

Fisheries Improvement Action Plan



Table 1: Action Plan Overview

Fishery name: Indian Ocean tropical tuna purse seine fishery, mainly landing into the Seychelles targeting yellowfin, bigeye and skipjack tuna			AP version: 6.3 Last updated (by): 02 Sept 2019 (TH)
Fishery location: Western Indian Ocean	Fishing method: Purse seine (free school & with FAD & other associated catches)	Start date: 01 June 2017 End date (anticipated): 31 Dec 2022 (5 years)	Review points: Y1:End May 2018 Y2: End May 2019 Y3: End May 2020 Y4: End May 2021 Y5: End May 2020
Project leaders: The Sustainable Indian Ocean Tuna Initiative (SIOTI)			Improvements recommended by: Poseidon
<p>Overview of the Action Plan:</p> <p>This document provides a Detailed Action Plan & Progress Report for the Indian Ocean Purse Seine Tuna Fisheries Improvement Project (FIP) for the majority of European Union (EU), Seychelles and Mauritius-flagged purse seine vessels fishing for pelagic tunas in the Western Indian Ocean using both free school and object associated sets. The target species are the following three pelagic tuna species: (i) skipjack tuna (<i>Katsuwonus pelamis</i>), (ii) yellowfin tuna (<i>Thunnus albacares</i>) and (iii) bigeye tuna (<i>Thunnus obesus</i>). It is noted that in November 2018 the Echebatar skipjack purse seine fishery was certified, and the Action Plan and scoring harmonised where appropriate.</p> <p>These fisheries are managed by the Indian Ocean Tuna Commission (IOTC). At the time of the pre-assessment (Poseidon 2016) yellowfin tuna was overfished and subject to overfishing. Furthermore there was no robust harvest strategy or harvest control rules (HCRs) for any of these three stocks (skipjack had some HCRs) which is a primary focus on the FIP. Furthermore there were information gaps on fisheries removals from stock, notably from some coastal fisheries.</p> <p>Information is also lacking in terms of the nature and amount of primary (e.g. managed), secondary (e.g. unmanaged) and endangered, threatened and protected (ETP) bycatch taken by the fishery, The FIP will also address the management of non-target bycatch such as silky shark (considered as an ETP from Y2 onwards), blue marlin, rainbow runner and dolphinfish. Also in P2, as second main task will be to better manage Fish Aggregating Devices (FADs) and their impact on both coastal habitats when lost as well as the wider marine ecosystem.</p> <p>Under P3 there is a need to address the legislative gaps that exist at national level to ensure the IOTC Contracting Party and Cooperating Non-Contracting Party (CPCs) comply with IOTC Conservation and Management Measures (CMMs). There is also a need to strengthen compliance in implementing these CMMs and ensure a more robust reporting and sanctions approach to non-compliance.</p>			
Colour code in tables below: Principle 1 Principle 2 Principle 3			

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Summary Report (End Year 2)

Introduction

This report marks the finish of the second year in a five year Fisheries Improvement Project (FIP) for the Sustainable Indian Ocean Tuna Initiative FIP for yellowfin (YFT), bigeye (BET) and skipjack (SKJ) tuna in purse seine sets (see Table 1 above). The report provides a review of the progress made to date and what further actions need to be taken over the third year. This report has been prepared by Tim Huntington of Poseidon.

Main Findings

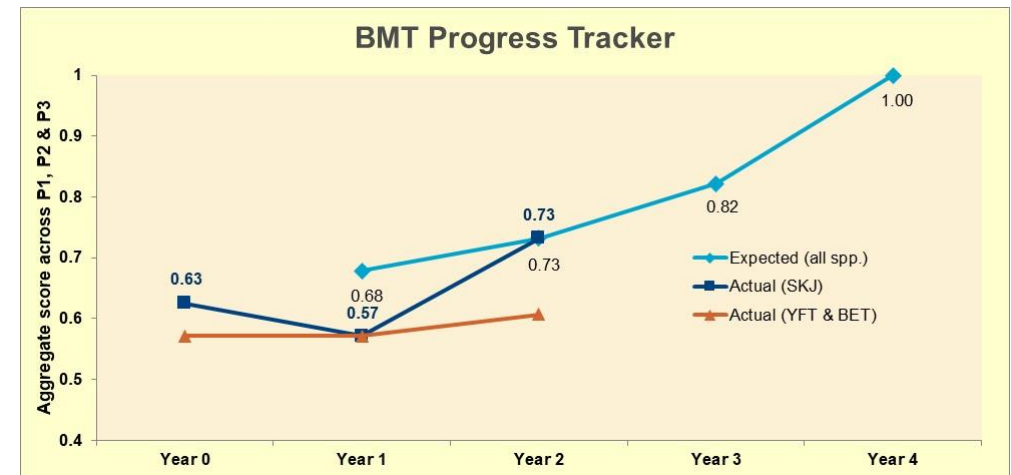
The fishery has made considerable progress over the year and, for P2 and P3, is on or ahead of target for most actions, especially in the case of SKJ. A key new development is the certification of the Echebatar SKJ fishery in November 2018, and we have harmonised where appropriate across all PIs. In some cases we have provided scores lower than Echebatar, either as a precautionary approach or because it is warranted by the much larger scale of this UoC (c. 40 active SIOTI vessels vs. 5 Echebatar vessels). The main challenges lie in P1, esp. for YFT and BET, where a lack of a universally agreed harvest strategy and harvest control rules holds back rebuilding of YFT in particular. We have also scored SKJ a conditional pass (60 – 79) for 1.2.2 as we consider the HCR yet to be demonstrated as effective, particularly in the over-shoot of 2017 catch limit by 12%.

As can be seen from the BMT progress tracker to the right, the YFT and BET scores have recovered substantially from Year 1, partially through harmonisation with the Echebatar assessment (esp. the ecosystem PI 2.5), as well as progress made in e-reporting of catch composition. A number of other initiatives, such as the development of a management plan for silky sharks (change to an ETP species in harmony with the Echebatar assessment), shark finning estimates and CMM compliance levels are progressing well.

It is recommended that a comprehensive Fisheries Management Plan (FMP) for this fishery is developed as a tool for preparing the fishery for full assessment once the FIP has been completed.

Recommendations for actions and activities over Year 3

The current status of the FIP and the review results are shown in **the three BMT tables for YFT, BET and SKJ** on pages 19, 20 & 21 respectively. Based on these, we have suggested a number of actions that need to be undertaken over the next year. These are summarised overleaf and are detailed in **Table 2: Evaluation against Action Plan milestones (End Y2, May 2019)** following this summary.



Key acronyms:

BET:	Bigeye tuna
BMT:	Benchmark Tracking Tool
CPUE:	Catch per unit effort
FIP:	Fisheries Improvement Project
FMP:	Fisheries Management Plan
HCR:	Harvest Control Rules
PI:	Performance Indicator
SKJ:	Skipjack tuna
YFT:	Yellowfin tuna

Main recommendations for Year 3:

1. SIOTI focus support to IOTC and its members in developing a re-building plan for YFT (based on the MEP report findings), updating and presenting the AZTI briefing document on harvest strategies, and promoting other regional initiatives to support tropical tuna stock management, such as the Australia-led management procedures for YFT.
2. SIOTI, in partnership with WWF, continues and persists with its engagement with coastal states to build a consensus for robust harvest control rules for all three target species.
3. SIOTI should use its influence with science, governance (e.g. EU member states) and NGOs to support regional initiatives in coastal state management, monitoring and control of their tuna fisheries, especially for data poor gillnet fisheries.
4. SIOTI support to the Regional Observer Scheme (ROS) and its e-reporting systems continued for purse seine fisheries and is extended to encompass other tuna fisheries such as longline, pole and line and gillnets.
5. SIOTI focus on developing bycatch management plans for main secondary species, including neritic tunas, billfish, rainbow runners and mahi mahi, as well as vulnerable species such as pelagic rays.
6. The silky shark is now (following harmonisation with Echebastar) considered an ETP species and efforts to limit the impact of this fishery on this this and other vulnerable shark species should be continued. As required by an Echebastar condition on information supporting an ETP strategy (PI 2.3.3) there is a general need to improve the reporting of ETP interactions, including the likely fate of any ETP species released back into the water.
7. The development of the FAD registration, management and reporting system continues, especially given the three Echebastar conditions relevant to these IPGs (12, 13 & 14).
8. SIOTI actions to improve national legislation for tuna-related fisheries management is continued and where necessary, further supported.
9. SIOTI supports the newly formed IOTC Compliance Committee, particularly in taking up recommendations made by Gilles Hosch.
10. SIOTI works closely with Echebastar to address common weaknesses as identified by the Echebastar conditions (mainly over ETPs, FAD management and some elements of fisheries governance and management).

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Table 2: Evaluation against Action Plan milestones (End Y2, May 2019)

Standard requirement	Actions	Timescale / milestones	Progress / outcome	Revised milestone
1. 1.1.1 Stock status It is highly likely that the stock is above the PRI and is at or fluctuating around a level consistent with MSY. IPG 7 Action lead: IOTC Action partners: PMT Stakeholders: ISSF	Action #1 (YFT): Monitor the enactment of routine YFT stock assessments by IOTC and if deferred or delayed advocate that they continue as per the current schedule.	Y1: Review	On target (Y1 60-79, actual 60-79) The SIOTI Coordinator has attended the IOTC WPTT and SC in 2017, and the Commission meeting in 2018 to review the assessment updates and advice on YFT	None
		Y2: Review	YFT only: On target (Y2 60-79, actual 60-70) <ul style="list-style-type: none"> - The SIOTI Coordinator attended the IOTC SC in 2018 to review the YFT tuna advice. - A consultant (Macalister Elliott and Partners, MEP) commissioned by SIOTI to work on an action under IPG1 (see 1.1.2) attended the WPTT in 2018 and produced a report for SIOTI on the outcome of the stock assessment. - Following a call by the SC (IOTC-2018-SC21-R: Appendix 38) for support from members in improving the assessments of yellowfin tuna, SIOTI have drafted a TOR and services agreement for exploration of alternative assessment models. Two consultants (Laurie Kell and Rishi Sharma) have agreed to do the work and the results are due to be presented at the WPTT in 2019. This work will also examine the potential effects of high grading on the Asian longline series of abundance. SC acknowledges that SA model still needs to be fine-tuned. Will be re-visited (AZTI / IRD) to re-do CPUE abundance indices (2016 SA was only based on Japanese LL). Newer 2018 SA was based on composite (but still LL) indices which was more positive. Now intending to do PS based index (very complicated e.g. FS/FAD, etc, and also includes 1st recruitment cohort). Next YFT SA 2021. EU funded project. Having supporting data from the logbooks (inc. FAD logbooks). Could be some improvement in data reporting and compilation from CPCs, supported by SIOTI. - Next (23rd) IOTC Session in June 2019. 	None
		Y3: Review	(Y3 60-79, actual tbc)	
		Y4: Review	(Y4 ≥80, actual tbc)	
		Y5: Review	(Y5 ≥80, actual tbc)	

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Standard requirement	Actions	Timescale / milestones	Progress / outcome	Revised milestone
<p>2. 1.1.2 Stock Re-building</p> <p>It is highly likely that the stock is above the PRI and is at or fluctuating around a level consistent with MSY. <i>IPG 1</i></p> <p>Action lead: IOTC</p> <p>Action partners: PMT, FIP industry partners FIP country partners, ISSF</p> <p>Stakeholders: Other coastal / Flag states</p>	<p>Action #2 (YFT)</p> <p>(a) A rebuilding timeframe is specified for the YFT stock that is the shorter of 20 years or 2 times its generation time.</p> <p>(b) There is evidence that the rebuilding strategies are rebuilding stocks, or it is likely based on simulation modelling, exploitation rates or previous performance that they will be able to rebuild the stock within the specified timeframe.</p>	<p>Y1: Simulations conducted to evaluate likely rebuilding timeframe given current and future projected level of catches under 16-01 showing likely rebuilding times under different scenarios</p> <p>.</p>	<p>Behind schedule but on BMT target (Y1 <60, actual <60)</p> <ul style="list-style-type: none"> - SIOTI have drafted a ToR for this work and is currently being reviewed by ISSF. There are concerns that there may not be much signal in data collected in the first year of a new management measure, especially when model assumptions may differ. SIOTI have added a second objective to the ToR, which is to quantitatively explore the potential for alternative management options, which could still proceed. 	<p>Merge Y1 and Y2 milestones. The stock assessment being conducted in 2018 by the IOTC secretariat will be making projections (K2SM) on rebuilding timeframes under 17/01 for current and projected levels of catch.</p>
		<p>Y2: Robust, comprehensive YFT rebuilding strategy developed.</p>	<p>YFT only: Behind schedule (Y2 60-79, < 60)</p> <ul style="list-style-type: none"> - In late 2018 SIOTI commissioned MEP to review the outcomes of the YFT stock assessment and performance of the current rebuilding strategy, and then to explore SIOTI partner support for alternative rebuilding measures. A paper focusing on the latter is currently being reviewed by SIOTI partners. It is clear that there is limited agreement on measures, so the aim was to present a paper to the Commission that presented options rather than a common position. 	
		<p>Y3: (i) IOTC has adopted the above rebuilding strategy. (ii) Fishing mortality F is $<F_{MSY}$</p>	<p>(Y3 60-79, actual tbc)</p>	
		<p>Y4: Stock rebuilding strategy implemented.</p>	<p>(Y4 ≥80, actual tbc)</p>	
		<p>Y5: Stock assessment or other incontrovertible evidence shows that stocks are able to rebuild the stock within the specified timeframe.</p>	<p>(Y5 ≥80, actual tbc)</p>	

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3. 1.2.1 Harvest strategy 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. <i>IPG 2</i> Action lead: IOTC Action partners: PMT, FIP industry partners FIP country partners, ISSF Stakeholders: Other coastal / Flag states	Action 3a: Design of an explicit harvest control strategy for YFT, BET and SKJ; Action 3b. Formal evaluation procedure for harvest strategies put in place.	Y1: Strategic options for controlling SKJ, YFT and BET tuna harvest developed.	Behind schedule but on BMT target (Y1 <60, actual <60) Action 3a: <ul style="list-style-type: none"> <u>Local engagement:</u> SIOTI are currently liaising with WWF to support planned meetings with coastal states that are relevant to this work. On schedule <u>IOTC Briefing Document on Harvest Strategies:</u> In March 2018, SIOTI commissioned AZTI to produce a briefing document on the current status and planned development of harvest strategies within IOTC. The work includes a questionnaire-based study of FIP partner perceptions and position on key operational aspects of HS, HCRs and MSE. The companies are currently completing the questionnaire with results targeted at the WPM. Behind schedule Action 3b: For consideration in Year 2	Merge Y1 and Y2 milestones (HS options discussed and agreed within IOTC & formally adopted).
		Y2: HS options considered and discussed inter-sessionally and formally though IOTC meeting processes. IOTC record reflect discussions and progress. Formal harvest strategy options include evaluation framework and timetable.	YFT: Behind schedule (Y2 60-79, <60) BET: Behind schedule (Y2 60-79, <60) SKJ: Ahead of target (Y2 60-79, actual 80) Harmonised with Echebastar (85) <ul style="list-style-type: none"> - Update on Briefing Document on Harvest Strategies (Action 3a). As reported in the year 1 update, SIOTI commissioned AZTI to undertake assignments in relation to this IPG. In September 2018, AZTI submitted a briefing paper to SIOTI members on harvest strategies and control rules for target species. This was followed by a questionnaire survey of SIOTI partner perceptions and positions on key operational aspects of HS, HCRs and MSE. The results of this survey were presented to the IOTC Working Party on Tropical Tuna in late 2018 (IOTC-2018-WPTT20-31). An update of this paper may be submitted to IOTC in 2019, following completion of the questionnaire by OPAGAC. - SIOTI and WWF have hosted a meeting with industry and some coastal states at the Brussels seafood expo in May 2019 to discuss HS/HCR options. - An attempt was made to organise with WWF working sessions on HS/HCR at a meeting of the G16 coastal states meeting in Cape Town in April 2019. Unfortunately, the G16 wanted to focus mainly on allocation issues and did not want FIPs representing distant water fleets at the meeting. Nevertheless, the Australian delegation to the G16 presented an outline management procedure proposal for YFT at the meeting (OTC-2019-S23-PropP[E]). SIOTI have held discussions with the Australian delegation to IOTC about supporting the development of this outline management procedure proposal for YFT. SIOTI and WWF are aiming to hold meetings with interested coastal states on the margins of the Commission meeting in India (June 2019). 	
		Y3: Harvest strategy for SKJ discussed and agreed within IOTC & formally adopted.	(Y3 60-79, actual tbc)	

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Standard requirement	Actions	Timescale / milestones	Progress / outcome	Revised milestone
		<p>Y4: harvest strategies for YFT & BET discussed and agreed within IOTC and formally adopted.</p> <p>Y5: Harvest control strategies evaluated to assess evidence that they are achieving their objectives.</p>	<p>(Y4 ≥80, actual tbc)</p> <p>(Y5 ≥80, actual tbc)</p>	
<p>4. 1.2.2 Harvest control rules and tools</p> <p>There are well defined and effective harvest control rules (HCRs) in place. By Year 5 harvest control rules for all three target species fisheries are in place and evidence suggests that they are effective in reducing exploitation levels where necessary. IPG 3</p>	<p>Action 4a: Design and implementation of well-defined and explicit harvest control rules for YFT, BET and SKJ according to the harvest control strategies developed in IPG 2 to ensure that the exploitation rates are reduced as limit reference points are approached and that the stock fluctuates around a target level consistent with (or above) MSY.</p> <p>Action 4b: HCRs are determined to be robust to main uncertainties.</p>	<p>Y1: Options for harvest control rules (HCRs) and tools for managing SKJ, YFT and BET tuna harvest developed .</p> <p>The main uncertainties for different HCR options are identified.</p>	<p>Behind schedule but on BMT target (Y1 <60, actual <60)</p> <p>Action 4a</p> <ul style="list-style-type: none"> <u>Building regional consensus on the need for robust HCRs:</u> SIOTI are currently liaising with WWF to support planned meetings with coastal states that are relevant to this work. On target <u>Ensure a holistic implementation HCR development & Provide an independent paper on the scope and needs of HCRs:</u> These two activities above are covered by the AZTI work commissioned under 1.2.1. Behind schedule <p>Action 4b: For consideration in Year 2</p> <p>Action 4c: For consideration in Year 5</p>	
		<p>Y2: Options for harvest control rules (HCRs) and tools for managing SKJ, YFT and BET tuna harvest developed, discussed and agreed within IOTC.</p> <p>The main uncertainties for different HCR options are identified.</p>	<p>YFT: Behind schedule (Y2 60-79, <60)</p> <p>BET: Behind schedule (Y2 60-79, <60)</p> <p>SKJ: On target (Y2 60-79, 60-79) Echebstar scores 80, but precautionary scoring due to lack of effectiveness e.g. 2017 SKJ harvest exceeding HCR by 12%</p> <ul style="list-style-type: none"> HCRs addressed under several activities relating to harvest strategies in 1.2.1. SIOTI must consider that SKJ catches have in recent years exceeded the catch limit set by the HCR and that the SC have advised the Commission¹ to address this issue in order to limit catches to the agreed limit. 	

¹ IOTC–2018–SC21–R: Based on the results of the stock assessment of skipjack tuna in 2017, the Commission, following Resolution 16/02, adopted an annual catch limit of 470,029 tonnes for the years 2018 to 2020. Total catches in 2017 (524,282 t) were 12% larger than the catch limit generated by the Harvest Control Rule (470,029 t) which applies to the years 2018–2020, and there has been an increasing trend in catches over the past 3 years. The Commission needs to ensure that catches of skipjack in the 2018–2020 period do not exceed the agreed limit.

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Standard requirement	Actions	Timescale / milestones	Progress / outcome	Revised milestone
Action lead: IOTC Action partners: PMT Stakeholders:	Action 4c: HCR tools are determined to be effective in achieving the exploitation levels under the HCRs.	Y3: HCR options considered and discussed inter-sessionally and formally through IOTC meeting processes. IOTC record reflect discussions and progress. The main uncertainties are considered and discussed inter-sessionally and formally through IOTC meeting processes. IOTC record reflect discussions and progress.	(Y3 60-79, actual tbc)	
		Y4: HCRs for all three species discussed and agreed within IOTC and formally adopted as part of the harvest strategy implementation approach (see IPG 2).	(Y4 ≥80, actual tbc)	
		Y5: Formal evidence is provided to demonstrate the HCR tools are appropriate and effective in reducing exploitation levels where necessary.	(Y5 ≥80, actual tbc)	
5. 1.2.3 Information & Monitoring Relevant information is collected to support the harvest strategy. IPG 8	Action 5: Improved information on all other fisheries removals from stock, notably from the coastal fisheries of Indonesia, Sri Lanka, Yemen and Madagascar, the Pakistan gillnet fishery and non-reporting	Y1: Need for a work plan to improve information publicly available and / or estimate of uncertainty on all fisheries removals from Indian Ocean stocks formally presented by the relevant IOTC Working Parties; and IOTC has agreed to develop a plan of specific activities over a one-year period to improve the information available on all fisheries removals.	On target (Y1 60-79, actual 60-79) The OPAGAC FIP has been focusing on these studies with the reports soon to be published. Rather than duplicating the activity, SIOTI aims to support the submission of this work as information papers to the IOTC WPTT.	None

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Standard requirement	Actions	Timescale / milestones	Progress / outcome	Revised milestone
Action lead: IOTC Action partners: FIP country partners Stakeholders:	industrial fisheries from India.	Y2: IOTC developed work plan specific activities over a one-year period to improve the information available on all fisheries removals.	YFT Ahead of target: (Y2 60-79, 60-79) Harmonised with Echebastar (90) BET Ahead of target: (Y2 60-79, 60-79) Harmonised with Echebastar (90) SKJ On target: (Y2 ≥80, ≥80) Harmonised with Echebastar (90) - In its ninth session, the IOTC WPDCCS revised its program of work, addressing information on removals for key coastal and industrial fisheries. The program of work was prioritised towards coastal fisheries and adopted by the SC. However, the secretariat notes that staffing constraints and, to a lesser extent, funding, pose a major challenges to improving information from coastal fisheries	
		Y3: Work plan adopted by IOTC	(Y3 ≥80, actual tbc)	
		Y4: IOTC Scientific Committee confirms work plan is under implementation and that data are being made available.	(Y4 ≥80, actual tbc)	
6. 2.1.3 Primary species information and 2.2.3 Secondary species information Information on the nature and amount of primary & secondary species taken is adequate to determine the risk posed by the UoA & the	Action 6a: Full analysis of non-target catch levels and their impact on primary (e.g. managed) & secondary (e.g. unmanaged) species catches. Action 6b: Conduct gaps analysis of bycatch reporting system to ensure it is adequate for management purposes.	Y1: Bycatch database fully operational, including timely vessel / observer reporting, data input and quality control (in conjunction with IPG 10).	Behind schedule but on BMT target (Y1 60-79, actual 60-79) Action 6a <u>Bycatch database fully operational:</u> In March 2018, SIOTI commissioned AZTI-Tecnalia to provide a report on the current status of purse seine observer programs, in conjunction with the annual coordination meeting between AZTI, IEO and IRD. The report further identifies entry points for SIOTI support. It is currently being reviewed by the SIOTI board and will be turned into an information paper for the WPEB. SIOTI will be supporting the IOTC secretariat to enter historical observer data into the regional observer scheme database. A ToR has been drafted and SIOTI is currently seeking a consultant for the task SIOTI will also be supporting the IOTC Secretariat in training and rolling out of the ROS e-Reporting tools, focusing on Seychelles and Mauritius, extending the functionality of the tools, and ensuring interoperability of the tool with third party proprietary tools. The TOR for this work was been approved by the SIOTI in July 2018. Action 6b: For consideration in Year 2	Bycatch database to be fully operational by the end of Year 2.

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Standard requirement	Actions	Timescale / milestones	Progress / outcome	Revised milestone
effectiveness of the strategy to manage primary & secondary species. IPG 9 & 10 Action lead: FIP industry partners Action partners: WWF Stakeholders: FIP industry partners		Y2: Annual bycatch reporting, with fishing mortality information being fully utilised for primary species stock assessment and management purposes (in conjunction with IPG 10). Y2: Gaps analysis completed and recommendations made for upgrading data collection, if necessary (in conjunction with IPG 10).	YFT On target: (Y2 ≥80, ≥80) Harmonised with Echebatar (1° 95 / 2° 85) BET On target: (Y2 ≥80, ≥80) Harmonised with Echebatar (1° 95 / 2° 85) SKJ On target: (Y2 ≥80, ≥80) Harmonised with Echebatar (1° 95 / 2° 85) - AZTI-Tecnia completed their report on the current status of purse seine observer programs, which was submitted to the IOTC Working Party on Ecosystem and Bycatch (IOTC-2018-WPEB14-19). - SIOTI support for the entry of historical observer data into the regional database from MS word or PDF trip reports was completed in September 2018, with 84 trip reports entered and verified by the Secretariat. Reported in IOTC-2018-WPEB14-R - Workshop 2018 PS Observer program Coordination Workshop. Recommendations not yet taken up. - SIOTI support for training and rolling out of the ROS e-Reporting tools, extending the functionality of the tools, and ensuring interoperability of the tool with third party proprietary tools is complete. The consultant and IOTC secretariat provided training in Mauritius in April 2019, supported by SIOTI. See Jan slides (need to ask for these). Secretariat confident ROS tools robust and need to persuade IOTC to publish the database. But will reveal non-compliance. - SIOTI are currently in discussions with the secretariat on access to and use of the regional observer database for bycatch reporting in 2019, which will identify the needs for a gap analysis. However, the secretariat has identified that significant gaps in bycatch reporting and adoption of the ROS e-Reporting tools, or integration with the ROS database, relate to non-PS gears in coastal state such as Indonesia and Sri Lanka.	
		Annual (Yr. 3 – 5): Annual bycatch reporting, with fishing mortality information being fully utilised for primary species stock assessment and management purposes	(Y3-5 ≥80, actual tbc)	
7. 2.2.1 Secondary species: Outcome status Main secondary species are highly likely to be above	Action 7: Ensure that main secondary species (see below) are highly likely to be above biologically-based limits. Other main species (60-79) blue marlin	Y1: Development of a generic management plan for main secondary species, including addressing data deficiencies and a strategy to ensure that these fisheries don't hinder the recovery of these species, if required.	Behind target (Y1 60-79, actual <60) <ul style="list-style-type: none"> <u>Vessel-based Code of Practice (CoP) for reduction in non-target catches in the UoC:</u> No activity to date. In the SIOTI board-approved 2018 plan, this activity was scheduled to begin in November 2018. A meeting with fleets to discuss the scope of the work and drafting of ToR was scheduled for 23rd July 2018. Behind schedule. 	

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biologically based limit OR If below biologically based limits, there is either evidence of recovery or a demonstrably effective partial strategy in place such that the UoA does not hinder recovery and rebuilding. IPG 4 Action lead: FIP industry partners Action partners: WWF		Y2: <u>Development of a generic management plan for main secondary species</u> , including addressing data deficiencies and a strategy to ensure that these fisheries don't hinder the recovery of these species, if required.	YFT Behind target: (Y2 60-79, <60) Not harmonised with Echebatar (80) due to scale BET Behind target: (Y2 60-79, <60) Not harmonised with Echebatar (80) due to scale SKJ Behind target: (Y2 60-79, <60) Not harmonised with Echebatar (80) due to scale - Not yet drafted. Need to focus on neritic tuna (important to coastal states) and billfish? - EU Project – INOFAD looking at shark hotspots around the Indian Ocean. Buoys with cameras. Will provide basis for spatial measures. - Catch data under FADs for silky sharks under FADs. NOTE SCORE REVISED ON 2/9/19 BASED ON FISHERYPROGRESS COMMENTS	
		Y3: Adoption of specific management measures to address the bycatch of main secondary species by all fisheries in the UoA, inc. a vessel-based CoP.	(Y3 ≥80, actual tbc)	
8. 2.2.2 Secondary species: Management strategy Management strategy in place, evaluated and implemented. Review of alternative measures. IPG 5 Action lead: FIP industry partners Action partners: WWF Stakeholders: FIP industry partners	Action 8a: Assess and test the effectiveness of the management measures in IPG 5. Action 8b: Put in place a system that demonstrates that management measures in IPG 5 are being implemented successfully. Action 8c: Ensure that shark finning does not take place in the UoA. Action 8d: Ensure that alternative measures to minimise unwanted catch are put in place, especially for associated fishing.	Y 1: Conduct risk assessment to assess likelihood of shark finning within the UoA. Assess effectiveness of NPOAs for shark within the UoA. Development of a fleet-level generic bycatch reduction strategy to minimise bycatch levels, especially for associated sets (see IPG 4).	Behind target (Y1 60-79, actual <60) • <u>Shark finning risk assessment and management strategy:</u> No activity to date. In the SIOTI board-approved 2018 plan, this activity was scheduled to begin in June 2018. A meeting with fleets to discuss the scope of the work and drafting of ToR is scheduled for 23rd July 2018. Behind target.	
		Y 2: Conduct risk assessment to assess likelihood of shark finning within the UoA. Assess effectiveness of NPOAs for shark within the UoA.	YFT On target: (Y2 60-79, 60-79) Not harmonised with Echebatar (80²) due to scale BET On target: (Y2 60-79, 60-79) Not harmonised with Echebatar (80) due to scale SKJ On target: (Y2 60-79, 60-79) Not harmonised with Echebatar (80) due to scale - SIOTI commissioned Sarah Fowler and Amie Bräutigam to conduct the risk assessment in late 2018. The first draft has been reviewed by SIOTI partners and is now back with the consultants to update, with the final version due by the end of May. Update report available in the next few days. In general, partners were very supportive of this independent assessment, which indicates very low risk of shark finning within the UoA. The assessment will be presented to the WPEB. Still some small risks e.g. Maldives semi-industrial fishery loophole for shark finning.	

² For FAD sets

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Standard requirement	Actions	Timescale / milestones	Progress / outcome	Revised milestone
		<p>Y 4: Put in place any management measures, if required, to ensure that shark finning does not take place. Implement fleet level generic bycatch strategy.</p>	<p>(Y4 ≥80, actual tbc)</p>	
<p>9. 2.3.2 ETP Species: Management strategy Action lead: FIP industry partners Action partners: WWF Stakeholders: FIP industry partners</p>	<p>Action 9a (previously 2.2.1): Management plan for silky sharks (<60)</p>	<p>Y1: Development of a specific management plan for silky shark, including addressing data deficiencies and a strategy to ensure that these fisheries don't hinder the recovery of this species, if required.</p>	<p>Not scored in Year 1 as was 2.2.1</p> <ul style="list-style-type: none"> • <u>Development of a silky shark (FAL) management plan:</u> No activity to date. In the SIOTI board-approved 2018 plan, this activity was scheduled to begin in June 2018. A meeting with fleets to discuss the scope of the work and drafting of ToR is scheduled for 23rd July 2018. Behind schedule. • <u>Vessel-based 'Code of Practice (CoP) for the reduction in FAL mortality in the UoC:</u> Delays in implementation. In the SIOTI board-approved 2018 plan, this activity was scheduled to begin in April 2018. A meeting with fleets to discuss the scope of the work and drafting of ToR is scheduled for 23rd Jul 2018. Behind schedule. 	
		<p>Y2: <u>Development of a specific management plan for silky shark,</u> including addressing data deficiencies and a strategy to ensure that these fisheries don't hinder the recovery of this species, if required.</p>	<p>YFT On target: (Y2 60-79, 60-79) <u>Not harmonised</u> with Echebatar (80³) due to scale BET On target: (Y2 60-79, 60-79) <u>Not harmonised</u> with Echebatar (80) due to scale SKJ On target: (Y2 60-79, 60-79) <u>Not harmonised</u> with Echebatar (80) due to scale</p> <p>- SIOTI commissioned Sarah Fowler and associates to develop the silky shark management plan in late 2018. There have been delays in submitting the first draft, which is being compiled by Sarah Fowler from contributions by her associates, but the intention is to have it complete for submission to the WPEB in 2019. Inc. harmonisation of codes of practise on handling of sharks. Only partial drafts for the time being. Working towards WPEB meeting....</p>	
		<p>Y3: Adoption of specific management measures to address the bycatch of silky shark by all fisheries in the UoA, inc. a vessel-based CoP.</p>	<p>(Y4 ≥80, actual tbc)</p>	

³ For FAD sets

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Standard requirement	Actions	Timescale / milestones	Progress / outcome	Revised milestone
<p>9. 2.3.3 ETP species information</p> <p>Information is adequate for the assessment of impacts and their management. IPG 11</p> <p>Action lead: FIP industry partners</p> <p>Action partners: WWF</p> <p>Stakeholders: FIP industry partners; Echebatar (Condition 1)</p>	<p>Action 9b: Quantify the level of post-release mortality and the consequence for the status of ETP species.</p> <p>Action 9c: Ensure that information is adequate to measure trends and support a strategy to manage impacts on ETP species.</p>	<p>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.</p>	<p>Behind schedule but on BMT target (Y1 60-79, actual 60-79)</p> <ul style="list-style-type: none"> <u>Study on the impact of purse seine gear on ETP species and likely consequence for Indian Ocean populations:</u> No activity to date. In the SIOTI board-approved 2018 plan, this activity was scheduled to begin in June 2018. A meeting with fleets to discuss the scope of the work and drafting of ToR is scheduled for 23rd July 2018. Behind schedule. <u>Improved vessel-level reporting of ETP interactions.</u> Preparation of a Code of Conduct for the better reporting of ETP interactions. To be included in observer system development under Action 6. Behind schedule (see Action 6). 	
		<p>Y2: Study on the impact of purse seine gear on ETP species and likely consequence for Indian Ocean populations.</p> <p>Y2: Improved vessel-level reporting of ETP interactions.</p>	<p>YFT On target: (Y2 60-79, 60-79) Harmonised with Echebatar (70)</p> <p>BET On target: (Y2 60-79, 60-79) Harmonised with Echebatar (70)</p> <p>SKJ On target: (Y2 60-79, 60-79) Harmonised with Echebatar (70)</p> <ul style="list-style-type: none"> - An OPAGAC FIP supported study in 2018 (IOTC-2018-WPDCS14-26), 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. - Echebatar condition (1) that <i>“By the fourth annual surveillance audit [Nov 2022], the client must demonstrate that information is adequate to measure trends and support a strategy to manage impacts on ETP species”</i> 	
		<p>Y4: Fleet operators and where necessary IOTC, puts into place management measures, as necessary, to reduce the mortality of ETP species.</p>	<p>(Y4 ≥80, actual tbc)</p>	
<p>10. 2.4.1, 2.4.2, 2.4.3 Habitat outcome, management</p>	<p>Action 10a. Ensure accountability and tracking of all drifting FADs to assist their responsible</p>	<p>Y1: Design of a FAD registration, monitoring and reporting system designed.</p>	<p>Behind schedule but on BMT target (Y1 60-79, actual 60-79)</p> <ul style="list-style-type: none"> <u>Design of a FAD registration, monitoring and reporting system designed:</u> No activity to date. In the SIOTI board-approved 2018 plan, this activity was scheduled to begin in September 2018. A meeting with fleets to discuss the scope of the work and drafting of ToR will be September 2018. Behind schedule. 	

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Standard requirement	Actions	Timescale / milestones	Progress / outcome	Revised milestone
<p>and information</p> <p>The UoA is highly unlikely to reduce structure and function of habitats to a point where there would be serious or irreversible harm. Management strategy in place. Information is adequate for the assessment of impacts and their management.</p> <p>IPGs 12, 13 & 14</p> <p>Action lead: FIP industry partners</p> <p>Stakeholders: Echebatar (Conditions 2, 3 & 4)</p>	<p>management and decommissioning.</p> <p>Action 10b. FIP participants develop a strategy to ensure FADs are under control at all times.</p> <p>Action 10c: Study of FAD management (inc. decommissioning and recovery of lost FADs) in the Indian Ocean and the effectiveness of recent management measures to reduce habitat damage.</p>	<p>Y2: FAD registration, monitoring and reporting system designed.</p>	<p>YFT On target: (Y2 60-79, 60-79) Harmonised with Echebatar (70 / 75 / 75⁴)</p> <p>BET On target: (Y2 60-79, 60-79) Harmonised with Echebatar (70 / 75 / 75)</p> <p>SKJ On target: (Y2 60-79, 60-79) Harmonised with Echebatar (70 / 75 / 75)</p> <ul style="list-style-type: none"> - In early 2019, SIOTI commissioned a consultant (Anne-Elise Nieblas) to undertake a study of FADs and provide recommendations for improving FAD monitoring, reporting and management for the Indian Ocean purse-seine tuna fishery. The first draft of the reports has been reviewed by partners and are currently being updated by the consultant, with a view to submitting a concise version to the 2019 WPEB, based on recommendations that can be agreed by all partners. Consultant updating report based upon SIOTI partner feedback. - There are many opposing views among SIOTI partners regarding harmonised registration, monitoring and reporting systems, which are proving difficult to resolve, with data sharing recommendations perhaps the biggest hurdle to resolve. - FR study on optimal number of FADs with social and economic guidance. - IRD study on fish abundance indices (fisheries-independent) on sonar-based buoys, esp. for juvenile fish, inc. SKJ. - IRD also looking at 'ecological trap' issue. Significant progress should be made over the next 18 months. - Also looking at impacts of non-entangling and 'bio-FADs' on marine litter / habitat damage. Entangling FADs are now very rare. - Will depend upon forthcoming IOTC plans / FAD management rules. Also looking at faster data acquisition for Yr 1 condition milestone. Includes FAD logbook. Inc. some public data production. - FAD Watch programme (originally established by OPAGAC). Locates and intercepts FADs threatening to beach in Seychelles waters (2016 onwards). Expanding to 42 vessels amongst 5 islands. Issue is the cost (to be discussed at the board meeting). - Maldives more complicated, as lost FADs used by local fishermen. - Maybe work through GGGI to work together and expand FAD Watch. - Echebatar Conditions: Echebatar strategy is to build its own management plan which will be shortly published. <ul style="list-style-type: none"> - Condition 2: 2.4.1 Habitat outcome. 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. - Condition 3: 2.4.2 Habitats management strategy. 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. - Condition 4: 2.4.3 Habitats information. 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. 	

⁴ FAD sets

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Standard requirement	Actions	Timescale / milestones	Progress / outcome	Revised milestone
		<p>Y3: All FADs operated by FIP participants are tracked, losses are registered and best practical efforts made for their location and recovery.</p>	(Y3 60-79, actual tbc)	
		<p>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 published</p>	(Y4 ≥80, actual tbc)	
<p>11. 2.5.1, 2.5.2 & 2.5.3 Ecosystem: Outcome status, management & information</p> <p>The UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm, there are measures in place to ensure the UoA does not pose a risk of serious or irreversible harm to ecosystem structure and</p>	<p>Action 11a: Risk assessment of the use of FADs and their possible impact on target species stock structure and the key elements underlying ecosystem structure and function.</p> <p>Action 11b: Development of an ecosystem-based strategic approach to tuna fisheries management in the Indian Ocean.</p> <p>Action 11c: Ecosystem-based strategic approach to tuna fisheries management is independently evaluated.</p> <p>Action 11d: Ecosystem-based</p>	<p>Y1: IOTC develops a strategy which addresses the main impacts of the Indian Ocean purse seine fisheries on the ecosystem.</p>	<p>Behind target (Y1 2.5.2 60-79, actual <60)</p> <ul style="list-style-type: none"> <u>Working Paper on EAFM to IOTC's WP on Ecosystems and Bycatch (WPEB):</u> No activity to date. In the SIOTI board-approved 2018 plan, this activity was scheduled to begin in June 2018. To better define the scope of work, it may now be preferable to liaise with scientists at the WPEB in September 2018. Behind schedule. 	
		<p>Y2: IOTC develops a strategy which addresses the main impacts of the Indian Ocean purse seine fisheries on the ecosystem.</p>	<p>YFT Ahead of target: (Y2 60-79, 60-79) Harmonised with Echebatar (80 / 80 / 75⁵)</p> <p>BET Ahead of target: (Y2 60-79, 60-79) Harmonised with Echebatar (80 / 80 / 75)</p> <p>SKJ On target: (Y2 60-79, 60-79) Harmonised with Echebatar (80 / 80 / 75)</p> <ul style="list-style-type: none"> SIOTI have, in April 2019, commissioned a consultant (Dr Maria Jose Jorda) to produce a working paper on EAFM for submission to the Sept 2019 WPEB. The objective of this consultancy is to examine the core requirements of an ecosystem approach to fisheries management resulting from the ecosystem impacts of tuna purse seine fishing in the Indian Ocean. The paper will identify the key information gaps in enabling an ecosystems approach to tuna fisheries management in the Indian Ocean, review the key risk areas associated with the ecological impact of FAD use, and identify potential management improvements. Ecosystem Report Cards project starting in IOTC area with workshop in Aug 2019 to assessment different ecosystem components,. Will be a summary to assist decision-making. Will be completed in 2020. Echebatar condition 5: 2.5.3 Ecosystem information. By the fourth annual surveillance audit, the client must provide evidence that the main impacts of the FADs on these key ecosystem elements can be inferred from existing information, and some have been investigated in detail. <p>NOTE PI 2.5.1 SCORE REVISED ON 2/9/19 BASED ON FISHERYPROGRESS COMMENTS</p>	

⁵ FAD sets

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Standard requirement	Actions	Timescale / milestones	Progress / outcome	Revised milestone
function; and there is adequate knowledge of the impacts of the UoA on the ecosystem. IPG 6, 15 & 16 Action lead: IOTC Action partners: FIP industry partners Stakeholders: Echebatar (Condition 5)	strategic approach to tuna fisheries management in the Indian Ocean is being successfully implemented. Action 11e: Information gaps analysis on the main impacts the UoA on key ecosystem elements evaluated and addressed, where necessary.	Y3: Management measures to address any identified risks, if any, are agreed and undergoing implementation. IOTC puts into place management measures, as necessary, to implement an ecosystem approach to fisheries management. Additional data and information gathering initiatives, if necessary, formally agreed and in place.	(Y3 60-79, actual tbc)	
		Y4: An independent evaluation provides objective evidence that the ecosystem-based management strategy is working. An internal evaluation provides objective evidence that the ecosystem-based management strategy is being implemented successfully.	(Y4 ≥80, actual tbc)	

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Standard requirement	Actions	Timescale / milestones	Progress / outcome	Revised milestone
12. 3.1.1 Legal and customary framework The management system exists within an appropriate and effective legal and/or customary framework. <i>IPG 17</i> Action lead: PMT Action partners: FIP country partners Stakeholders: FIP industry partners	Action 12: Review to determine the extent and effectiveness of national legislation of IOTC CPCs in delivering management outcomes consistent with MSC Principles 1 & 2.	Y2: An independent review identifies major legislative gaps in national efforts to comply with IOTC CMMs.	On target: (Y2 60-79, 60-79) Not harmonised with Echebatar (80) as marginal pass Strategy for addressing tuna fisheries management needs in the Indian Ocean): No activity to date. In the SIOTI board-approved 2018 plan, this activity was scheduled to begin in December 2017. Planning for the work to begin in September 2018. <ul style="list-style-type: none"> - IOTC are currently supporting a legal expert (Judith Swan) to assist Seychelles in domesticating IOTC resolutions, with the work scheduled for completion in the coming months. Involved since 2014 on implementing legislation over 10 countries in the region. 3 person team. Template for resolution in implementation. Covers both ecosystem and fisheries management. Transferring regional legislation to national legislation. Trying to have a common approach across differing national legal systems. Identified a need for a common legal glossary. Compliance Sub-committee considered this but has not yet been adopted. Hopefully will be presented again at June 2019 COM meeting. Progressing with Seychelles legislative changes / new draft Fisheries Act. New Act in Tanzania in 2018. Challenges in new management legislation in Mauritius (less integrated government). Very limited networking of fisheries legal aspects to promote harmonisation e.g. with Attorney-Generals, fisheries lawyers & fisheries managers. Madagascar also needs support. Is a possible SIOTI initiative. - The updating of Seychelles legislation builds on a recent IOTC study of the legislative framework of CPCs ('Review of active IOTC Resolutions and draft provisions for incorporation of IOTC Resolutions into national legislative frameworks') 	None
		Y4: Evidence presented that any major legislative gaps are being effectivity addressed.	(Y4 ≥80, actual tbc)	
3.1.2 Consultation, roles & responsibilities	Echebatar condition No. 6	Scored 75	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	
3.2.1 Fishery-specific objectives	Echebatar condition No. 7	Scored 75	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	
3.2.2 Decision-making processes	Echebatar condition No. 8	Scored 75	By the third annual surveillance audit: Std. 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.	

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Standard requirement	Actions	Timescale / milestones	Progress / outcome	Revised milestone
13. 3.2.3 Compliance & enforcement Monitoring, control and surveillance mechanisms ensure the management measures in the fishery and enforced and complied with. IPG 18 Action lead: IOTC Action partners: FIP country partners Stakeholders: FIP external partners	Action 13a: IOTC considers proposals to strengthen compliance by commencing development of possible sanctions for instance where members repeatedly fall short in complying with IOTC management measures Action 13b: IOTC has recommended a process to (i) develop sanctions and (ii) provide more in depth and critical reporting of non-compliance. Action 13c: IOTC adopts sanctions for non-compliance and makes public an in depth summary of all non-compliance.	Year 1: Formal proposals for a strengthen compliance regime presented and strategy agreed.	Behind schedule but on BMT target (Y1 60-79, actual 60-79) Strategy for addressing tuna fisheries management needs in the Indian Ocean): Study by Gilles Hosch commissioned by SIOTI in March 2018 and report delivered in April 2018. Based on the study outcomes, the SIOTI board approved position paper which was submitted for information to 22nd Session of the IOTC Commission held in Bangkok in May 2018 (IOTC-2018-S22-INF07). However a strategy has not yet been agreed. Behind schedule.	
		Year 2: Formal proposals for a strengthened compliance regime presented and strategy agreed. Sanctions developed and non-compliance reporting systems enhanced.	On target: (Y2 60-79, 60-79) <u>Not harmonised with Echebatar (85) as marginal pass</u> - Based on the results of the study conducted last year, as reported and submitted to the Commission, in Year 1, SIOTI have continued to engage with Seychelles and Mauritius fisheries administrations to gauge support for transforming recommendations of the study into proposals for, or amendments to, IOTC resolutions. But no success as yet, and no strategy agreed (see next). - IOTC still lacks a strategy for strengthening compliance. Many coastal state CPCs not favouring adoption of penalties for non-compliance, noting that there is already a clear improving trend in compliance without strong penalties. However, proposals for improving compliance were in 2018 deferred to the newly formed Compliance Committee and will be revisited in the 2019 sessions of the Committee and Commission. - Commission asked Compliance Committee to evaluate Hosch recommendations and whether to implement these. Some advances have been made. - We note that the Echebatar assessment passed this >80 (scored 85).	
		Year 3: Sanctions in place	(Y3 60-79, actual tbc)	
		Year 4: Public reporting of non-compliance levels and sanctions imposed as a result, if any.	(Y4 ≥80, actual tbc)	

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Table 3: Benchmark Tracking Tool (as at 02 Sept 2019): Yellowfin tuna

Principle	Component	Performance Indicator	Actual Year 0	Expected Year 1	Expected Year 2	Expected Year 3	Expected Year 4	Expected Year 5	Actual Year 1	Status	Actual Year 2	Status
1	Outcome	1.1.1 Stock status (Action 1 YFT)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	60-79	On Target
		1.1.2 Stock rebuilding (Action 2 YFT)	<60	<60	60-79	60-79	≥80	≥80	<60	On Target	<60	Behind
	Management	1.2.1 Harvest Strategy (Action 3)	<60	<60	60-79	60-79	≥80	≥80	<60	On Target	<60	Behind
		1.2.2 Harvest control rules and tools (Action 4)	<60	<60	60-79	60-79	≥80	≥80	<60	On Target	<60	Behind
		1.2.3 Information & monitoring (Action 5)	60-79	60-79	60-79	≥80	≥80	≥80	60-79	On Target	≥80	Ahead
		1.2.4 Assessment of stock status	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	≥80	On Target
2	Primary species	2.1.1 Outcome	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	≥80	On Target
		2.1.2 Management	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	≥80	On Target
		2.1.3 Information (Action 6)	60-79	60-79	60-79	≥80	≥80	≥80	60-79	On Target	≥80	Ahead
	Secondary species	2.2.1 Outcome (Action 7)	<60	60-79	60-79	≥80	≥80	≥80	<60	Behind	<60	Behind
		2.2.2 Management (Action 8)	<60	60-79	60-79	60-79	≥80	≥80	<60	Behind	60-79	On Target
		2.2.3 Information (Action 6)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	≥80	Ahead
	ETP species	2.3.1 Outcome	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	≥80	On Target
		2.3.2 Management	≥80	≥80	60-79	≥80	≥80	≥80	≥80	On Target	60-79	On Target
		2.3.3 Information (Action 9)	60-79	60-79	≥80	≥80	≥80	≥80	60-79	On Target	60-79	Behind
	Habitats	2.4.1 Outcome (Action 10)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	60-79	On Target
		2.4.2 Management (Action 10)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	60-79	On Target
		2.4.3 Information (Action 10)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	60-79	On Target
	Ecosystem	2.5.1 Outcome (Action 11)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	60-79	On Target
		2.5.2 Management (Action 11)	<60	60-79	60-79	60-79	≥80	≥80	<60	Behind	≥80	Ahead
		2.5.3 Information (Action 11)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	60-79	On Target
3	Governance and Policy	3.1.1 Legal and customary framework (Action 12)	60-79	60-79	≥80	≥80	≥80	≥80	60-79	On Target	60-79	Behind
		3.1.2 Consultation, roles and responsibilities	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	60-79	Behind
		3.1.3 Long term objectives	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	≥80	On Target
	Fishery specific management system	3.2.1 Fishery specific objectives	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	60-79	Behind
		3.2.2 Decision making processes	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	60-79	Behind
		3.2.3 Compliance and enforcement (Action 13)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	60-79	On Target
		3.2.4 Management performance evaluation	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	≥80	On Target
Total number of PIs equal to or greater than 80			10	9	10	14	27	27	10		10	
Total number of PIs 60-79			12	15	17	13	0	0	12		14	
Total number of PIs less than 60			6	3	0	0	0	0	6		4	
Overall BMT Index			0.57	0.63	0.70	0.77	1.00	1.00	0.57		0.61	

The MSC cannot verify the accuracy of any information provided on this form and is not responsible for any issues arising to any parties as a result of any information provided therein. The results are the sole responsibility of individual/company applying the Benchmarking and Tracking Tool and give an indication of the likely status of a fishery. These results can only be verified by the fishery completing the MSC full assessment process.

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Table 4: Benchmark Tracking Tool (as at 02 Sept 2019): Bigeye tuna

Principle	Component	Performance Indicator	Actual Year 0	Expected Year 1	Expected Year 2	Expected Year 3	Expected Year 4	Expected Year 5	Actual Year 1	Status	Actual Year 2	Status
1	Outcome	1.1.1 Stock status	≥80	≥80	≥80	≥80	≥80	≥80	60-79	Behind	≥80	On Target
		1.1.2 Stock rebuilding	≥80	≥80	≥80	≥80	≥80	≥80	<60	Behind	≥80	On Target
	Management	1.2.1 Harvest Strategy (Action 3)	<60	<60	60-79	60-79	≥80	≥80	<60	On Target	<60	Behind
		1.2.2 Harvest control rules and tools (Action 4)	<60	<60	60-79	60-79	≥80	≥80	<60	On Target	<60	Behind
		1.2.3 Information & monitoring	60-79	60-79	60-79	≥80	≥80	≥80	60-79	On Target	≥80	Ahead
		1.2.4 Assessment of stock status	≥80	≥80	≥80	≥80	≥80	≥80	On Target	≥80	On Target	
2	Primary species	2.1.1 Outcome	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	≥80	On Target
		2.1.2 Management	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	≥80	On Target
		2.1.3 Information (Action 6)	60-79	60-79	≥80	≥80	≥80	≥80	60-79	On Target	≥80	On Target
	Secondary species	2.2.1 Outcome (Action 7)	<60	60-79	60-79	≥80	≥80	≥80	<60	Behind	<60	Behind
		2.2.2 Management (Action 8)	<60	60-79	60-79	60-79	≥80	≥80	<60	Behind	60-79	On Target
		2.2.3 Information (Action 6)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	≥80	Ahead
	ETP species	2.3.1 Outcome	≥80	≥80	60-79	≥80	≥80	≥80	≥80	On Target	≥80	Ahead
		2.3.2 Management	≥80	≥80	60-79	≥80	≥80	≥80	≥80	On Target	60-79	On Target
		2.3.3 Information (Action 9)	60-79	60-79	60-79	≥80	≥80	≥80	60-79	On Target	60-79	On Target
	Habitats	2.4.1 Outcome (Action 10)	60-79	60-79	≥80	60-79	≥80	≥80	60-79	On Target	60-79	Behind
		2.4.2 Management (Action 10)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	60-79	On Target
2.4.3 Information (Action 10)		60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	60-79	On Target	
Ecosystem	2.5.1 Outcome (Action 11)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	60-79	On Target	
	2.5.2 Management (Action 11)	<60	60-79	60-79	60-79	≥80	≥80	<60	Behind	≥80	Ahead	
	2.5.3 Information (Action 11)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	60-79	On Target	
3	Governance and Policy	3.1.1 Legal and customary framework (Action 12)	60-79	60-79	60-79	≥80	≥80	≥80	60-79	On Target	60-79	On Target
		3.1.2 Consultation, roles and responsibilities	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	60-79	Behind
		3.1.3 Long term objectives	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	≥80	On Target
	Fishery specific management system	3.2.1 Fishery specific objectives	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	60-79	Behind
		3.2.2 Decision-making processes	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	60-79	Behind
		3.2.3 Compliance and enforcement (Action 13)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	60-79	On Target
		3.2.4 Management performance evaluation	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	≥80	On Target
Total number of PIs equal to or greater than 80			12	11	11	16	27	27	10		12	
Total number of PIs 60-79			11	14	16	11	0	0	12		13	
Total number of PIs less than 60			5	2	0	0	0	0	6		3	
Overall BMT Index			0.63	0.68	0.71	0.80	1.00	1.00	0.57		0.66	

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Table 5: Benchmark Tracking Tool (as at 02 Sept 2019): Skipjack tuna

Principle	Component	Performance Indicator	Actual Year 0	Expected Year 1	Expected Year 2	Expected Year 3	Expected Year 4	Expected Year 5	Actual Year 1	Status	Actual Year 2	Status
1	Outcome	1.1.1 Stock status	≥80	≥80	≥80	≥80	≥80	≥80	60-79	Behind	≥80	On Target
		1.1.2 Stock rebuilding	≥80	≥80	≥80	≥80	≥80	≥80	<60	Behind	≥80	On Target
	Management	1.2.1 Harvest Strategy (Action 3)	<60	<60	60-79	60-79	≥80	≥80	<60	On Target	≥80	Ahead
		1.2.2 Harvest control rules and tools (Action 4)	<60	<60	60-79	60-79	≥80	≥80	<60	On Target	60-79	On Target
		1.2.3 Information & monitoring (Action 5)	60-79	60-79	≥80	≥80	≥80	≥80	60-79	On Target	≥80	On Target
		1.2.4 Assessment of stock status	≥80	≥80	≥80	≥80	≥80	≥80	On Target	≥80	On Target	
2	Primary species	2.1.1 Outcome	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	≥80	On Target
		2.1.2 Management	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	≥80	On Target
		2.1.3 Information (Action 6)	60-79	60-79	≥80	≥80	≥80	≥80	60-79	On Target	≥80	On Target
	Secondary species	2.2.1 Outcome (Action 7)	<60	60-79	60-79	≥80	≥80	≥80	<60	Behind	<60	Behind
		2.2.2 Management (Action 8)	<60	60-79	60-79	60-79	≥80	≥80	<60	Behind	≥80	Ahead
		2.2.3 Information (Action 6)	60-79	60-79	≥80	≥80	≥80	≥80	60-79	On Target	≥80	On Target
	ETP species	2.3.1 Outcome	≥80	≥80	60-79	≥80	≥80	≥80	≥80	On Target	≥80	Ahead
		2.3.2 Management	≥80	≥80	60-79	≥80	≥80	≥80	≥80	On Target	60-79	On Target
		2.3.3 Information (Action 9)	60-79	60-79	60-79	≥80	≥80	≥80	60-79	On Target	60-79	On Target
	Habitats	2.4.1 Outcome (Action 10)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	60-79	On Target
		2.4.2 Management (Action 10)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	60-79	On Target
		2.4.3 Information (Action 10)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	60-79	On Target
	Ecosystem	2.5.1 Outcome (Action 11)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	60-79	On Target
		2.5.2 Management (Action 11)	<60	60-79	60-79	60-79	≥80	≥80	<60	Behind	≥80	Ahead
		2.5.3 Information (Action 11)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	60-79	On Target
3	Governance and Policy	3.1.1 Legal and customary framework (Action 12)	60-79	60-79	60-79	≥80	≥80	≥80	60-79	On Target	60-79	On Target
		3.1.2 Consultation, roles and responsibilities	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	60-79	Behind
		3.1.3 Long term objectives	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	≥80	On Target
	Fishery specific management system	3.2.1 Fishery specific objectives	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	60-79	Behind
		3.2.2 Decision making processes	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	60-79	Behind
		3.2.3 Compliance and enforcement (Action 13)	60-79	60-79	60-79	60-79	≥80	≥80	60-79	On Target	60-79	On Target
		3.2.4 Management performance evaluation	≥80	≥80	≥80	≥80	≥80	≥80	≥80	On Target	≥80	On Target
Total number of PIs equal to or greater than 80			12	11	12	17	27	27	10		14	
Total number of PIs 60-79			11	14	15	10	0	0	12		13	
Total number of PIs less than 60			5	2	0	0	0	0	6		1	
Overall BMT Index			0.63	0.68	0.73	0.82	1.00	1.00	0.57		0.73	

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Appendix A: Pre-assessment scores

From: Huntington, T. (2017). Detailed Action for the Indian Ocean Purse Seine Tuna Fisheries Improvement Project. Poseidon Aquatic Resource Management Ltd, Windrush, Warborne Lane, Portmore, Lymington, Hampshire SO41 5RJ, UK. Issued 31 March 2017.

Performance Indicator (PI)	UoC A Free-school			UoC Associated			IPG priority	
	YFT	BET	SKJ	YFT	BET	SKJ	Critical	Non-critical
1.1.1 Stock status	60	100	100	60	100	100	✓	
1.1.2 Stock rebuilding	<60	80	80	<60	80	80		
1.2.1 Harvest strategy	<60	<60	<60	<60	<60	<60	✓	
1.2.2 HCRs	<60	<60	80	<60	<60	80	✓	
1.2.3 Information and monitoring	60-79	60-79	60-79	60-79	60-79	60-79		✓
1.2.4 Assessment of stock status	80	85	80	80	85	80		
2.1.1 1° species outcome	100	100	100	100	100	100		
2.1.2 1° species management	80	80	80	80	80	80		
2.1.3 1° species information	60	60	60	60	60	60		✓
2.2.1 2° species outcome	<60	<60	<60	<60	<60	<60	✓	
2.2.2 2° species management	<60	<60	<60	<60	<60	<60	✓	
2.2.3 2° species information	60	60	60	60	60	60		✓
2.3.1 ETP species outcome	90	90	90	80	80	80		
2.3.2 ETP species management	90	90	90	90	90	90		
2.3.3 ETP species information	70	70	70	70	70	70		✓
2.4.1 Habitat outcome	90	90	90	60	60	60		✓
2.4.2 Habitat management	80	80	80	70	70	70		✓
2.4.3 Habitat information	100	100	100	70	70	70		✓
2.5.1 Ecosystem outcome	80	80	80	60	60	60		✓
2.5.2 Ecosystem management	<60	<60	<60	<60	<60	<60	✓	
2.5.3 Ecosystem information	60	60	60	60	60	60		✓
3.1.1 Legal & customary framework	60-79	60-79	60-79	60-79	60-79	60-79		✓
3.1.2 Consultation, roles & responsibilities	>80	>80	>80	>80	>80	>80		
3.1.3 Long-term objectives	>80	>80	>80	>80	>80	>80		
3.2.1 Fishery-specific objective	>80	>80	>80	>80	>80	>80		
3.2.2 Decision-making processes	>80	>80	>80	>80	>80	>80		
3.2.3 Compliance & enforcement	60-79	60-79	60-79	60-79	60-79	60-79		✓
3.2.4 Management performance	>80	>80	>80	>80	>80	>80		