict in Seychelles waters was expanded to 42 vessels amongst 5 islands.

Other Points

- Since 2016, Echebastar tuna fishing fleet has adopted (https://www.echebastar.com/assets/pesca/NON-ENTANGLING-FADS.pdf)

	the use of the new FAD designs described in the ISSF Guide for Non-Entangling FADs in an effort to reduce shark and/or turtle. More info on the ISSF non-entangling and biodegradable FADs (ISSF, 2019) • Echebastar has contracted AZTI to complete research programmes to determine deployment areas that are highly likely to result in stranding of derelict FADs on coral reefs. To conclude, Echebastar is working on: 1) Reducing the number of FADs (the Company has set more restrictive objectives than the IOTC regulations on this issue); 2) FAD traceability and reduce the risk of FADs damaging corals (BIOFAD, account for lost FADs and reduce the uncertainty about their actual number); 3) FAD recovery program (FAD Watch). All these actions outlined in the Echebastar Strategy & Operational Plan for a Sustainable purse seine Tuna Fishery in the Indian Ocean 2019-2013 (Echebastar 2019a) and detailed in the FAD Management Plan of the Company (Echebastar 2019c). The client presented evidence of the implementation of different actions considered in the FAD Management Plan, but this is still a work in progress.
Status	The team found progress on this condition to be **'ON TARGET'**
Additional information	NA

Condition 3

Table 5.2.3 – Condition 3

Performance Indicator	2.4.2 Habitats management strategy
Score	75
Justification	**SIa. Management strategy in place. There is a partial strategy in place, if necessary, that is expected to achieve the Habitat Outcome SG80: The UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.** The local impacts of derelict FADs on coral reefs may be significant, especially as a FAD may have a negative effects over an extended period. The measures to-date reduce the potential number of interactions. However, as yet biodegradable FADs have not been introduced into the fishery although development work continues. Until this is the case, it cannot be considered that an important element of a partial strategy are in place as the UoA has not implemented the precautionary measure (MSC FCR SA 3.14.2.2).
Condition	By the third annual surveillance audit, the client must provide evidence that a partial strategy in place that is expected to result that it will be highly unlikely that derelict FADs could reduce structure and function of the coral reefs to a point where there would be serious or irreversible harm.
Milestones	These are linked to Condition 2.

	Year 1. Echebastar must provide evidence to the first annual surveillance that a partial strategy has been defined and implemented to ensure that FADs are highly unlikely to reduce structure and function of coral reefs to a point where there would be serious or irreversible harm. Expected score = 75. **Year 2**. Echebastar must provide evidence to the second annual surveillance that the partial strategy has been fully implemented with a description of the actions undertaken. Expected score = 75. **Year 3**. Echebastar must provide evidence to the third annual surveillance that a partial strategy is in place. Expected score = 80.
Consultation on condition	The overall approach will be developed, coordinated and implemented by AZTI.
Progress on Condition (Year 1)	As detailed in Progress on Condition 2, Echebastar is working on: 1) Reducing the number of FADs (the Company has set more restrictive objectives than the IOTC regulations on this issue); 2) FAD traceability and reduce the risk of FADs damaging corals (BIOFAD, account for lost FADs and reduce the uncertainty about their actual number); 3) FAD recovery program (FAD Watch). Further, all these actions were outlined in the Echebastar Strategy & Operational Plan for a Sustainable purse seine Tuna Fishery in the Indian Ocean 2019-2013 (Echebastar 2019a) and detailed in the FAD Management Plan of the Company (Echebastar 2019c). The client presented evidence of the implementation of different actions considered in the FAD Management Plan, but this is still a work in progress.
Status	The team found progress on this condition to be **'ON TARGET'**
Additional information	NA

Condition 4

Table 5.2.4 – Condition 4

Performance Indicator	**2.4.3 Habitats information**
Score	**75**
Justification	**SIb. Information adequacy for assessment of impacts. Information is adequate to allow for identification of the main impacts of derelict FADs on coral reefs, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear.** While there is good information on the spatial extent of interaction between derelict FADs and coral reefs in the Seychelles, similar data is not available for other countries. A precautionary approach would suggest that the potential for impacts to occur should be further investigated. There is limited information on the spatial extent, timing and

	location of FAD interactions with coral reefs, and this is not adequate to understand the nature of the impacts of the gear on coral habitat.
Condition	By the fourth annual surveillance audit, the client must provide evidence that information is adequate to allow for identification of the main impacts of derelict FADs on coral reefs, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear.
Milestones	These are linked to Condition 2. **Year 1**. Echebastar must provide evidence to the first annual surveillance that the partial strategy includes the approach to improving the information base. Expected score = 75. **Year 2-3**. Echebastar must provide evidence to the second and third annual surveillance that information is being collected. Expected score = 75. **Year 4.** Echebastar must provide evidence to the third annual surveillance that the collected information has been analysed with the identification of the main impacts of derelict FADs on coral reefs, and an understanding of the spatial extent and timing of the interactions. Expected score = 80.
Consultation on condition	The overall approach will be developed, coordinated and implemented by AZTI.
Progress on Condition (Year 1)	The following activities related to Condition 2 and Condition 3 respond to Condition 4. **FAD Traceability** A number of activities are relevant to establish a system to account for lost FADs and reduce the uncertainty about their actual number: • Echebastar only deploys FADs with satellite tracking buoys. • Echebastar is working with AZTI so that by early 2020, all 2019 FAD purchases, activation, status and recovery will be fully documented and available for inspection. • Echebastar has contracted AZTI to develop a data base on the FADs purchased and activated by the company to avoid losses (see Echebastar 2019c, Section 11). • As part of the ANABAC/OPAGAC Code of Good Practices (ANABAC/OPAGAC 2017), AZTI is responsable for implementing, compiling and analysing data from the FAD logbook to support a FAD management system for the ANABAC/OPAGAC vessels. AZTI is also responsable to verify the implementation of the good practices on FADs adopted by these vessels. AZTI regularly presents the results of this activities and verification at the Steering Committee for the Code of Conduct, see AZTI (2019) for a detailed account of the meetings held since 2013. • The SIOTI action plan for Years 3 and 4 states: *Y3: All FADs operated by FIP participants are tracked, losses are registered and best practical efforts made for their location and recovery.* *Y4: A review of the FAD reporting system indicates that the loss of FADs is minimised and they are highly unlikely to impact on VMEs; FAD management study results are published*

	FAD recovery • Echebastar will continue to work with other tuna catching companies and stakeholders in "FAD Watch programme" and seek to work with local stakeholders in other countries to replicate the experience. The FAD Watch project is a collaborative initiative to minimize the impact of FADs in coastal ecosystems. The FAD-Watch project is a first multi-sectorial initiative developed to prevent and mitigate FAD beaching across islands in Seychelles, in which the coastal recovery is applied as a mitigation measure. It is the result of a collaborative work among the Spanish Tuna Purse Seiner fishing representatives (OPAGAC), Island Conservation Society (ICS), Islands Development Company (IDC) and Seychelles Fishing Authority (SFA). The FAD detection system was setup by OPAGAC for 6 buffer areas (Alphonse, Farquhar, Desroches, Poivre, Aride and Silhouette islands), which make possible alerting ICS when FADs crossed buffer areas within 5 and 3 nautical miles of any of these islands. For each intercepted FAD, ICS collected information about the location, habitat type, purse seiner vessel, FAD design, entangled fauna, and fate (removed or not; & disposal method). In order to evaluate the beaching rate and entangling potential of FADs of the target fleet, information was complemented both by buoy tracked data and by data collected on the frame of the voluntary agreement for the application of good practices. More details can be found at (Zudaire et al 2018). In November 2019, a MoA was signed to include the FAD WATCH project as par of the SIOTI action plan (click here to download the MoA: https://echebastar.com/wp-content/uploads/2019/11/SIOTI-FAD-WATCH-MOA-FINAL-DOCUMENT.pdf). This MoA was signed by the SFA, ICS, IDC and SIOTI. • The SIOTI (2019) reports that the FAD Watch programme that locates and intercepts FADs that may become derelict in Seychelles waters was expanded to 42 vessels amongst 5 islands. Further, Echebastar has contracted AZTI to complete research programmes to determine deployment areas that are highly likely to result in stranding of derelict FADs on coral reefs.
Status	The team found progress on this condition to be **'ON TARGET'**
Additional information	NA

Condition 5

Table 5.2.5 – Condition 5

Performance Indicator	**2.5.3 Ecosystem information**
Score	**75**
Justification	**SIb. Investigation of UoA impacts. Main impacts of the UoA on these key ecosystem elements can be inferred from existing information, and some have been investigated in detail.**

	SId. Information relevance. Adequate information is available on the impacts of the UoA on these components to allow some of the main consequences for the ecosystem to be inferred. The effects of FADs used in the UoA/UoC on the behaviour, migration patterns and feeding of tuna and other key predators (e.g. silky shark and oceanic whitetip shark) is a subject of concern. Dagorn et al (2013) conclude that there is no unequivocal empirical evidence that FADs per se represent an 'ecological trap' that inherently disrupts the ecosystem, although further research should focus on this issue.
Condition	**SIa.** By the fourth annual surveillance audit, the client must provide evidence that the main impacts of the FADs used in the UoA/UoC on these key ecosystem elements can be inferred from existing information, and some have been investigated in detail. **SId.** By the fourth annual surveillance audit, the client must provide evidence that there is adequate information on the impacts of the UoA on these components to allow some of the main consequences for the ecosystem to be inferred.
Milestones	**Year 1.** Echebastar must provide evidence to the first annual surveillance that the options to investigate the potential impact of the FADs used in the UoA/UoC on the ecosystem have been identified and the preferred option for investigation has been implemented. Expected score = 75. **Year 2.** Echebastar must provide evidence to the second annual surveillance that the preferred option for investigation continues to be implemented Expected score = 75. **Year 3.** Echebastar must provide evidence to the third annual surveillance of the preliminary results from the preferred option for investigation. Expected score = 75. **Year 4.** Echebastar must provide evidence to the fourth annual surveillance that main impacts of the FADs used in the UoA/UoC on key ecosystem elements can be inferred, and some have been investigated in detail. Expected score = 80.
Consultation on condition	The overall approach will be developed, coordinated and implemented by AZTI.
Progress on Condition (Year 1)	The Year 1 milestone is explicit that *"(…) options to investigate the potential impact of FADs…have been identified and…implemented."* It is understood that the scope for independent action by Echebastar is limited and it has therefore chosen to work with SIOTI to investigate and progress this area. The SIOTI FIP Action Plan review (Year 2) considered options to investigate the potential impact of FADs on the ecosystem and developed a preferred option to proceed (SIOTI 2019). Specifically, the production of a working paper on Ecosystem Approach to Fisheries Management (EAFM) to the IOTC WP on Ecosystems and Bycatch (WPEB), to include consideration of FADs and potential impacts on the ecosystem and means of mitigation, management and investigation. The working paper (Juan-Jordá, 2019) was commissioned in April, 2019, and was presented in October, 2019 (see: https://echebastar.com/wp-content/uploads/2019/11/Support-for-the-development-of-an-ecosystem-approach-to-fisheries-management-for-Indian-Ocean-fisheries.pdf). The working paper identifies key information gaps in enabling an ecosystem approach to tuna fishery management in the Indian Ocean and includes a review of the key risk areas associated potentially with FAD use. According to Juan-Jordá (2019), the ecological impacts of fisheries in marine ecosystems can be broadly categorized in 4 types of impacts: (1) Impacts on the individual targeted species (2) Impacts on the individual non-targeted species including ETP species

	(3) Impacts on habitats of ecological significance (4) Impact on the structure and function of marine ecosystems This condition was considered at length during the site visit and the FIP and commissioned working paper were the subject of detailed review. The FIP mentions "ecological trap" only in relation to PI2.4, not PI2.5 to which this condition applies. With respect to PI 2.5 and potential impacts on the structure and function of ecosystems, the FIP refers explicitly to the commissioned working paper under PI2.5. The paper outlines the key areas of impact by purse seine fisheries, effectively as relate to all MSC P2 PISG. It describes in detail many PI2.4 matters (e.g., use of biodegradable FADs and mitigation of FAD beaching on coral reefs). The paper notes (p29) that testing whether FADs affect the behaviour and large-scale movements of tunas requires data that are not currently available. It considers what types of data and research would be needed to progress understanding but particularly management. It is notable that amongst any detailed considerations of science and management, the paper also recommends (p49) that "*MSC Fishery Standard P2.4 Habitats and P2.4 Ecosystems need to be clarified for the context of tuna fisheries - Engage with the MSC to clarify better the MSC Fishery Standard and Guidance in relation to what type of fishery impacts need to be reviewed under the component of Habitats (P2.4) and the component of Ecosystem (P2.5) in the context of tuna fisheries."*
Status	The team found the progress on this condition to be **'ON TARGET'**.
Additional information	This is a difficult and contentious issue area with progress towards resolution unlikely by a single fishery client. Echebastar has sensibly chosen to work with SIOTI to make progress and with additional UoA under assessment progress might be enhanced. There will be need for coordination across future overlapping fisheries and a consequent need potentially to reschedule this condition.

Condition 6

Table 5.2.6 – Condition 6

Performance Indicator	**3.1.2 – Consultation, roles and responsibilities**
Score	**75**
Justification	**SIb.- Consultation processes. 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.** Evidence (Welch & Kerrigan (2015), Standing (2016), stakeholder interviews – SFBOA, SFA, MAF & Blue Economy) indicates the limited input of local stakeholders in the Seychelles decision making process. Where local stakeholders have expressed views, it is not clear how these have been taken into account. At the site visit, It was reported that meetings between the Minister and stakeholders are not minuted. The lack of a mechanism to indicate if and how stakeholder information is used in the management system impacts transparency on how Seychelles fishery managers obtain and consider information and local knowledge.

Condition	By the third annual surveillance audit, the management system in the Seychelles includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.
Milestones	**Year 1**. Echebastar will provide evidence to the audit team in the first annual surveillance audit that the options to improve the consultation process in the management of the Seychelles tuna fisheries have been discussed. Expected score = 75 **Year 2.** Echebastar will provide evidence to the audit team in the second annual surveillance audit that the consultation process for tuna management in the Seychelles has met regularly with stakeholders and a formal record of those meetings as made available to all stakeholders is provided to the team. Expected score = 75. **Year 3**. Echebastar will provide evidence to the audit team in the third annual surveillance audit that the management system for tuna management in the Seychelles has demonstrated consideration of the information received from the consultation process. Expected score = 80
Consultation on condition	Government agencies and entities are committed to meeting the condition and have the funding and manpower available to contribute to the implementation of the client action plan. Seychelles Ministry of fisheries will follow collaborating closely with stakeholders to commit this condition
Progress on Condition (Year 1)	The Government of Seychelles has recently published the 'Seychelles Fisheries Sector Policy And Strategy 2019' (MFAg 2019a). This document states that: *"The development of this Ploicy is a result of stakeholder consultations, literature review and internal departmental consultations. (…) The Policy was validated through a national stakeholder workshop which took plan on the 4th and 5th March 2019 and submitted to the Cabinet of Ministers for Government approval".* *"The participatory approach to management of fisheries"* is among the different challenges identified by the Policy. This challenge is defined as follows: *"Despite a growth in the number of fishery-related associations, there is a lack of collective bargaining, coordination and cohesion to effect change that will directly benefit fishers, improve sustainability and business growth"*. The overall goal of the Policy is: *"To provide effective, efficient, transparent and accountable service delivery through a participatory approach to ensure long-term sustainable fisheries and aquaculture management and conservation so that the sector continues to play a key role in the sustainable development of the country and the socio-economic well-being of the Seychellois nation".* Also, some of the objectives set are directly related to participatory and consultation processes: - *Manage fisheries resources through ecosystem-based approaches and ensure that policies, legislations and infrastructure development are aligned towards achieving sustainability, taking into account climate change, international commitments and global developments;* - *Foster optimum utilisation of fisheries and aquaculture resources to ensure ecological and socioeconomic sustainability in resource-use and domestic developments, while recognising traditional norms;* - *Promote the principles of visibility, transparency, participation and inclusivity in decision-making processes which will enable the industry to develop to its full potential within a supportive regulatory framework*

This sector Policy is structured around 10 Policy objectives (PO), each of which is underpinned by more specific strategic actions and policy directives.

Two of the defined elements of Policy 1 (*Good governance and institutional strengthening*) are:

- *Engage with formal and informal resource groups at the government and community level to foster stakeholder engagement in the policy making and implementation;*
- *Consult with non-governmental organisations and the fishing industry on new management measures and developments and support the development of associations, cooperatives and federations;*

Three of the defined elements of Policy 2 (*Sustainable management of fisheries and climate resilience*) are:

- *Encourage fisheries sector stakeholders to better represent themselves and participate meaningfully in co-management through stronger associations, cooperatives and federation into an apex national organization;*
- *Mainstream effective fisheries licensing and limited-entry within management plans in a progressive manner with close consultation and agreement of the relevant stakeholders;*
- *Establish mechanisms that encourage fisheries statisticians, researchers, and managers to publicly engage with fishers and other stakeholders to explain their findings and advice.*

Arising from the strategy, Seychelles has prepared a 'Fisheries Comprehensive Plan' (MFAg, 2019b)

One of the four guiding principles for the plan is:

- *A shared partnership approach that will create smart partnerships at all levels (national and organisational), where Government still provides policy leadership. This partnership should encompass individuals, groups, communities, civil society, the private sector, local and central Government, as part of an overall participatory approach;*

The Plan is a detailed presentation of many actions that are programmed to take place in order to meet the MFAg (2019a). However, the only specific reference to stakeholders is under 8. Fishery Association.

- *Encourage the establishment a national structure to increase unity and cooperation in the fisheries sector among the associations that will play an active role in advancing the interests of the industry at national and international level. The structure should also aim to preserve and promote the collective interests of the different associations in Seychelles*.

Following conformation of the Plan the next step to be taken is the passing of a new Fisheries Law. The drafting is a work in process which (according to notes handed by the client) includes:

- *5l the interests of artisanal fishers shall be taken into account, including their participation in management of their respective fisheries;*
- *5n an understanding of and broad and accountable participation by stakeholders in the conservation, management, development and sustainable use of fisheries resources shall be promoted to the extent practicable, including the principles of visibility, transparency, participation and inclusivity in the decision-making process; and*
- *8 (2) The CEO may cause to be prepared Fisheries Management Plans at national or local levels for any fishery or fisheries within the scope of this Act, and*

	shall do so for any fishery designated as a priority in accordance with subsection (1), and in doing so shall ensure that consultations with stakeholders are undertaken. The SFA representative interviewed during the site visit (see **Appendix 7.2.1** for more details) confirmed that a new fisheries consultation body was set up in 2019 at the Seychelles: the National Fisheries Committee. This is a consultation body comprised by different sectors, such as finance, environment, blue economy, trade, fisheries, etc. The role of this committee is to provide guidance on fisheries policy matters. However, the team could not get any other details in relation to this multi-stakeholder advisory council (composition, activity/meetings, minutes…). The implementation of activities aimed to achieve the goals established at the Policy (MFAg, 2019a) and Plan (MFAg, 2019b) will be assessed in the following surveillance audits, including the activity of the newly created National Fisheries Committee.
Status	The team found the progress on this condition to be **'ON TARGET'**.
Additional information	NA

Condition 7

Table 5.2.7 – Condition 7[3]

Performance Indicator	**3.2.1 – Fishery-specific objectives**
Score	**75**
Justification	**Sla Objectives. 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-specific management system** There are no explicit short and long-term objectives for the Seychelles skipjack tuna fishery.
Condition	By the third annual surveillance audit, 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-specific management system.
Milestones	**Year 1**. Echebastar will provide evidence to the audit team in the first annual surveillance audit that–there has been consideration on the process of the establishment of the potential of short and long-term objectives for the Seychelles skipjack tuna fishery in IOTC. Expected score = 75. **Year 2**. Echebastar will provide evidence to the audit team in the second annual surveillance audit on the progress of the establishment of explicit short and long-term

[3] During the site visit it became clear that editorial errors occurred with the wording of Conditions 7 & 8, since justifications and milestones for both conditions were mixed. Thus, modified justification and milestones for these 2 conditions are presented in the current surveillance audit. The re-wording was done during the site visit in agreement with the ESWG. Also, corrected client action plans were presented by the client for these 2 conditions.

	objectives for the Seychelles skipjack tuna fishery within the management system for the national purse fishery for skipjack tuna. Expected outcome: 75 **Year 3.** Echebastar will provide evidence to the audit team in the third annual surveillance audit that short and long-term objectives have been defined and are explicit within the Seychelles management system for the skipjack fishery. Expected score = 80
Consultation on condition	SFA is committed to the drafting and implementation of a tuna FMP.
Progress on Condition (Year 1)	The Government of Seychelles recently published the 'Seychelles Fisheries Sector Policy And Strategy 2019' (MFAg 2019). The Policy defines a number of objectives including: • Manage fisheries resources through ecosystem-based approaches and ensure that policies, legislations and infrastructure development are aligned towards achieving sustainability, taking into account climate change, international commitments and global developments; • Foster optimum utilisation of fisheries and aquaculture resources to ensure ecological and socioeconomic sustainability in resource-use and domestic developments, while recognising traditional norms; **Policy 1: Good governance and institutional strengthening includes:** • Promote fisheries management and aquaculture development based on the Ecosystems Approach to Fisheries, the Ecosystems Approach to Aquaculture, the FAO Code of Conduct on Responsible Fishing, the FAO voluntary instrument for Securing Sustainable Small-Scale Fisheries and the guidelines laid down therein, as well as the FAO Technical Guidelines for Aquaculture Development, as well as the relevant provisions of the SADC/IOC Protocol on Fisheries; • Promote and support the adoption of global BMPs so that the industry is ecologically sustainable and becomes internationally competitive; **Policy 2: Sustainable management of fisheries and climate resilience includes** • Manage all fisheries subsectors with a view to incorporate eco-labelling and certification so as to ensure stock sustainability and subsector economic viability; • Consider national and international climate-change research findings within resource assessments and incorporate appropriate adaptation measures within fisheries and aquaculture regulation to increase resilience to climate change; • Undertake an assessment of the vulnerability of the fisheries sector to climate change and adaptation measures that may be possible; • Encourage the development of a select set of long-term indicators that would monitor the climate change impacts within the fisheries sector; **Policy 6: Seychellois stake holding in the industrial fisheries sector includes:** The industrial fisheries sector is to be developed in a gradual, cooperative and collaborative manner to increase local partnership for the increasing good of all Seychellois, and partners. Opportunities throughout the industrial fishing sector value-chain shall be equitably accessed and provisions made to encourage more local participation and greater local stake holding. The Government will promote an enabling environment to increase stake holding and pave the way for interventions

	that will achieve fully inclusive Seychellois participation. To address Seychellois stake holding in the sector, the Government will undertake the following strategies: • Prioritize the issue of tuna industrial fishing licences to those operations incorporating joint venture approaches; • Evaluate the possibility to allocate industrial fisheries rights to Seychellois nationals in a bid to promote resource ownership and participation in the industry; • Fix minimum levels of local participation for different segments of the fisheries value-chain; • Establish funding sources to support local entrepreneurs within the industrial sector; • Review the responsibilities of Seychelles-flagged vessels and encourage flagging with greater national benefits; • Encourage shore-based facilities by Seychellois; • Establish an appropriate legal framework for joint venture partnership with local companies; • Undertake a review of the access of foreign fishing vessels to Seychelles waters in collaboration with operating partners so as to increase both the national and operating partners' benefits; All the Policy goals reflected above can be considered either for PI3.1.1 or, some of them, as long-term objectives for PI3.2.1. However, the Fisheries Act (2014) introduces the concept of Fishery Management Plans (FMP), and there is no FMP for the tropical tunas fisheries in the Seychelles. According to the client, the SFA is committed to the preparation of an FMP for the tuna fishery, and recent progress on developing new Policies (MFAg 2019a) and Plans (MFAg 2019b) shows a proactive attitude on behalf the MFAg.
Status	The team found the progress on this condition to be **'ON TARGET'**.
Additional information	NA

Condition 8

Table 5.2.8 – Condition 8[4]

Performance Indicator	**3.2.2 – Decision-making processes**
Score	**75**

[4] During the site visit it became clear that editorial errors occurred with the wording of Conditions 7 & 8, since justifications and milestones for both conditions were mixed. Thus, modified justification and milestones for these 2 conditions are presented in the current surveillance audit. The re-wording was done during the site visit in agreement with the ESWG. Also, corrected client action plans were presented by the client for these 2 conditions.

Justification	**SId. Information on the fishery's 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.** Limited specific information is available on the fisheries conducted under private arrangements.
Condition	By the third annual surveillance audit: SId. Information on the fishery's performance and management action relevant to the Seychelles fishery and private agreements 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.
Milestones	**Year 1**. Echebastar will provide evidence to the audit team in the first annual surveillance audit that there has been consideration of the mechanism for making information on private agreements available for review by stakeholders. Expected score = 75. **Year 2.** Echebastar will provide evidence to the audit team in the second annual surveillance audit that information on private agreements is available to stakeholders Expected score = 75. **Year 3**. Echebastar will provide evidence to the audit team in the third annual surveillance audit that information on private agreements is available to stakeholders and explanations have been provided for any actions or lack of action associated with findings and relevant recommendations Expected score = 80
Consultation on condition	The Seychelles Ministry of Fisheries is committed to collaborate closely with stakeholders to meet this condition. It will ensure implementation of the approach required to strengthen the participation of the local stakeholders.
Progress on Condition (Year 1)	The issue of private agreements is covered in the Echebastar Strategy & Operational Plan for a Sustainable Purse Seine Tuna Fishery in the Indian Ocean 2019 -2023 (Echebastar 2019b) that was made available to stakeholders with publication on the Echebastar web site. Specifically, in relation to fishery agreements, the Strategy states: ***Strategy*** • *To provide stakeholders with comprehensive information on Echebastar activities under private fishing agreements.* • *To promote greater transparency in the private agreements at an international and regional level.* ***Operational Plan*** • *We will publish on our web site the texts of all the agreements that have been made to allow our vessels to operate in the fishery waters of coastal nations and SIDs.* • *We will inform stakeholders of the activities of our vessels in the fishery waters of coastal nations and SIDs by date and catch, with up-dates in the 6-monthly report.* • *We will advocate full implementation of the Tuna Transparency Initiative (TTI) in the Long Distance Fleet Advisory Council (LDAC) of the EU.*

	One of the actions to achieve this goal was to set up a website (https://echebastar.com/echebastar-certificada-por-msc/msc-up-to-date/) were meetings, minutes, documents produced by the ESWG and other related documents are shared. Further, analysed catch data for 2017 and 2018 (observed and total estimated catch) based on data recorded by observers on board the Echebastar fleet can be downloaded from this site, together with semi-annual landing reports and active fishing licences from each of the certified vessels. Interested stakeholders may register on this site to have access to the regularly updated information related the different sustainability activities where the company is involved. Thus, information on Private Agreements is now available at the Echebastar web site (https://echebastar.com/en/echebastar-obtains-msc-certification/msc-up-to-date/2019-annual-surveillance-audit/documents/ - Echebastar: Fleet Documents> info on each individual vessel). The separate agreements with coastal states are provided in the original MSC certification report (DeAlteris et al 2018), and they will be published and whenever there is a modification, it will be published to the audit team during the corresponding follow-up audit to be reported and published in the report No changes to the separate agreements with coastal States were identified by the team since the initial assessment, apart from the fact that the Seychelles-EU Protocol fisheries could not be officially ratified in time before the current agreement expired on January 18, 2020, as explained in **section 4.2.3.4**.
Status	The team found the progress on this condition to be '**AHEAD OF TARGET**', since Echebastar has provided evidence to the audit team that information on private agreements and fishing licences is available to stakeholders, together with other relevant documents on actions adopted ESWG meetings held.
Additional information	NA

Condition 9 -NEW

Table 5.2.9.– Condition 9 –NEW-

Performance Indicator	**PI 1.2.1 Harvest strategy**
Score	**70**
Justification	See re-scoring table for PI 1.2.1 on **section 5.4** (**table 5.4.1**)
Condition	By the first annual surveillance audit following re-certification (anticipated to be in 2024), the client must demonstrate that the harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving stock management objectives reflected in PI 1.1.1 SG80 (i.e., it is highly likely that the stock is above the PRI and is at or fluctuating around a level consistent with MSY).
Milestones	**Year 2 (2020):** Echebastar must provide evidence at the Year 2 surveillance that, independently or jointly with industry groups, it has worked with relevant management authorities to press for IOTC action on ensuring adoption of appropriate measures

	consistent with scientific advice and responsive to the state of the stock such that management objectives reflected at PI1.1.1 are met. Expected score 75. **Year 3 (2021)**: Echebastar must provide evidence at the Year 3 surveillance that, independently or jointly with industry groups, it has worked with relevant management authorities to press for IOTC action on ensuring adoption of appropriate measures consistent with scientific advice and responsive to the state of the stock such that management objectives reflected at PI1.1.1 are met. Expected score 75. **Year 4 (2022):** Echebastar must provide evidence at the Year 4 surveillance that, independently or jointly with industry groups, it has worked with relevant management authorities to press for IOTC action on ensuring adoption of appropriate measures consistent with scientific advice and responsive to the state of the stock such that management objectives reflected at PI1.1.1 are met. Expected score 75. **Year 1 of re-certification (2024)**: Echebastar must provide evidence at the Year 1 of re-certification surveillance that the harvest strategy for skipjack tuna in the Indian ocean is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving stock management objectives reflected in PI 1.1.1 SG80. Evidence will relate to stock status and PI 1.1.1 requirements and to IOTC decision-making in response to advice. Expected score 80.
Consultation on condition	SIOTI FIP is already working as a common ground for launching multi-stakeholder initiatives for the Indian Ocean tuna industrial purse seine fishery. Most of the participants mentioned at the client's action plan (see **section 5.3.1**) are already engaged in the SIOTI work plan. The republic of Seychelles is also included among the participants of the SIOTI. On the other hand, the IOTC Res 16/02 on HCRs for skipjack in the IOTC area of competence acknowledged that the IOTC Scientific Committee has initiated a Commission requested process leading to a management strategy evaluation (MSE) process to improve upon the provision of scientific advice on HCRs. Article 11 of this Resolution states that: "catch limit shall by default, be implemented in accordance with the allocation scheme agreed for skipjack tuna by the Commission" and establishes an allocation scheme in the absence of an allocation scheme. To date the Commission has not agreed on an allocation system for skipjack catches, although the text of the resolution makes it clear that the IOTC roadmap goes through incorporating mechanisms (eg quota allocation ...) to the harvest strategy that allow a coordinated response of its different elements (TAC, HCRs, quota allocation .. ..) given changes in the status of the stock. The double limitation system established in the recent Spanish Order issued by the SGP is an example of how some CPCs are starting to move towards establishing limitation systems that can ensure compliance with the yellowfin tuna rebuilding plan and also with the skipjack catch limit. However, it is not yet evident that the IOTC has responded to catch limits triggered by Res 16/02 by agreeing measures to ensure those limits are not exceeded (leading to the new condition at PI1.2.1) and the limited evidence on catches in 2018 cf the triggered limit suggests the limit itself as a tool may not be effective (leading to the new condition at PI1.2.2).
Progress on Condition (Year 0)	NA –new condition set during current surveillance audit
Status	NA –new condition set during current surveillance audit
Additional information	For both new conditions set during the first surveillance audit (on PI 1.2.1 and 1.2.2), evidence for scoring at SG80 will take time to accrue, slightly beyond the period of

	certification. FCP 7.18.1.5 is therefore invoked with the conditions drafted to result in improved performance to the 80 level at the first surveillance following re-assessment. For the condition at PI 1.2.1, interim milestones will require evidence that the client, independently or jointly with industry groups, has worked with relevant management authorities to press for IOTC action on ensuring that all elements (the stock assessment and Scientific Committee advice, the agreed HCR (e.g. under Res 16/02), resulting catch limits, monitoring, and IOTC responsiveness) result in meeting the stock management objectives reflected in PI 1.1.1 (i.e., it is highly likely that the stock is above the PRI and is at or fluctuating around a level consistent with MSY). This will require both evidence of IOTC annual decision-making and a new stock assessment which is scheduled for 2023 (see: file:///C:/Users/Jake/Downloads/Schedule_of_stock_assessments_for_IOTC_species%20(2).pdf). The new stock assessment will only become available for consideration at the first surveillance after re-assessment.

Condition 10 -NEW

Table 5.2.10.– Condition 10 –NEW-

Performance Indicator	**PI 1.2.2. Harvest control rules and tools**
Score	**75**
Justification	See re-scoring table for PI 1.2.2 on **section 5.4** (**table 5.4.2**)
Condition	By the first annual surveillance audit following re-certification (anticipated to be in 2024), the client must demonstrate that available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.
Milestones	**Year 2 (2020)**: Echebastar must provide evidence at the Year 2 surveillance that, independently or jointly with industry groups, it has worked with relevant management authorities to press for IOTC action on implementing measures that are effective in ensuring catch limits for skipjack tuna set using the HCR adopted in IOTC Res16/02 (or any successor) are not exceeded. Expected score 70. **Year 3 (2021):** Echebastar must provide evidence at the Year 3 surveillance that, independently or jointly with industry groups, it has worked with relevant management authorities to press for IOTC action on implementing measures that are effective in ensuring catch limits for skipjack tuna set using the HCR adopted in IOTC Res16/02 (or any successor) are not exceeded. Expected score 70. **Year 4 (2022)**: Echebastar must provide evidence at the Year 4 surveillance that, independently or jointly with industry groups, it has worked with relevant management authorities to press for IOTC action on implementing measures that are effective in ensuring catch limits for skipjack tuna set using the HCR adopted in IOTC Res16/02 (or any successor) are not exceeded. Expected score 70. **Year 1 of re-certification (2024):** Echebastar must provide evidence at the Year 1 of re-certificationassessment surveillance that available evidence indicates that the tools in use to ensure catch limits for skipjack tuna set using the HCR are appropriate

	and effective in achieving the exploitation levels required under the HCR set in IOTC Res 16/02 (or any successor).
Consultation on condition	SIOTI FIP is already working as a common ground for launching multi-stakeholder initiatives for the Indian Ocean tuna industrial purse seine fishery. Most of the participants mentioned at the client's action plan (see **section 5.3.1**) are already engaged in the SIOTI work plan. The republic of Seychelles is also included among the participants of the SIOTI. On the other hand, the IOTC Res 16/02 on HCRs for skipjack in the IOTC area of competence acknowledged that the IOTC Scientific Committee has initiated a Commission requested process leading to a management strategy evaluation (MSE) process to improve upon the provision of scientific advice on HCRs. Article 11 of this Resolution states that: "catch limit shall by default, be implemented in accordance with the allocation scheme agreed for skipjack tuna by the Commission" and establishes an allocation scheme in the absence of an allocation scheme. To date the Commission has not agreed on an allocation system, although the text of the resolution makes it clear that the IOTC roadmap goes through incorporating mechanisms (eg quota allocation ...) to the harvest strategy that allow a coordinated response of its different elements (TAC, HCRs, quota allocation .. ..) given changes in the status of the stock. However, it is not yet evident that the IOTC has responded to catch limits triggered by Res 166/02 by agreeing measures to ensure those limits are not exceeded (leading to the new condition at PI1.2.1) and the limited evidence on catches in 2018 cf the triggered limit suggests the limit itself as a tool may not be effective (leading to the new condition at PI1.2.2).
Progress on Condition (Year X)	NA –new condition set during current surveillance audit
Status	NA –new condition set during current surveillance audit
Additional information	For both new conditions set during the first surveillance audit (on PI 1.2.1 and 1.2.2), evidence for scoring at SG80 will take time to accrue, slightly beyond the period of certification. FCP 7.18.1.5 is therefore invoked with the conditions drafted to result in improved performance to the 80 level at the first surveillance following re-assessment. For the condition at PI 1.2.2, evidence of the effectiveness of tools in use to manage catches consistent with the agreed HCR will be required. Given the timing of catch limit setting by the IOTC in response to application of the HCR, and the delay in availability of information on annual catches, it will take a number of years for sufficient evidence to become available. If judgment is delayed until after the 2023 stock assessment, consistent with accruing evidence to score the condition related to PI 1.2.1, three or perhaps 4 years of evidence should be available to re-score at PI 1.2.2. This is a reasonable timeframe upon which to review evidence.

5.3 Client Action Plan

The client provided the team with new client action plans for the two new conditions set during current surveillance audit, and they are presented below. Besides, during the site visit it became clear that editorial errors occurred with the wording of Conditions 7 & 8, since justifications and milestones for both conditions were mixed. Thus, modified justification and milestones for these 2 conditions are presented in the current surveillance audit. The re-wording was done during the site visit in agreement with the ESWG. Also, corrected client action plans were presented by the client for these 2 conditions.

No changes have been done to action plans prepared by the client for the conditions set during the initial assessment.

5.3.1 Updated client action plan on Condition 7

As noted in the certification report The Fisheries Act (2014) introduces the concept of Fishery Management Plans, which are based on stakeholder participation. SFA is committed to the preparation of an FMP for the tuna fishery. Echebastar will work with SFA and other key stakeholders to progress the planning for the drafting and subsequent implementation of an FMP that will follow international best practice with the identification and definition of short and long-term objectives.

Activities Year 2 (2020)

Echebastar will meet on a regular basis with SFA and other key stakeholders to promote the concept of a specific fisheries management plan for tuna fisheries.

Deliverables Year 2

Echebastar will present the auditors a list of the meetings completed together with signed minutes that provide evidence that the concept of a tuna FMP has been fully discussed.

Activities Year 3 (2021)

It is anticipated that an FMP for tuna fisheries will be applied in the third year of certification. This will include defined short and long-term objectives.

Deliverables Year 3

Echebastar will present the auditors with a copy of the approved FMP.

Action Owner

ECHEBASTAR

Action Partners

ECHEBASTAR

SEYCHELLES MINISTRY OF FISHERIES

SFA

AZTI

Stakeholders

IOTC

5.3.2 Updated client action plan on Condition 8

The Echebastar fishing agreements are made with coastal states that are Contracting Parties of IOTC. Accordingly, these follow IOTC requirements. However, we recognise that details on private agreements have led to some concern being expressed by stakeholders.

The certification report correctly identifies several issues that may impact the approach to SFPAs and private agreements, while in relation to the latter it notes that they are approved by the Spanish Government, and the fisheries administration of the coastal state and are submitted to the IOTC.

Activities Year 2 (2020)

Echebastar will meet with other Spanish fishing companies that benefit from private agreements in the context of their representative organisations, OPAGAC and ANABAC, to consider the approach to meeting the condition.

In that sense, OPAGAC and ANABAC are participants of the FIP, and as such, they will ensure to meet the highest standards of MSC.

Echebastar will ensure that the issue is raised within the LDAC to ensure a wide consideration of the options to respond to the condition. This will be relevant, if, as anticipated, other segments of the EU distant water tuna fishing fleet aspire to MSC certification

Deliverables Year 2

Echebastar will present a report to the auditors with a list of the meetings with details on the decisions made as supported by signed minutes.

Activities Year 3 (2021)

Based on the discussions and following consultation with the coastal states, LDAC, the Government of Spain and IOTC, a model for making private agreements more transparent will be agreed amongst interested parties.

Deliverables Year 3

Echebastar will present a report that details how the parties have agreed to make private agreements more transparent including a timely response to stakeholder concerns. This will include a publicly available report on the operating private agreements.

Action Owner

ECHEBASTAR

5.3.3 Client action plan on Condition 9 –New-

Year 2 (first certification cycle) to Year 1 (recertification)

1. The management authorities relevant to the Echebastar fishery are IOTC and the two cooperating parties: EU/Spain and Seychelles. The relevant ones for the other MSC certified tuna fishery (Maldives P&L) is the IOTC with the Maldives as the cooperating party.
2. It is likely that in the near future an MSC assessment process will be announced for a Reunion-based fishery (IOTC/France/EU).
3. In addition, it is likely that within the next two years, new MSC assessments will start for other IO purse seine fisheries.
4. Given that each of the fisheries will be required to respond to the same conditions related to Principle 1, Echebastar will:
   a. Work directly with SIOTI to define and implement a Strategy approved by SIOTI members (producers and processors) covering adoption of an appropriate harvest strategy by the IOTC and its effective implementation.
   b. Work closely with ANABAC to present the SIOTI Strategy for dialogue with the Government of Spain and its effective implementation by ANABAC Spanish flagged vessels.
   c. Will present the SIOTI Strategy to the Government of the Seychelles and request its effective implementation by Seychellois flagged vessels.
   d. Through SIOTI and directly, fully engage with IPNLF to define a common strategic approach for MSC certified tuna fisheries in driving IOTC policy.
   e. Both independently and through SIOTI and ANABAC, be proactive in working with aspirant MSC certified Indian Ocean tuna fisheries to gain their support for the SIOTI approved Strategy.
   f. Through its web site and reporting schedule, inform and consult with stakeholders on the SIOTI Strategy and its implementation.
   g. Attend all meetings where it is able to participate that are related to the definition and implementation of a Harvest Strategy.
   h. Prepare briefing papers on the harvest strategy for distribution as appropriate.
   i. Monitor all fleet segments to inform stakeholders on the implementation of the strategy.

Deliverables Year 2 – Year 4

Echebastar will present all annual audits with evidence that it has fully implemented its client action plan, with a list of relevant meetings together with minutes, and copies of relevant reports and submissions.

Deliverables Year 1 (re-certified fishery)

Echebastar will provide evidence at the Year 1 of re-certification surveillance that the harvest strategy for skipjack tuna in the Indian ocean is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving stock management objectives reflected in PI 1.1.1 SG80.

Action Owner

- ECHEBASTAR

Action Participants

- ANABAC
- SIOTI
- IPNLF
- AZTI

5.3.4 Client action plan on Condition 10 –New-

Year 2 (first certification cycle) to Year 1 (recertification)

1. Two issues are related to the HCR established by IOTC 16/02; firstly Echebastar compliance and secondly the compliance of other fishers.
2. Echebastar will continue to ensure fully compliance with the allocated catch quota of its vessels (both as a group and individually).
3. Echebastar will report its catch and remaining quota (for the year) on a regular basis.
4. Echebastar will support these reports with observer data and approved landing reports.
5. Echebastar will continue to work with SIOTI to establish the procedures for the setting and allocation of quotas by IOTC and the Governments of the Seychelles and Spain.
6. Echebastar will continue to work with SIOTI to establish the procedures for the allocation of quotas among its producer members and robust monitoring of catches by individual vessels.
7. Echebastar will continue to work with SIOTI to establish the procedures for processor members in monitoring purchases by individual vessels in all fleet segments.
8. Echebastar will consider independent 3rd party audits of landings as per agreements reached at SIOTI and how this may be applied by all purse seine vessels.
9. Echebastar will continue to work both independently and within the ambit of SIOTI to review and comment on proposals by other fleet segments e.g. IPNLF and OPAGAC.
10. Echebastar will monitor all fleet segments and inform stakeholders on the implementation of the harvest control tool.
11. As well as publishing the reports on its web page, all reports will be sent to SIOTI, IPNLF, WWF, the Government of Spain and the Government of the Seychelles.

Deliverables Year 2 – Year 4

Echebastar will present all annual audits with evidence that it has fully implemented its client action plan, with a list of relevant meetings together with minutes and copies of relevant reports and submissions.

Deliverables Year 1 (re-certified fishery)

Echebastar will provide evidence at the Year 1 of re-certification surveillance to demonstrate that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.

Action Owner

- ECHEBASTAR

Action Participants

- ANABAC
- SIOTI
- IPNLF
- AZTI

5.4 Re-scoring Performance Indicators

Due to new information on catches in 2018, re-scoring has been done for PI 1.2.1a and 1.2.2c. Other PIs might have been re-scored but would make no material difference. With upcoming, new overlapping assessments and IOTC meetings anticipated, it was decided to only re-score the two PIs for which material differences would occur.

Changes made to the original rationales and scorings are identified in blue font, while supersede text is crossed out.Re-scoring PI 1.2.1 – Harvest strategy

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
Scoring Issue		SG 60	SG 80	SG 100
a	Harvest strategy design			
	Guide post	The harvest strategy is expected to achieve stock management objectives reflected in PI 1.1.1 SG80.	The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving stock management objectives reflected in PI 1.1.1 SG80.	The harvest strategy is responsive to the state of the stock and is designed to achieve stock management objectives reflected in PI 1.1.1 SG80.
	Met?	Y	~~Y~~ **N**	N
Rationale				

MSC defines a harvest strategy as a combination of monitoring (PI1.2.3), stock assessment (PI1.2.4), a harvest control rule (PI1.2.2a,b) and management tools (PI1.2.2c). Monitoring and a stock assessment process are in place. A harvest control rule and reference points for Indian Ocean skipjack are defined by IOTC Res. 16/02. Discussions over catch allocations and/or other tools to restrict catch, effort or fishing capacity have been underway at IOTC for several years, but so far agreement has not been possible (e.g. see IOTC-2019-S23-PropA and PropM, presented at IOTC plenary 2019 but not accepted). Nevertheless, some tools not specifically aimed at skipjack are in place which may act to restrict skipjack catch somewhat. Tools currently in place which indirectly affect skipjack catches include the Interim Rebuilding Plan for yellowfin, Res. 18/01; FAD use restrictions under Res. 18/08; and the large, permanent closed area in the central Indian Ocean (EEZ of BIOT)

The stock assessment suggests that the skipjack tuna stock is near to the target level of 40%B0 adopted in Res 16/02, while the exploitation rate is at or below the target level (see section 4.2.6 and PI1.2.2c scoring below). The stock is therefore estimated to be achieving stock management objectives as of the most recent assessment (2017: final year of the assessment 2016). Since the assessment, skipjack catch has increased and in 2018, at 607,701 t, was the second highest on record, just below the 615 732 t caught in 2006. It is now is at the top end of the catch range estimated in 2017 to be compatible with the internal HCR parameters and grid of assessments (see Section 4.2.6). Given the variability in recruitment and the responsiveness of the stock to environmental conditions, it is not possible to infer the exploitation rate in 2018 relative to the target level.

There are some tools in place, although not aimed at skipjack directly, which can be expected to constrain catches to some extent. It is important to bear in mind that the results of the 2017 stock assessment were different to the previous assessment which estimated that skipjack biomass was well above target levels, and also that 2018 was the first year in which the HCR was triggered. Further, 2018 catches were not known by the IOTC at its annual meeting in 2018. Even at its 2019 annual meeting, only interim 2018 catch statistics may have been available. IOTC has therefore arguably not had time as yet to react to the issues raised by the catch overshoot of the HCR catch limit. On this basis, given the MSE testing of the HCR and expectation of catch limitation, **SG60 is met**.

The 2018 catch is the second highest on record and estimated to have been 129% of the catch limit set by application of IOTC Res 16/02. Management tools in place are not directly linked to the skipjack catch, and to date have not shown that they constrain skipjack catch sufficient to comply with the catch limit set by Res 16/02. While it is arguable that the IOTC has not yet had the opportunity to consider and put in place tools to limit skipjack catches in line with triggered catch limits (see above), SG80 scoring requires that the harvest

strategy not just the HCR be responsive to the state of the stock and the lack of both pre-agreed tools and slow reaction by the IOTC, at least in 2019, suggests the elements of the harvest strategy are not working effectively. **SG80 is not met**.

~~Consideration of the harvest strategy (HS) is made with reference to the newly adopted Res 16/02 setting up the harvest control rule (HCR) for skipjack.~~
~~The stock management objectives reflected in PI1.1.1 are: i) maintain the stock above the PRI with 80% probability; and ii) ensure the stock is fluctuating around a level consistent with MSY. The agreed HCR, based on MSE work by Bentley and Adam (2016), assumes a flow of data of equal quality to that currently available and that a stock assessment will be undertaken every three years. The HCR then determines an overall catch limit based on a relationship between fishing intensity and the ratio SBcurrent/SB0. The tools for ensuring catch limits are adhered to are covered at PI1.2.2c. Assuming data flows, assessment, and application of tools, the HS is expected to achieve the stock management objectives. Indeed, the expectation is to exceed those objectives by a considerable margin (see PI1.2.2a).~~

- ~~SG60 is met.~~

~~HS responsiveness is determined primarily through application of a HCR which determines harvesting intensity and hence catch limits dependent directly on the state of the stock relative to SB0. Achievement of the management objectives then depends on the application of tools to ensure catch limits are appropriately set and adhered to. Res 16/02 specifies when an overall catch limit will be set (to be managed using existing effort management measures), and when catch allocations should be set (as well as how depending on progress on formal agreement on allocation).~~

- ~~SG80 is met.~~

~~The HCR component of the strategy has been developed and chosen to ensure that management objectives are achieved. The rule was filtered through multiple criteria and parameterized to achieve a given performance. It can be said to be designed to achieve, and exceed, the management objectives reflected at PI1.1.1, if implemented as intended. Implementation requires a continuous flow of data as already exists and can reasonably be anticipated, and assumes stock assessment at regular intervals, consistent with previous experience. There is a reasonable expectation that data and assessment components will meet the design criteria. Currently, the weakest part of the HS is the incomplete specification for how catch allocations will be made and adherence ensured, though Res 16/02 does address the issue by specifying at paragraph 11 how this will be dealt with until full allocation decisions have been made under given circumstances of stock status. Nevertheless, without fuller and clearer specification of the implementing tools (allocation, how catch limits will be ensured at national levels) it is not possible to say the whole HS has been designed.~~

- ~~SG100 is met.~~

	Harvest strategy evaluation			
b	Guide post	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?	**Yes**	**Yes**	**No**

Rationale

The strategy of: i) collecting data; ii) assessing stock status against clear reference points (previously SBmsy and percentiles of SB0); iii) advising in relation to those reference points and on catch/effort requirements to achieve them (if necessary), and iv) the Commission responding through binding resolutions, has proven successful to date in maintaining skipjack biomass at a high level, as described at PI1.1.1. The general strategy outlined is essentially that now in place except that with Res 16/02 the reference points and advice on catch limits are pre-determined. There is good reason to think the HS is likely to work based on experience.

• SG60 is met.

The HS has been tested to the extent of data-assessment-HCR through MSE, and experience to date is that it has maintained skipjack at a high level, above Bmsy and well above any PRI. The evidence is that it is achieving its objectives.

• SG80 is met.

The HCR has been developed using MSE but the performance of the HS has not. Thus far, the MSE has not included explicit assessment formulations, nor any consideration of management implementation error.

• SG100 is not met.

	Harvest strategy monitoring			
c	Guide post	Monitoring is in place that is expected to determine whether the harvest strategy is working.		
	Met?	**Yes**		
Rationale				

Every three to four years, a full stock assessment is undertaken. This includes a review of the catch, fishery dependent indices of abundance, models of historical population size as well as biological data and appropriate reference points. Management measures are reviewed annually by the IOTC and are changed as required. This process provides the monitoring to determine whether the HS is working.

The newly agreed Res 16/02 specifies that a new stock assessment will take place in 2017 and again every three years, or sooner under certain conditions. It anticipates that the overall approach of managing according to a clear HCR will be monitored directly through application of that rule, informed by scheduled stock assessments, and with additional rules to ensure precautionary management. Data collection and provision to enable the assessment is provided for through a range of other resolutions (see PI 1.2.3)

• SG60 is met.

	Harvest strategy review			
d	Guide post			The harvest strategy is periodically reviewed and improved as necessary.
	Met?			**Yes**
Rationale				

The IOTC SC reviews the elements of HS annually and provides advice to the Commission on whether it has been successful and whether it needs to be changed (see e.g. IOTC, 2016a, b). The SC has regularly reviewed and conducted stock assessments, re-estimated (re-calculated) and re-evaluated the appropriateness of the reference points, and whether the objectives of the Convention are being met. The Commission takes the advice of the SCRS under consideration and agrees binding Resolutions.

Resolutions for the management of skipjack and other stocks under IOTC jurisdiction have generally been in line with the advice from the SC. Most recently, under advice from the SC, the Commission agreed Res 16/02 for skipjack which set/reaffirmed target and limit reference points, a HCR, and a range of accompanying implementing rules and conditions. Resolutions for other stocks and other matters are also relevant. A recent example is the agreement to Res 16/01 on the rebuilding of yellowfin tuna stocks. The resolution has instituted catch limits for yellowfin tuna aimed at rebuilding, though not quite to the extent advised by the SC because of awareness, also through SC advice, of uncertainties. Other examples related to effort control are considered at PI1.2.2c. Overall, while the process is imperfect, the HS for all tropical tuna stocks within the IOTC is periodically reviewed and improved as necessary.

• SG100 is met.

e	Shark finning			
	Guide post	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 finning is not taking place.
	Met?	**NA**	**NA**	**NA**
Rationale				
N/A				
f	Review of alternative measures			
	Guide post	There has been a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock.	There is a **regular** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock and they are implemented as appropriate.	There is a **biennial** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock, and they are implemented, as appropriate.
	Met?	**NA**	**NA**	**NA**
Rationale				
All skipjack is retained				
References				

For IOTC Resolutions see: http://www.iotc.org/cmms

Bentley, N. and M.S. Adam (2016) Management strategy evaluation for the Indian Ocean skipjack tuna fishery

IOTC (2016a) Report of the 18th Session of the IOTC Working Party on Tropical Tunas IOTC-2016-WPTT18-R

IOTC (2016b) Report of the 19th Session of the IOTC Scientific Committee IOTC-2016- SC19-R

IOTC-2019-S23-PropA and PropM, presented at IOTC plenary 2019

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	~~85~~ 70
Condition number (if relevant)	~~NA~~ 9 –NEW-

5.4.1 Re-scoring PI 1.2.2 – Harvest control rules and tools

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

a	HCRs design and application			
	Guide post	**Generally understood** HCRs are in place **or available** that are **expected** to reduce the exploitation rate as the point of recruitment impairment (PRI) is approached.	**Well defined** HCRs are **in place** that **ensure** that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock **fluctuating around** a target level consistent with (or above) MSY, or for key LTL species a level consistent with ecosystem needs.	The HCRs are expected to keep the stock **fluctuating at or above** a target level consistent with MSY, or another more appropriate level taking into account the ecological role of the stock, **most** of the time.
	Met?	**Yes**	**Yes**	**No**

Rationale

Resolution 16/02 on HCRs (IOTC, 2016c) lays out an explicit and well-defined HCRs such that fishing intensity is reduced linearly from a maximum (when at or above 0.4B0, the specified TRP) to zero at 0.1B0. The fishing intensity is 33.3% of the maximum at 0.2B0 (the specified LRP) but with a further rule to review the HCR and implement a rebuilding plan should spawning biomass fall below 0.2B0. The rule was developed using Management Strategy Evaluation (MSE; Bentley and Adam, 2016) with an estimated median performance of maintaining the SB at 0.61SB0 and a 90% probability of maintaining SB above 0.39SB0 (implying a greater than 90% probability of SB being maintained above SBmsy of 0.365SB0).

The HCR specifies LRP and TRP, how fishing intensity should be varied depending on status, the frequency of stock assessments and required outputs, how the IOTC SC should advise the Commission in order to implement the HCR, and conditions for review of the HCR (if needed). Resolution 16/02 also specifies that the next skipjack stock assessment will be in 2017 and that the measure (Res 16/02) shall be reviewed in 2019 or earlier if there is any evidence that there is a risk of breaching the LRP.

Resolutions are binding on IOTC Members, unless there is a specific objection on the part of a Member, and require a two-thirds majority of members present and voting (sehttp://www.iotc.org/cmms). No objections have been made to Res 16/02. An Interpretation on HCR by MSC (16 Dec 2016) makes clear that resolutions by RFMO are regarded as active and acceptable as evidence of HCR being in place.

Skipjack is not considered to be an LTL species.

• SG60 is met.

• SG80 is met.

The MSE testing provides an expectation that the stock will be maintained well above Bmsy, and close to the current stock size, but no explicit account is taken of the ecological role of the stock in order to set that performance expectation during MSE testing, nor is any considered in IOTC Res 16/02.

• SG100 is not met.

b	HCRs robustness to uncertainty			
	Guide post		The HCRs are likely to be robust to the main uncertainties.	The HCRs take account of a **wide** range of uncertainties including the ecological role of the stock, and there is **evidence** that the HCRs are robust to the main uncertainties.

	Met?		**Yes**	**No**
Rationale				

The HCR was developed using MSE (Bentley and Adam, 2016). MSE work was conducted by an independent consultant (Bentley). The work was conducted in an open and consultative manner with iterative input from the IOTC Working Party on Methods (WPM) and the WPTT.

The MSE used a simulation model of the skipjack fishery and assessment, with a single species, spatially explicit, age-structured population model similar in structure to that used for stock assessments and with uncertainty in outputs based on statistical fitting to the most recent assessment. No explicit stock assessment was embedded within the MSE. The precision and frequency of stock assessments were considered during evaluations but alternative structural assumptions about the stock and fisheries were not tested. A range of alternative HCR types and parameterizations were evaluated using a large set of performance statistics related to yield and sustainability. While structural (assessment/simulation) model alternatives have not been considered during MSE, IOTC stock assessment processes do consider alternatives and the base assessment model configuration used for MSE has proven robust.

The main uncertainties have been taken in to account by the MSE and stock assessment processes and the resulting, selected HCR additionally includes a range of additional rules to ensure robustness.

• SG80 is met.

The HCR design and selection has considered a range of uncertainties but this has not included multispecies biology/fishery components or issues such as potential use of alternative stock assessment methods/structures, instead relying on relatively simple consideration of assessment precision (but not bias), and frequency.

• SG100 is not met.

c	HCRs evaluation			
	Guide post	There is some evidence that tools used or available to implement HCRs 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 HCRs.	Evidence clearly shows that the tools in use are effective in achieving the exploitation levels required under the HCRs.
	Met?	Yes	~~Yes~~ **N**	No

Rationale

It is possible to score tools as *available* under the condition that *Stock biomass has not previously been reduced below the MSY level or has been maintained at that level for a recent period of time that is at least longer than 2 generation times of the species, and is not predicted to be reduced below B_{MSY} within the next 5 years* (SA5.2.5). Taking the target reference point adopted in IOTC Res 16/02(40%B0) as the proxy for B_{MSY} (consistent also with the MSC default level), this is not the case, because the stock assessment time series of SB/TRP estimates that the biomass dipped below the TRP before recovering to its current level. Given that the biomass is estimated currently to be more or less exactly at the MSY proxy level, catches are at the upper level of those associated with application of the HCR adopted in Res 16/02 and no forward projections are available, it is also not possible to say whether the biomass might be reduced below this level over the next 5 years. Scoring therefore needs consideration of the tools that are *used/in use*.

There is only one year where there was both a catch limit in place and a catch estimate. In this year, 2018, the catch was 129% of the catch limit computed under 16/02. However, the catch limit was only adopted by the IOTC at it's annual meeting in June 2018, so it is questionable whether this is a reasonable comparison to assess the effectiveness of tools. Catch data for 2019 were not available at time of writing though there is

no indication that the IOTC considered how to limit skipjack catches at its annual meeting in 2019, at which time interim 2018 catch data would have been available.

MSC FCRG SA2.5.6 requires that teams examine the current exploitation levels in the fishery, as part of the evidence that the HCRs are working and states *Evidence that current F is equal to or less than F_{MSY} should usually be taken as evidence that the HCR is effective*. The SS3 stock assessment report (IOTC, 2017) provides estimates of F_{2016}/F_{MSY} for a range of model runs (n=30) including the reference case model. These estimate that F_{2016}/F_{MSY} is in the range 0.13-0.53 (ref. case: 0.30, median 0.32) – i.e., the current (or recent) estimated F is well below F_{MSY}. On this technical scoring basis, there is some evidence that the tools are effective in controlling exploitation and SG60 is met.

The overall exploitation rate is appropriate, but the available evidence suggests that skipjack-specific tools to constrain catches to the catch limit set using the triggered HCR have are not yet in use. SG80 is not met.

~~Resolution 16/02 lays out a HCR for skipjack tuna which sets catch limits. These have yet to be determined and will depend on IOTC discussions on catch allocation and then on the sum of each Member's approach to ensuring national catch allocations are adhered to. However, Res 16/02 at paragraph 11, sets out how allocations will be made prior to a full allocation model if SB falls below a threshold level of 0.4SB0 (in proportion to current catches). It also specifies that if SB >=0.4SB0 (as now) then the HCR shall be used to establish an overall catch limit. The effectiveness of tools in use or available (as required for MSC scoring) needs to rely on how well exploitation rate has been controlled to date.~~

~~As noted above, Res 16/02 specifies that catch limits will be set. The IOTC has an ongoing process to develop a catch allocation scheme and has already developed allocation principles. IOTC RES 13/10, together with work on allocation (IOTC-2011-SS4-PropA[E] (IOTC, 2011a), IOTC-2011-SS4-PropB[E] (IOTC, 2011b), IOTC-2013-TCAC02-R[E] (IOTC, 2013)) clearly demonstrates the intent to adopt catch limitation measures for all tunas under IOTC jurisdiction. IOTC Res 14/02 mainly addresses stocks of yellowfin and bigeye, but relates to other tropical tunas and main targeted stocks and thus applies to skipjack. It requires that "*CPCs shall implement the following action plan: a) Establishment of an allocation system (Quota) or any other relevant measures based on the IOTC Scientific Committee recommendations for the main targeted species under the IOTC competence.*"~~

~~Regarding tools used to date, management of exploitation level has been approached by the limitation of effort/capacity through a series of Resolutions (01/04, 03/01, 06/05, 09/02, and 12/11). The earlier resolutions were aimed at non-members but were extended to all Contracting Parties and Cooperating non-members (CPC). The most recent resolution, IOTC RES12/11, is aimed at determining fishing capacity for all IOTC CPC, to ensure stabilization of the level of fishing capacity active on stocks of high commercial value. The resolution provides for planned fleet development and vessel replacement but is aimed at ensuring no effective increase in capacity from a 2006 baseline plus any agreed Fishery Development Plans for the years 2007-2013.~~

~~For MSC scoring, CR v2 GSA2.5.6-2.5.7 is relevant. Consideration is needed of tools (e.g., for allocation and setting catch and/or effort limits) but also of the overall history of the effectiveness of tools in achieving the desired exploitation rates and biomass levels, and current status.~~

~~Following CR v2 GSA on Evaluating the effectiveness of HCRs (SA 2.5.6-2.5.7), boxed example for 60, 80, and 100 SG levels:~~

~~At least a 60 score may be justified if one proxy indicates that overfishing is not occurring. For skipjack tuna, IOTC (2016a, b) use a proxy of C/Cmsy as a measure of fishing mortality relative to Fmsy. The most recent value available is 0.62 with 80% CI of 0.49-0.75.~~

~~• • SG 60 is met.~~

~~At least an 80 score may be justified if one or more proxies indicate it is likely that overfishing is not occurring – when a minimum 70% probability can be assigned to the single indicator used. For skipjack tuna, IOTC (2016a, b) use a proxy of C/Cmsy as a measure of fishing mortality relative to Fmsy. The most recent value available is 0.62 with 80% CI of 0.49-0.75. The 70% probability level required for SG80 scoring in the boxed example is met.~~

~~An MSC Interpretation on HCRs made clear that F being less than Fmsy should not be used as sole evidence for the existence of an effective harvest control rule. However, taken with the long history of reasonably constant fishing mortality and biomass and IOTC measures related to effort control, it is overall concluded that available evidence indicates tools in place are effective at controlling exploitation rate.~~

~~• • SG 80 is met.~~

~~The same boxed example in the CR v2 GSA suggests that to meet the 100 level, two proxies are available and that both need to suggest it is highly likely overfishing is not occurring. Only one proxy exists for skipjack tuna.~~

~~• • SG100 is not met.~~

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Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	~~80~~ 75
Condition number (if relevant)	~~NA~~ 10 –NEW-

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7 Appendices

7.1 Evaluation processes and techniques

7.1.1 Site visits

The first annual surveillance audit for the first period of certification was conducted onsite between the 26 th and the 28th of November 2019. Initially it was though that both members of the assessment team could travel to the Basque Country for the meetings listed in **table 7.1.1**. However, the Team Leader, José Ríos, had to cancel the trip due to personal issues and a Variation Request was sent to MSC to allow the TL to attend on remote to all meetings. This Variation Request was accepted by MSC and published at the MSC website (click **here** to download it). The TL could attend to all meeting via conference call, while Kevin Stokes was in the Bermeo (Basque Country, Spain) where all meetings were held. Also Laura Rodriguez (MSC Program Director for Spain and Portugal) attended to all meetings in Bermeo as an observer, while Alberto Martín (MSC fisheries officer for Spain and Portugal) participated remotely in some of the meetings (those with the client and also the meeting with AZTI). All meetings and conference calls were held at the Echebastar headquarter in Bermeo. However, the client was not present in the room while interviewing other stakeholders.

All meetings were held normally but for those planned with the Government of Seychelles. In the case of the meeting with the SFA the connection was gone after only 30 minutes, and it was impossible to re-connect. The team prepared an email with the main questions for the SFA and Vincent Lucas sent a reply wich can be found at **Section 7.2**. Also, a meeting with the current PS of the Ministry of Fisheries and Aquaculture, Jude Talma, was scheduled for day 28 at 13:00h, but it was cancelled at the last moment. All the other meetings were held according to schedule.

Table 7.1.1. Details of the meetings held during the remote visit for the 1SA audit of the Echebastar IO–SKJ PS fishery

Date	Place/Address	Time (CET)	Institution	Attendees
26/11/2019	Echebastar HQ	9:30-17:00	Client Group	Jose Luis Jauregui, Ian Scott, Ane Iriondo, Marga Andrés[5]
27/11/2019	Echebastar HQ	9:00-11:00	Client Group	Jose Luis Jauregui, Ian Scott, Ane Iriondo, Marga Andrés
	Call	11:30-12:40	Spanish General Secretariat of Fisheries	Teresa Molina Schmid, Antonio Lizcano, Guillermo Bravo
	Echebastar HQ	15:00-16:30	AZTI	Josu Santiago, Gorka Merino, Ane Iriondo
28/11/2019	Call	10:30-11:00	SFA	Vincent Lucas, Juliette
28/11/2019	Echebastar HQ	11:30-12:00	Client Group	Jose Luis Jauregui, Ian Scott

7.1.2 Stakeholder participation

The site visit for the surveillance audit was announced at the MSC website on the 22nd of October 2019 and stakeholders could send their inputs until November 21. In addition, the notification of the surveillance audit was sent to a list of stakeholders identified during the initial assessment and revised before current surveillance audit. This list included up to 93 different contacts from management institutions (SGP, IOTC, SFA, Seychelles Ministry of Fisheries and Aquaculture), other stakeholders from the fishing, canning and seafood distribution (Princess Lted., Grupo Frinsa, Trimarine Group, Thai Union Group…), research institutions (AZTI), NGOs (WWF, Oceana, Greenpeace, Bloom, Pew, Shark Project, ISSF) and CABs from overlapping fisheries (Lloyd's Register, DNV and Control Union).

[5] All members of the Echebastar Sustainability Working Group (ESWG).

Further, the team with the assistance of the client elaborated a list of key stakeholders to be interviewed and were contacted via email and telephone in order to ensure their participation and arrange the meetings. The list of institutions and people finally interviewed during the site visit is detailed above in **table 7.1.1**.

7.2 Stakeholder input

7.2.1 Stakeholder input during the site visit

Apart from an email send after the announcement of the surveillance audit by the NGO 'Sark Project' (see **section 7.2.2**), the stakeholder input was restricted to the information collected during the meetings held at the site visit and the documents sent by the stakeholders as a result of the requests made by the team during those meetings.

Table 7.2.1 presents the main topics discussed with the different stakeholders during the different meetings. All relevant information collected on updates or modifications affecting the fishery is summarized in **sections 4 and 5** of the current report, while harmonisation activities with overlapping fisheries are presented in **Appendix 6.4**. All documents used for the assessement are listed in **Section 6** (References).

No other stakeholder inputs were received by email using the template provided by MSC.

Table 7.2.1. Details of the main topics discussed during the remote visit carried out as part of the current surveillance audit

Stakeholder	Topics discussed
Echebastar	Review updates regarding: fleet, traceability, fishing licences and agreements, regulatory framework… Detailed review of the different initiatives implemented by the client and other actions in relation to the completion of the conditions set to the fishery.
SGP	Update on the Spanish participation at IOTC, General feedback on the fishery and the certified fleet, MCS system in place and compliance of the certified Spanish fleet Update on the new methodology to produce nominal catch statistics for the tuna purse-seine fleet of the EU-Spain operating in the IOTC area Discussion on the upcoming new Order to be issued by the Spanish Ministry of Agriculture, Fisheries and Food regulating the yellowfin tuna purse seine activity at the IO for 2020, other mechanisms for controlling YFT quota uptake…
AZTI	Update on AZTI's participation on IOTC SC Update on the mechanisms to control YFT quota update Discussion on the SKJ catch limit and potential for future quota allocation in the future Discussion on the status and assessments of the 3 tropical tuna species Project on using of acoustic data from FAD buoys for improving stock assessments and ecological impacts of FADs
SFA	MCS system in place and compliance of the certified fleet Mechanisms for controlling YFT quota uptakes SFA participation at the IOTC Any relevant modification in relation to the regulatory framework and/or management authorities in Seychelles?

7.2.1.1 SFA input sent after the site visit

As explained in **section 7.1.1**, during our call with the SFA the connection was gone after 30 minutes and it was impossible to re-connect. The team prepared an email with the main questions for the SFA and Vincent Lucas sent a reply on December 4 with a Word document attached which is presented below:

Word document sent by Vincent Lucas attached to the email sent the 4th of December 2019:

- **BV question:** Could you please tell us the number of inspections, infringements and sanctions (if any) in 2017 and 2018?

Vessel Name	2017	2018
Izaro	7	2

Elai Alai	3	1
Euskadi Alai	7	1
Jai Alai	11	3
Alakrana	6	3

SFA response: No Infringement detected on all inspections. No sanction applied for 2017 and 2018

- **BV question:** Does the SFA inspect 100% of the tuna landings from large purse seiners in Seychelles?

SFA response: Due to limited human resource capacity, SFA is currently unable to monitor 100% of tuna landings/ transshipments from large purse seiners in Seychelles. SFA focuses mainly of Seychelles Flagged purse seiners for the implementation of the yellowfin quota.

For foreign vessels landing in port Victoria, Seychelles has an obligation to cover at least 5% (full monitoring from start to finish) of landings/transshipment. In 2018, SFA only managed 4.5%.

For vessels, which are under MSC certification, special arrangement are made for SFA's observers to monitor 100% landings/transshipment, which are later certified by the Observer or the Observer Logistic Coordinator.

Institutional capacity enhancement is plan for 2020 with the objective of improving the monitoring of landing/transshipment in port Victoria.

- **BV question:** How are you managing yellowfin tuna catches against allocations resulting from (Res 18-01)? Are you experiencing problems?

SFA response: The applicable quota for the Seychelles purse seine fleet, in accordance to IOTC Resolution 18/01 is 33,221 tons of yellowfin tuna (15% reduction from the 39,072 tons of yellowfin tuna caught in 2015 base year).The quota was linearly distributed amongst the 13 tuna purse seiner, resulting in an individual allocation of 2,555 tons of yellowfin. The following measures were implemented in order to monitor compliance with the allocated quota.

vii. weekly reporting of logbook via email (from the usual reporting upon completion of a fishing trip).
viii. monitoring of landings and transshipment through landing/ transshipment declaration forms.
ix. deployment of human observer at sea
x. scientific port sampling to determine species composition of catches
xi. inspection of landing and transshipment in port
xii. review of the legal framework to allow penalties for non-compliance.

Those above-mentioned measures allowed the Authority to monitor catches of Seychelles flagged purse seine vessels (including the 3 vessels from the Echebastar fleet, IZARO, JAI ALAI and ELAI ALAI)) very effectively. In circumstances whereby the reporting data were found to be suspicious (under reporting), the Authority applied historical trends to adjust the reporting data accordingly as precautionary measure.

- **BV question:** Is the SFA participating in the IOTC delegation from Seychelles?

SFA response: From as far back as I can recall, at least one SFA official has been part of the delegation to the IOTC Commission meeting. Occasionally two or more SFA representative may also be part of the delegation. In recent years, other participants include representative from the Ministry of Fisheries and Agriculture, office of the Attorney General, Ministry of Finance, Fishers Association etc..

In regards to other IOTC Subsidiaries Bodies and Working Group, scientists / statisticians and managers from the Seychelles Fishing Authority, generally attend this.

- **BV question:** In 2018, total IO catches of skipjack were about 30% higher than the catch limit advised by the IOTC scientific committee and agreed by the IOTC AM in 2018 and 2019. We are interested to understand how the IOTC is intending to limit catches and what, if any, input the Seychelles

is making to the debate. Are there any plans for the IOTC in 2020 to put in place measures to constrain skipjack catches in line with the advised catch limits?

SFA response: Stock status is determined on the basis of the 2017 assessment and other indicators presented in 2018. On the weight-of-evidence available, the skipjack tuna stock has been determined to be not overfished and is not subject to overfishing. The Commission needs to ensure that catches of skipjack in the 2018–2020 period do not exceed the agreed limit. The catch limit generated by the Harvest Control Rule (470,029 t), applies to the years 2018–2020.

With allocation still in discussion and unlikely to be finalized in the near future, Seychelles believe that in order to limit the catch of skipjack within the agreed limit, the Commission should introduce quota for this species, similar to what was introduce for the yellowfin tuna. Ideally, a combine quota for all three main tropical tuna species (skipjack, yellowfin and bigeye) would be ideal. However, in the absence of such measure, species-specific quota should be introduced. The Harvest Contol Rule for skipjack is on its own ineffective without a Harvest Strategy. For the sustainability of the IO skipjack stock Seychelles will support the introduction of such a measure. However, currently Seychelles have not made a decision in regards to possible proposal for CMM at the upcoming 24th Session of the IOTC commission.

- **BV question:** Do you have any comments on changes in personnel and responsibilities related to the tuna fisheries management in the Seychelles?

SFA response: The role of managing tuna fisheries in Seychelles has until recently remained under the sole purview of the Seychelles Fishing Authority. Over the recent 3 years, our parent Ministry (Ministry of Fisheries and Agriculture), has enhance its capacity in regards to the development of policies. Subsequently matters in regards to tuna fisheries management at policy level currently rest with the Ministry. Nonetheless, the Ministry often seek advices of technical experts from the Seychelles Fishing Authority.

It is to be noted that in 2019 a national Fisheries committee was set up, consisting of representative from different sectors, such as finance, environment, blue economy, trade, fisheries, etc. This role of this committee is to provide guidance on fisheries policy matters.

I am generally satisfy with the current set up/process in regards to fisheries governance and management in the Seychelles.

7.2.2 Shark Project input and CAB response

The only input from stakeholders received by BV after the announcement of the surveillance audit was the following email from the NGO Shark Project:

De: Dr. Iris Ziegler <i.ziegler@sharkproject.org>
Enviado el: domingo, 27 de octubre de 2019 10:26
Para: ICCMSCFisheriesESPMail; Jose Fernando RIOS; Macarena GARCIA
CC: SSCMscAsc_COCINMail; Kevin Stokes
Asunto: AW: NOTIFICATION SURVEILLANCE AUDIT: ECHEBASTAR INDIAN OCEAN SKIPJACK TUNA PURSE SEINE FISHERY

Importancia: Alta

Dear Jose and Macarena
Thanks for the notification as a stakeholder i this fishery. Unfortunately I will be on vacation now till December and therefore can't really provide any written input to the upcoming surveillance audit or participate in the site visits.
However, I would like to inform you that it will be very important to compare by catch rates of silky sharks for the FAD part of the fishery in comparison to the bycatch levels provided for 2014 - 2016 during the certification in order to assess whether the fishery is actively working on reducing the impact it has due to the use of FADs on the silky sharks. In order to do so it is mandatory to review and share data on bycatch on a set specific level for each of the vessels and to receive not just the percentage and tonnes of bycatch but also the number of animals per vessel and in which state they have been returned to the sea.
From the agglomerated data the fishery has published on its website this information is not available - but vital in order to assess whether the increase in bycatch for 2018 is due to increased fishing in general or ....?
If receiving that kind of data I would be very much interested to engage and further discuss with you and the fishery on meaningful ways of bycatch reduction for the future once I am back mid of December.
Thank you for your assistance.
Kind regards
Iris

Dr. Iris Ziegler
International Cooperation
i.ziegler@sharkproject.org
Skype: driris ziegler

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Deputy chairs: Heiner Endemann and Meik Obrock

BV sent and email on the next day saying: *"Dear Dr. Iris. We take note of your comments and they will be considered during the assessment. We keep in contact. Kind regards"*.

CAB Response

Data shown and discussed in **section 4.2.7.1** on the UoA observed catch composition and total estimated catches in 2017 and 2018 prove that information is being collected with an adequate level of detail. Although data on bycatch is not presented on a set specific level for each vessel as required in the email above, the number of observed sets and total sets deployed by the vessels are presented. This information is available at the Echebastar website: https://echebastar.com/en/echebastar-obtains-msc-certification/msc-up-to-date/2019-annual-surveillance-audit/documents/ (click **here** for downloading data on 2017, and **here** for downloading data for 2018). This proves that the client is comprised with transparency in relation to this issue.

Besides, during the site visit Echebastar representatives confirmed that they are proposing a number of initiatives that were presented to the SIOTI meeting held in Paris on November 4 & 5. These proposed activities are:

- Tagging of released sharks
- Mapping of the differences in the proportion of silky sharks caught by set
- Correlation of the silky shark by catch with the total catch per set

Actually, the client shared an email sento to Shark Project (see below) confirming the proposals mentioned above and inviting the NGO to collaborate and/or send suggestions.

José Luís Jauregui Iriarte *<jljauregui@echebastar.com>*

To:*i.ziegler@sharkproject.org*

Cc:*Kepa Echevarria,ianroyscott@yahoo.com*

Nov 7 at 8:47 PM

Dear Iris

Long time we do not hear from each other¡¡

We are now beginning to implement the Echebastar strategy.

In relation to information on silky sharks (PI 2.3.3) and as a contribution to the SIOTI action plan, we are proposing to implement the following three activities.

1. Tagging of released sharks.

2. Mapping of the differences in the proportion of silky sharks caught by set.

3. Correlation of the silky shark by catch with the total catch per set.

Before preparing a detailed proposal I would welcome your comments and suggestions as to how Shark Project may be involved.

In addition, I would find it useful if you could suggest any other activities that it may be useful for Echebastar to consider within its work plan.

Sincerely

7.3 Revised surveillance program

No amendments to timing or surveillance level since the PCR. However, the PCR stated that 3 auditors would be needed for each of the surveillance audits, this was amended in the announcement for the first surveillance (see **table 6.3.2**). All the other tables (**table 6.3.1 and table 6.3.3**) remain the same as for the PCR.

Table 6.3.1. Fishery surveillance program

Table X– Fishery surveillance program				
Surveillance level	Year 1	Year 2	Year 3	Year 4
Level 6	**On-site**	**On-site**	**On-site**	**On-site**

Table 6.3.2. Surveillance level rationale

Year	Surveillance activity	Number of auditors	Rationale
2, 3	On-site audits	2 auditors	FCP 7.28.6.1 states that in the initial certification period, the number of auditors for surveillance activities shall be at least 2. There is no requirement on including 3 auditors in the team as far the the selected team fulfils the qualification and competency criteria in table PC3 (FCP v.2.1). The team selected by BV meets those requeriments as stated in Table 1 –Surveillance announcement-.
4	On-site audit	3 auditors	No amendment since the PCR since the site visit of the last surveillance audit will be joined with the site visit for the re-assessment of the fishery.

Table 6.3.3. Timing of surveillance audit

Year	Anniversary date of certificate	Proposed date of surveillance audit	Rationale
2	9th November 2019	November 2019	To coincide with anniversary date
3	9th November 2019	November 2019	To coincide with anniversary date
4	9th November 2019	November 2019	To coincide with anniversary date

7.4 Harmonised fishery assessments

Table 7.4.1 Overlapping fisheries

Fishery name	Certification status and date	Performance Indicators to harmonise
Maldives pole & line skipjack tuna	Re-assessed and certified Nov 2017; 1st Surveillance Report May 2019	P1 but note new information available since May 2019

Table 7.4.2 Overlapping fisheries –supporting information-

Supporting information	
Two other fisheries are also in the process of developing ACDRs though neither has yet been announced on the MSC website. The P1 assessor for the Maldives Pole and Line fishery and the Echebastar fishery is the same person (Kevin Stokes). The assessor for the other in-development assessment and Kevin Stokes discussed P1 scoring at length, given new information on 2018 catches of skipjack tuna in the Indian Ocean.	
Was either FCP v2.1 Annex PB1.3.3.4 or PB1.3.4.5 applied when harmonising?	**NO**
Date of harmonisation meeting	**30 / 10 / 2019**
If applicable, describe the meeting outcome	

Agreement was reached on P1 scoring which will impact on many PIs. However, only at PI1.2.1a and 1.2.2c is there any material impact. Therefore, it was agreed that for the Echebastar surveillance, only those PI would be re-scored, leaving other PIs (and the newly re-scored ones) to be considered under the full assessment process including peer review, technical oversight and public consultation.

Note that while there are currently only two involved P1 experts, the Maldives Pole and Line fishery is certified by DNV-GL, the Echebastar fishery is certified by Bureau Veritas, and the two in-development fishery assessments are being conducted by Lloyds Register and Control Union Pesca.

Table 7.4.3 Scoring differences

Performance Indicators (PIs)	Fishery name Echebastar Indian Ocean	Fishery name Maldives Pole and Line
PI 1.2.1a	80, revised to 70	80
PI 1.2.2c	80, revised to 75	80
PI	Score	Score

Table 7.4.4 Rationale for scoring differences

If applicable, explain and justify any difference in scoring and rationale for the relevant Performance Indicators (FCP v2.1 Annex PB1.3.6)
The Echebastar IO assessment was harmonised with the then new Maldives Pole and Line assessment in 2017. No changes to scoring were made during the first Maldives surveillance in early 2019 and all scores remained consistent. However, new information on 2018 catches that became available in 2019, after the Maldives surveillance, is relevant to scoring. As the same assessor is dealing with both, currently certified fisheries, harmonisation could be internalised. However, given a different assessor is involved through an additional CAB carrying out ACDR preparation, opportunity was taken to discuss the new information and re-scoring. The revised scores at PI1.2.1a and 1.2.2c for the Echebastar fishery have followed consultation with the assessor working with Control Union Pesca. The revised scores reflect i) at PI 1.2.1a a lack of responsiveness by IOTC to implement measures sufficient to restrain catches to levels within the catch limit set for 2018-2020; and ii) at PI 1.2.2c a lack of tools in place to limit catches consistent with catch limits.
If exceptional circumstances apply, outline the situation and whether there is agreement between or among teams on this determination
Exceptional circumstances have been identified for the two new conditions set during current surveillance audit (on PIs 1.2.1 and 1.2.2). The P1 assessor for the Maldives Pole and Line fishery and the Echebastar fishery is the same person (Kevin Stokes). The assessor for the other in-development assessment and Kevin Stokes discussed P1 scoring at length. Agreement was reached among the teams on this determination.