# Action Plan for the Indian Ocean Purse Seine Tuna Fisheries Improvement Project (FIP)

December 2016

### Introduction

This document presents an Action Plan for the participants of the Indian Ocean (IO) Purse Seine Tuna FIP. It supersedes the draft action plan presented in the final TUE FIP scoping document (Oct 2016) and incorporates initial comments by World Wide Fund for Nature (WWF), as well as input received by FIP partners prior to, and during, a meeting held in Liverpool, 24 November 2016. A list of the members of the FIP partners who attended the meeting is provided in Appendix 1. Signatories to this Action Plan, by means of signing the FIP Partnership Agreement to which the Action Plan constitutes a schedule, will be considered full participating members of the FIP and will be bound to the actions and commitments detailed under this action plan.

The document is structured as follows: the main report provides brief background into the current management situation for the Indian Ocean Tuna Commission (IOTC), the tuna Regional Fisheries Management Organisation (RFMO) for the Indian Ocean, and the outcome of the pre-assessment and scoping phases which were finalised in October 2016. It then sets out the initial actions proposed for the FIP as Year 0 (zero) actions and also the high level FIP activities relevant to each of the three Marine Stewardship Council (MSC) Principles for Years 1-5. This approach is based on the conclusions of the Stakeholder/Partner meeting held in Liverpool, November 2016. The activities are generally more developed for Year 1 of the five-year project, since the further potential FIP actions for Years 2-5 are clearly subject to RFMO progress (whether due to this FIP or not) and hence subject to change, noting the details are to be modified within the agreed timeframe of the Improved Performance Goal to which they relate.

The FIP Partners will meet again at the end of Year 1 and, at minimum, annually thereafter to review progress and consider and approve the most appropriate future course of actions for the FIP. It is recommended that the Partners prepare the annual detailed action plan for each successive forthcoming year with the assistance of qualified consultants.. To conform with WWF FIP guidelines, however, a high level action plan has been prepared for this document for the full 5 year duration of the FIP.

This report provides the milestones, responsible parties and timelines for the full five years of the FIP for the high-priority Performance Indicators (PIs, those scoring <60) but with medium priority PIs (those scoring 60-79) also added.

### Background on the FIP and Action plan

### Unit of Assessment – species, geographic location and gears covered by the FIP

The MSC defines the unit of certification (UoC) as the target stock(s) combined with the fishing method/gear and practice (including vessel type/s) pursuing that stock, and any fleets, or groups of vessels, or individual fishing operators that are covered by an MSC fishery certificate (MSC-MSCI Vocabulary, 2014).

The FIP encompasses the Indian Ocean tuna stocks of three species: bigeye (Thunnus obesus), skipjack (Katsuwonus pelamis) and yellowfin (Thunnus albacares). Units of certification are given in Table 1.

Species	Bigeye tuna	Skipjack tuna	Yellowfin tuna
	(BET)	(SKJ)	(YFT)a
<b>Geographic Location</b>	Indian Ocean (Indian Ocean Tuna Commission; IOTC)		
Gear &	Purse seine: Free school, Fish Aggregating Devices (FADs), natural		
Method	log and others		
Units of Certification	3		

Table 1. Units of Certification

### **Considerations for Improved Performance Goal (IPG) development**

The basis for the development of the FIP action plan is a preliminary scoring of the fishery under the MSC standard in a scoping study commissioned by TUE and conducted by Poseidon, which was then harmonised with the action plan adopted for the OPAGAC Purse Seine Tuna FIP in September 2016. While there is a high degree of necessary harmonisation between the OPAGAC FIP action plan and the IO Purse Seine Tuna FIP draft action plan, the scoring between the two FIPs do not completely align, particularly for Principles 2 and 3. The scoring information is used to identify where IO purse seine tuna fisheries will need to demonstrate improved performance in order to meet the MSC Fisheries Standard. Observed deficiencies were used to formulate a set of specific milestones individually for each MSC PI scoring below 80 (given in Appendix X). These are labelled by WWF as 'improved performance goals' (IPGs). In alignment with the OPAGAC action plan, IPGs relating to a PI scoring 60-79 in the TUE scoping study were rated 'high priority' and IPGs relating to a PI scoring 60-79 in the TUE scoping study were rated 'medium priority' or in some cases 'low-priority' (see below). The overall approach to writing IPGs follows WWF guidelines on action plans for Fisheries Improvement Projects (WWF 2013).

### **Considerations for action plan development**

The action plan and activities have been developed based on the milestones set out in the IPGs, but focus on the concrete actions to be taken by the FIP rather than the measure of overall progress in the management of each fishery. The actions cross-reference to each IPG, to ensure that the FIP is taking action to address each individual IPG. (The exception to this

is the low-priority IPGs, for which no concrete actions have been defined for the meantime, although the FIP may choose to do so at a later date).

#### **Initial Actions**

The FIP Partners have agreed to incorporate the development of detailed actions (Foundational Commitments) and associated costings by qualified consultants as part of the initial FIP actions and in order to avoid delaying the active phase of the FIP it is highly recommended that immediate steps are taken to tender for the consultant with the aim of developing the detailed actions by the end of February 2017, at which time the OPAGAC FIP and this one should be fully aligned.

### **Current status of fisheries**

This section provides a brief summary of the situation as of December 2016: status of each stock, progress towards a harvest strategy framework, MSC-certified fisheries and their conditions.

The results of the most recent stock assessments for IOTC stocks are summarised in Figure 1. Most notably the estimate of stock status for yellowfin remains overfished following an update to the assessment in 2016).



**Figure 1.** Combined Kobe plot for bigeye tuna (black: 2016), skipjack tuna (brown: 2014), yellowfin tuna (grey: 2016), and albacore tuna (dark grey: 2016) showing the estimates of current stock size (SB) and current fishing mortality (F) in relation to optimal spawning stock size and optimal fishing mortality. Cross bars illustrate the range of uncertainty from the model runs with a 80% CI (*Source: Report of the Nineteenth Session of the IOTC Scientific Committee, IOTC, Dec, 2016*).

IOTC's Conservation and Management Measure (CMM) 15-10 (replacing 13-10) sets interim target and limit reference points and a 'decision framework' which sets management

objectives (based on the interim reference points) and requires the Scientific Committee to propose harvest control rules for evaluation by the Commission. CMM 15-11 (replacing 13-11) requires Contracting Parties and Cooperating Non-Contracting Parties (CPCs) to limit capacity, including fish aggregating devices (FADs). The 2013 versions of these are taken into account in the pre-assessment, and the updated versions are not greatly different. In 2016, IOTC adopted an interim rebuilding plan for the yellowfin stock (CMM 16-01). IOTC also adopted a formal interim harvest control rule for skipjack (CMM 16-02). These have been included in the FIP action plan.

The only Indian Ocean tuna fishery which has received MSC certification is the Maldives pole and line fishery – Maldives skipjack remains certified following the most recent surveillance audit (April 2016) but their yellowfin fishery's certification is currently suspended.

### Summary outcome of pre-assessment

The summary outcome of the pre-assessment scores for this fishery (Poseidon 2016) are given below (Table 1; Table 2). It can be seen that all Units of Certification fail under both Principle 1 (target species stock status) and Principle 2 (ecosystems), but might achieve a conditional pass under Principle 3 (management).

The FIP primarily uses the Poseidon pre-assessment scoring information to identify where the fisheries will need to demonstrate improved performance in order to meet the MSC Standard for Responsible Fisheries. These deficiencies are used to formulate a set of 'Improved Performance Goals (IPGs). However, where the OPAGAC FIP has an additional Principle 1 or 3 PI score requiring a high or medium priority IPG, those IPGs are also included in the IO Purse Seine Tuna FIP as part of working towards harmonisation and to create a critical mass of partners working towards the same outcomes. The additional IPGs are marked with an asterisk in Table 2 below. Principle 2 is not harmonised in this way as Principle 2 issues are very complex and influenced by fleet specific operations and available information, and will therefore take a longer period to harmonise. The OPAGAC FIP notes: There are some differences in scoring of P2 between different pre-assessments and FIPs ([OPAGAC,] Seychelles, Ecuador). P2 scoring (as P1 and P3) will be reviewed and revised annually on the basis of new information (from this and the other FIPs) as well as progress against milestones.

There are two classes of IPGs as follows:

- High Priority IPGs: For those PIs that scored less than 60 in the pre-assessment (e.g., a fail)
- Medium and Low Priority IPGs: For those PIs that scored between 60 and 79 in the pre-assessment (e.g., a possible conditional pass)

Table 1: Scoring and Identification of Improved Performance Goals from the preassessment

Performance Indicator (PI)	Species		IPG allocation		
	YFT	BET	SKJ	High priorit Y	Med/Lo w priority
1.1.1 Stock status	60	100	100		х
1.1.2 Stock rebuilding	<80	80	80	х	
1.2.1 Harvest strategy	<60	<60	<60	х	
1.2.2 HCRs	<60	<60	80	х	
1.2.3 Information and monitoring	80	80	80		X *
1.2.4 Assessment of stock status	80	85	80		
2.1.1 1° species outcome	100				
2.1.2 1° species management	80				
2.1.3 1° species Information	60			х	
2.2.1 2° species outcome		<60		х	
2.2.2 2° species management	<60		X		
2.2.3 2° species information		60			х
2.3.1 ETP species outcome	80				
2.3.2 ETP species management	90				
2.3.3 ETP species information	70			x	
2.4.1 Habitat outcome		60			x

2.4.2 Habitat management	70		х
2.4.3 Habitat information	70		х
2.5.1 Ecosystem outcome	60		х
2.5.2 Ecosystem management	<60	Х	
2.5.3 Ecosystem information	60		х
3.1.1 Legal & customary framework	60-79		х
3.1.2 Consultation, roles & responsibilities	>80		X *
3.1.3 Long-term objectives	>80		X *
3.2.1 Fishery-specific objective	>80		
3.2.2 Decision-making processes	>80		
3.2.3 Compliance & enforcement	60-79		х
3.2.4 Management performance	>80		

\* Additional Principle 1 or 3 IPGs resulting from harmonisation with the OPAGAC FIP.

Purse seine	Skipjack tuna Yellowfin	1 Stock	2 / 5	Fail
		2 Ecosystem	3 / 15	Fail
		3 Management	0/7	Conditional pass
		1 Stock	2 / 5	Fail

Table 2: The scoring can be summarised as follows:

tuna	2 Ecosystem	3 / 15	Fail
	3 Management	0 / 7	Conditional pass
Bigeye tuna	1 Stock	2 / 5	Fail
	2 Ecosystem	3 / 15	Fail
	3 Management	0 / 7	Conditional pass

### **Action Plan**

#### **Overview of the Action Plan:**

#### Foundational Commitments

The Action Plan incorporates several Foundational Commitments agreed to by the FIP Partners, the completion of which is critical and a prerequisite to the implementation phase of the FIP. These actions are included under IPG 0 (zero) and include:

- 1. Seeking a consultant, funded by initial Partner contributions, to begin work on detailed input to the Action Plan and associated costings estimates for Year 1 and ensure alignment, to the extent possible, with existing relevant Indian Ocean Tuna FIPs.
- 2. Form a stakeholder/technical advisory group (SAG)
- 3. Newly formed SAG shall evaluate and sign off the detailed Action Plan and costings for Year 1
- 4. The FIP Partners to agree on additional funding to meet the cost estimates from 3.

#### There are seven High Priority Improved Performance Goals:

1. Stock rebuilding (1.1.2): For the yellowfin tuna stock, there is evidence of stock rebuilding within a specified timeframe.

Stock status (1.1.1) would have a medium priority if scored alone, however for practicality it is combined with 1.1.2: The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing.

- 2. Harvest strategy (1.2.1): There is a robust and precautionary harvest strategy in place.
- 3. Harvest Control Rules (1.2.2): There are well defined and effective harvest control rules (HCRs) in place.

- 4. Secondary species outcome (2.2.1): The UoA aims to maintain secondary species above a biological based limit and does not hinder recovery of secondary species if they are below a biological based limit.
- 5. Secondary species management (2.2.2): There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species; and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch.
- 6. Ecosystem management (2.5.2): There are measures in place to ensure the UoA does not pose a risk of serious or irreversible harm to ecosystem structure and function.

Note: This IPG also incorporates Medium Priority IPGs:

Ecosystem outcome (2.5.1): The UoA does not cause serious or irreversible harm to the key elements of ecosystem structure and function, and Ecosystem information (2.5.3): There is adequate knowledge of the impacts of the UoA on the ecosystem.

Habitat outcome (2.4.1): The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area(s) covered by the governance body(s) responsible for fisheries management.

Habitat management (2.4.2): There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats.

Habitat information (2.4.3): Information is adequate to determine the risk posed to the habitat by the UoA and the effectiveness of the strategy to manage impacts on the habitat.

### There are five Medium (and Low) Priority Improved Performance Goals:

- 7. Information and Monitoring (1.2.3): Relevant information is collected to support the harvest strategy.
- 8. Primary species Information (2.1.3): Information on the nature and amount of primary species taken is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage primary species.

Secondary species information (2.2.3): Information on the nature and amount of secondary species taken is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage secondary species.

Endangered, Threatened and Protected species information (2.3.3): Relevant information is collected to support the management of UoA impacts on ETP species.

- 9. Legal and customary framework (3.1.1): The management system exists within an appropriate and effective legal and/or customary framework.
- 10. Governance and policy Consultation, roles and responsibilities (3.1.2): The management system has effective consultation processes that are open to interested and affected parties. The roles and responsibilities of organisations and

individuals who are involved in the management process are clear and understood by all relevant parties.

- 11. Governance and policy Long-term objectives (3.1.3): The management policy has clear long-term objectives to guide decision- making that are consistent with MSC fisheries standard, and incorporates the precautionary approach.
- 12. Compliance and enforcement (3.2.3; low priority): Monitoring, control and surveillance mechanisms ensure the management measures in the fishery and enforced and complied with.

IPG	Target Spp	Unmet Scoring Issues	Outcomes
1	YFT	Stock status (1.1.1) and Stock rebuilding (1.1.2) 1.1.1 (b) Stock status in relation to achievement of Maximum Sustainable Yield (MSY)	The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing; and there is evidence of stock rebuilding within a specified timeframe.
		1.1.2 (a) Rebuilding timeframes	By the fourth year there shall be evidence that the Indian Ocean yellowfin tuna stock is at a level which maintains high productivity and has a low probability of recruitment overfishing (i.e. it is likely the stock is above the limit reference point), or there is evidence of stock rebuilding within a specified timeframe (the shorter of 20 years or 2 times its generation time).
2	YFT; BET; SKJ	Target species harvest strategy (1.2.1)	There is a robust and precautionary harvest strategy in place.
		<ul> <li>(a) Harvest strategy design</li> <li>(b) Harvest strategy evaluation (YFT only)</li> <li>(c) Harvest strategy monitoring</li> </ul>	By the end of the third year for skipjack and fourth year for yellowfin and bigeye, there shall be robust and precautionary harvest strategies in place. For each strategy, there shall be a clear description of: 1) how the design makes the harvest strategy responsive to the state of the stock; and 2) how elements of the harvest strategy work together towards achieving stock management objectives. The harvest strategy must be constructed such that its effectiveness can be empirically evaluated.
			By the end of the fifth year, a study has assessed whether there is evidence that the harvest strategy is achieving its stated objective. That evidence shall derive from

#### Table 3: Improved Performance Goals

			testing and evaluation which considers the full interactions between different components of the harvest strategy, use of information, and the assessment of stock status.
3	YFT; BET; SKJ	Harvest Control Rules (1.2.2) (a) HCRs design and application (YFT and BET only) (b) HCRs robustness to uncertainty (c) HCR evaluation	There are well defined and effective harvest control rules (HCRs) in place. By the end of the second year for skipjack or third year for yellowfin and bigeye, appropriately precautionary harvest control rules for tuna stocks that are in place that are expected to reduce the exploitation rate as the limit reference point is approached. The selection of harvest control rules shall take into account the main uncertainties. By the end of the fifth year, there shall be evidence that the tools used or available to implement HCRs for bigeye, yellowfin and skipjack tuna are appropriate and effective in controlling exploitation.
4	YFT; BET; SKJ	Secondary species outcome (2.2.1) (a) Main secondary species stock status	The UoA aims to maintain secondary species above a biological based limit and does not hinder recovery of secondary species if they are below a biological based limit. By Year 2 management measures are in place for silky shark and for other main secondary species by Year 3 that ensure that main secondary species (see below) are highly likely to be above biologically-based limits by year 5.
5	YFT; BET; SKJ	Secondary species management (2.2.2) (a) Management strategy (b) Management strategy evaluation (c) Management strategy implementation (d) Shark finning (e) Review of alternative measures to minimise mortality of unwanted catch	There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species; and the UoC regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch. By Year 4 management measures for main secondary species are in -place and reviewed for their effectiveness.
6	YFT; BET; SKJ	Ecosystem outcome (2.5.1), Ecosystem management (2.5.2) & Ecosystem information (2.5.3); Habitat outcome (2.4.1), Habitat management (2.4.2), & Habitat information (2.4.3)	The UoA does not cause serious or irreversible harm to the key elements of ecosystem structure and function. There is adequate knowledge of the impacts of the UoA on the ecosystem. The UoA does not cause serious or

		High priority 2.5.2 (a) Management strategy in place (b) Management strategy evaluation (c) Management strategy implementation <i>Medium priority:</i> 2.5.1 (a) Ecosystem status 2.5.3 (b) Investigation of UoA	irreversible harm to vulnerable marine habitat structure and function, with a focus on preventing the loss of drifting FADs and their subsequent damage to coral reefs and other VMEs. There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats. Information is adequate to determine the risk posed to the habitat by the UoA and the effectiveness of the strategy to manage impacts on the habitat.
		2.4.1 (b) VME habitat status 2.4.2 (a) Management strategy in place (b) Management strategy evaluation (c) Management strategy implementation (d) Compliance with management requirements and other MSC UoAs'/non-MSC fisheries' measures to protect VMEs 2.4.3 (a) Information quality (b) Information adequacy for assessment (c) Monitoring	By the end of Year 3, additional data and information gathering initiatives, if necessary, formally agreed and in place. By Year 4: - key risks are identified and management measures, if necessary, are in place. a fully documented FAD registration system is in place that prevents the loss of FADs and ensures their recovery when not under control and fishing. the greater control and responsible operation of FADs has reduced the likelihood of damage to VMEs to a level where there is not serious or irreversible harm.
7	YFT; BET; SKJ	Information and Monitoring (1.2.3) (c) Comprehensiveness of information	To ensure that relevant information is collected to support the harvest strategies for the Indian Ocean tropical tuna stocks. By the end of the fourth year, there must be improved information on all other fishery removals of Indian Ocean bigeye tuna, yellowfin tuna, and skipjack tuna stocks. Improvement is towards sufficient range, monitoring and comprehensiveness of information to support the harvest strategies for each of those stocks. This may include the estimation of alternative catch scenarios and use of this information in stock assessments, as a way to incorporate a measure of uncertainty in catch estimates in stock assessments.
8	YFT; BET; SKJ	Primary and ETP species Information (2.1.3, 2.2.3 & 2.3.3) 2.1.3 (a) Information adequacy for assessment of impact on main	Information on the nature and amount of primary species taken is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage primary and secondary species; and

		species (b) Information adequacy for assessment of impact on minor species (c) Information adequacy for management strategy for main primary species 2.2.3 (a) Information adequacy for assessment of impact on main secondary species	Relevant information is collected to support the management of the UoA and enhancement activities impacts on ETP species. By the end of Year 2 annual bycatch reporting is being fully utilised for secondary species stock assessment and management purposes and any information gaps are identified and addressed.
		<ul><li>2.3.3 (a) Information adequacy for assessment of impacts of ETP species (b) Information adequacy for management strategy on ETP species</li></ul>	By the end of the third year there shall be sufficient quantitative information to objectively evaluate whether each FIP purse seine fleet's operations are likely to impact on primary, secondary species, in particular populations of silky sharks and whale sharks, and ETP species, either through capture or FAD entanglement.
9	YFT; BET; SKJ	Legal and Customary Framework (3.1.1) (a) Compatibility of laws or standards with effective management	The management system exists within an appropriate and effective legal and/or customary framework.
			Any major gaps in national legislation of IOTC CPCs to deliver management outcomes consistent with MSC Principles 1 & 2 are being addressed by the end of Year 4.
10	YFT; BET; SKJ	Governance and policy – Consultation, roles and responsibilities (3.1.2)	The management system has effective consultation processes that are open to interested and affected parties.
		(a) Roles and responsibilities	By the end of the third year, there shall be a clear definition of the roles and responsibilities of all IOTC stakeholders.
11	YFT; BET; SKJ	Governance and policy – Long-term objectives (3.1.3) (a) Objectives	The management policy has clear long-term objectives to guide decision - making that are consistent with MSC fisheries standard, and incorporates the precautionary approach.
			By the end of the fourth year, the precautionary approach and the ecosystem approach to management will be explicit in IOTC's long-term objectives
12	YFT;BET:SKJ	(a) MCS implementation (b) Sanctions	Monitoring, control and surveillance mechanisms ensure the management measures in the fishery and enforced and

	(c) Compliance	complied with.
	(u) systematic non-compliance	By the end of the fourth year, there shall be evidence that the IOTC has begun to address issues of non-compliance with IOTC management measures through the use of sanctions. Initial efforts shall focus on members providing timely and accurate catch data to the IOTC Secretariat

### Action Plan to address High Priority Improved Performance Goals

The following section examines the high priority IPGs (e.g., those that scored <60 in the preassessment) and establishes (i) the key Scoring Issues (SIs) to be addressed by the FIP. These are laid out in a simple tabular format the broadly follows the MSC-recommended approach to FIP planning (MSC, 2013). The table is made of the following components:

- IPG (Improved Performance Goal) title: a summary of the Improved Performance Goal that reflects a pass (e.g., achieved SG 80 or higher) for the overall Performance Indicator to be met.
- Target species: the target species for the UoC whose stock, ecosystem impacts or management need to be addressed in reaching the goal. This may be one or more species. target species is only assigned for Principle one PIs.
- Unmet Scoring Issue: each Performance Indicator is made up of one or more Scoring Issues that might or might not need to be addressed in the Action Plan, depending on their contribution to the overall PI score. In some cases, even if the overall PI scores less than 60, an individual SI might score >80 and thus not need addressing in the Action Plan.
- Milestones: what is expected to be achieved through the completion of activities within the timeframe.
- Activities: the action/s required to raise the overall PI score to 80 or more. These
  will be combined to form the overall Action Plan during detailed FIP design and
  planning. These are usually based upon the SG 80 for the SI concerned, but in some
  cases where there is no SG 80, it will be based upon SG 60 or SG 100 (indicated in
  parentheses in the table).
- Action lead: denotes the organisation that will take responsibility for the action (or actions) at the SI level.
- Action partners: denotes the other organisation(s) that will be directly involved in implementing an action (or actions) at the SI level.
- End date: the timescale for achieving the different actions. They generally denote the end of a year, e.g. year 1 of the FIP.

NOTE: Activities, action lead and partners, and end dates are generally only provided for Year 1 of the FIP for Principles 1 and 3. As explained above, the out years of the FIP are more complete for Principle 2. Only Year 1 activities are numbered.

## Action Plan

Year	IPG	Action	Outcomes	Action Leads
1	0	0A: Fund and engage a consultant to coordinate and draft detailed input to the Action Plan and associated costings estimates for Year 1 and ensure alignment, to the extent possible, with existing relevant Indian Ocean Tuna FIPs.		FIP Executive
		0B: Form a stakeholder/technical advisory group (SAG)		FIP Executive
		0C: Newly formed SAG shall evaluate and sign off the detailed Action Plan and costings for Year 1		FIP Executive
		0D: The FIP Partners to agree on additional funding to meet the cost estimates from 0C.		FIP Executive
	1	1A: Simulations conducted to evaluate likely rebuilding timeframe given current and future projected level of catches under 16-01, by SC or other appropriate scientific body, showing likely rebuilding times under different scenarios	A rebuilding timeframe is specified for the YFT stock that is the shorter of 20 years or 2 times its generation time (SG 60).	Specific action leads and costings to be decided by independent consultant/s and signed off by SAG per IPG 0 above
		1B: Robust, comprehensive YFT rebuilding strategy developed. on the basis of 2A.		Coastal/Flag States
		1C: Follow harvest strategy activities incorporating requirements for rebuilding of the yellowfin stock (IPG 3).		Coastal/Flag States
		1D: FIP partners ensure compliance with Res 16/01	Stock rebuilding strategy implemented.	Coastal/Flag States
	2	2A: Evaluate outcome of Management Procedures Dialogue meeting (MPD03; May 2016)	Strategic options for controlling SKJ, YFT and BET tuna harvest developed:	Coastal/Flag States
		2B: Engage with EU/Seychelles and Mauritius scientists and delegations to ensure as far as possible that the Scientific Committee provides advice to the Commission as required by Res. 15-10.	<ul> <li>Outcome of Management Procedures</li> <li>Dialogue meeting (MPD03) evaluated</li> <li>SC provides advice to the Commission as</li> <li>required by Resolution 15-10</li> <li>Implementation of Res. 15-10 underway</li> </ul>	Project Management Team, WWF
		<ul> <li>2C: Schedule regular meetings with relevant government stakeholders (delegation members) (e.g. 3-4 times per year), with the following purpose: <ul> <li>continuing to emphasise the importance of the harvest strategy process and yellowfin stock rebuilding to the FIP industry partners and other fisheries in the Indian Ocean</li> <li>proposing practical ways that the governments could support the process; e.g. via liaison to support capacity-building with coastal states, or other activities</li> <li>reporting regularly to the delegations so that the they are kept informed of current ideas and proposals at IOTC and within coastal states where the industry partners have links.</li> </ul> </li> </ul>		Project Management Team, WWF

		2D: Prior to IOTC plenary 2017 produce a formal briefing document regarding the status of the harvest strategy / stock rebuilding for each stock, the objective of IOTC, the position of key players and likely upcoming proposals, and the outcome preferred by the FIP, to brief the EU/governments and other stakeholders.		Project Management Team, Coastal/Flag States
		2E: Prepare a position paper to submit to plenary in support of making significant progress in developing a harvest strategy and control rules for yellowfin and bigeye, including rebuilding for the yellowfin stock, as well as tools for the implementation of the skipjack HCR already agreed. Work with the EU/governments delegations to obtain their support for the paper, as well as that of other member states as far as possible.		Project Management Team, Coastal/Flag States
		2F: Promote through the governments a process of consultation to inform IOTC members about best practice for harvest strategy and stock rebuilding, in order to build consensus towards support of proposals of management measures prior to IOTC Sessions.		Coastal/Flag States
		2G: Start discussions with ABNJ about working with them on capacity building (regarding harvest strategy and control rules) in the inter-sessional period, if this is considered to be required.		Project Management Team
		2H: Evidence of project initiation may include, for example, the proposal to IOTC of a work plan and timetable for the implementation of 15-10 for each stock (timetable to be consistent with FIP milestones and the outcome of MPD03 and MPD04 if there is one).	The development of harvest strategies for the stocks that fulfils the MSC specifications (e.g. response to stock status, explain how elements work together) commenced.	Coastal/Flag States
		2I: Intersessional discussions to progress the harvest strategies between like-minded IOTC members and organisations, and formally at the relevant IOTC meetings.	Meeting records reflect progression of the harvest strategies project.	Coastal/Flag States, WWF
	3	3A: Intersessional discussions on HCRs and tools between like-minded IOTC members and organizations and formally at meetings at each IOTC meeting.	IOTC and other meeting records reflect discussions.	Coastal/Flag States, WWF
		3B: Include in the proposed work plan for the implementation of Res. 15-10 (or other proposal for a harvest strategy) (see IPG 3) the development, evaluation and agreement of a HCR for yellowfin and bigeye, alongside the development of the tools required for implementation.	Work plan and timetable for the implementation of Res. 15-10 submitted to IOTC.	Coastal/Flag States
		3C: Identify candidate HCRs and tools for yellowfin and bigeye	IOTC has identified tools and started their development	Project Management Team
		3D: Present a paper regarding the pending assessment to the working parties and groups and SC associated with the HCRs development, MSE.		Project Management Team
		3E: Candidate HCR and tools evaluated for effectiveness and gaps. If undertaken internally, there shall be evidence of external review by a suitably qualified independent expert	Candidate HCR and tools evaluated for effectiveness and gaps.	Project Management Team
		3F: Discussions held regarding the assessment of HCRs and tools for all stocks, including how to address the assessment's findings have occurred through inter-sessional discussions and formally	Meeting records show evidence of ongoing discussions regarding the assessment of HCRs and tools for all stocks.	Coastal/Flag States, WWF

		through the IOTC meeting process.		
	4	4A: 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.		Fleets
		4B: 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.		Fleets
	5	5A: Conduct risk assessment to assess likelihood of shark finning within the UoA. Assess effectiveness of NPOAs for shark within the fleets.	Determine the likelihood that shark finning is occurring in the fleets.	Project Management Team
		5B: Develop a fleet-level generic bycatch reduction strategies to minimise bycatch levels, especially for associated sets.	Alternative measures to minimise unwanted catch are put in place, especially for associated fishing.	Fleets
	6	6A: Commission an independent evaluation (via a scientific body or consultant or other suitable independent expert) of minimum and best practice requirements for data on FADs (deployment, retrieval, tracking, loss, types, catches and other relevant issues).	Evidence of engagement with relevant stakeholders in each ocean (other purse seine companies; FAD working groups) to start a process towards more transparency around FADs at each RFMO; specifically the number of FADs deployed and retrieve, the movement of FADs and the loss of FADs	Project Management Team
		6B: Commission an independent evaluation (via a scientific body or consultant or other suitable independent expert) of the ecological impact of relevant types of FADs, including an analysis of the robustness of the data available, and research gaps, as well as best practice in the mitigation of these impacts		Project Management Team
		6C: Start work with relevant stakeholders (other purse seine companies; FAD working groups) to start a process towards more transparency around FADs based on the evaluation from 6A; and adoption of management measures based on the evaluation from 6B.		Fleets
		6D: FAD management plan: A FAD registration, monitoring and reporting system designed. there is need for input to ensure that these are implementable and that information is provided that supports this. within the existing structure.	Formal commitment by each fleet to a timetable for increased transparency on FADs, FAD management and FAD fate, in the context of the 'purse seine FAD group', as part of a FAD management plan or otherwise.	Fleets
		6E: Make a formal commitment to promote increased transparency by RFMO members on FADs, FAD management and FAD fate, based on the evaluation of data requirements from 6A, as part of a FAD management plan or otherwise.		Coastal/Flag States
		6F: Establish a framework by which data on FAD movement and the total number of FADs can be analysed by an independent body without prejudice to each fleet's commercial interests.	Framework by which data on FAD movement and the total number of FADs can be analysed by an independent body without prejudice to each fleet's commercial interests	Project Management Team
		6G: Research into different designs of FADs including non-entangling and biodegradable, based on the evaluation in 6B.		Fleets
		6H: Research on the impact of FADs on sensitive marine habitats.	Research projects on reducing the impact of FADs ongoing or commenced.	Fleets, Coastal/Flag States
		6I: Research and retrieval of 'ghost nets' from islands / reefs commenced or ongoing.		Fleets

		6J: The FIP participants develop a strategy which addresses the main impacts of the Indian Ocean purse seine fisheries on the ecosystem. Record anything identified that demonstrates reduction in ecosystem impact. Feed this into best practices. This strategy informs dialogues with IOTC and other tuna fishing sectors to ensure regional ecosystem impacts are reduced.	Contribute to the development of an ecosystem- based strategic approach to tuna fisheries management in the Indian Ocean. Includes an information gaps analysis to be addressed for PI 2.5.3	FIP Executive
	7	7A: Engage with the SC and stock working groups to evaluate key data gaps.	The range of information available for stock assessment of Indian Ocean bigeye, yellowfin and skipjack tuna stocks, particularly information on fishery removals, is evaluated in relation to the information required to assess the stock status and support the harvest strategy. Activities required for improvement, if any, are evaluated.	Coastal/Flag States, WWF
	8	8A: Support for data gathering programmes: observer training, observer support, electronic observation on board (some form of observation for all trips).	Additional observer training provided as required, via workshops or materials; some form of observation for all trips (observer or electronic).	Coastal/Flag States, Fleets
		8B: Start process of developing observation system for all trips (observer or electronic)	Process of developing observation system for all trips (observer or electronic) commenced.	Coastal/Flag States, Fleets
		8C: Observer data consolidation and quality control.	Observer data is compiled and consolidated in a database or some other suitable form, so that it can be quality-controlled and analysed	Coastal/Flag States
		8D: Bycatch database fully operational, including timely vessel / observer reporting, data input and quality control.	Full analysis of non-target catch levels and their impact on primary (e.g. managed) species catches	Coastal/Flag States
	9	9A: Request the EU, Seychelles, Mauritius and/or other relevant stakeholders to develop a strategy for improving the IOTC management framework [combined with IPGs 17 and 18]	Evidence of engagement with other like-minded stakeholders to develop a strategy for improving the IOTC management framework.	FIP Executive
		10B: Request the EU, Seychelles, Mauritius and/or other relevant stakeholders to present a paper(s) to the relevant IOTC meeting for IOTC members setting out clearly the roles and responsibilities of IOTC bodies (Secretariat, Standing Committees etc.) and members.		FIP Executive
		10C: Intersessional discussions held on implementing the strategy, including on roles and responsibilities, between like-minded IOTC members and organizations and formally at meetings at each IOTC meeting.	Record of IOTC and other meetings to reflect discussions	Coastal/Flag States, WWF
	10	10A: Request the EU, Seychelles, Mauritius and/or other relevant stakeholders to develop a strategy for improving the IOTC management framework [combined with IPGs 16 and 18].	Evidence of engagement with other like-minded stakeholders to develop a strategy for improving the IOTC management framework. E.g. Record of IOTC and other meetings to reflect discussion.	FIP Executive
		10B: Request the EU, Seychelles, Mauritius and/or other relevant stakeholders to propose a draft Resolution, Recommendation or other suitable paper to the IOTC Secretariat which would incorporate the ecosystem approach to management explicitly in IOTC's long-term objectives.		FIP Executive
		10C: Request the EU, Seychelles, Mauritius and/or other relevant stakeholders to present a paper to IOTC on the application of the precautionary approach in relation to IOTC decision-making.		FIP Executive

		10D: Inter-sessional discussions held on implementing the strategy, including on long-term objectives, between like-minded IOTC members and organizations and formally at meetings at each IOTC meeting.		Coastal/Flag States, WWF
	11	11A: Request the EU, Seychelles, Mauritius and/or other relevant stakeholders to develop a strategy for improving the IOTC management framework [combined with IPGs 16 and 17].	Evidence of engagement with other like-minded stakeholders to develop a strategy for improving the IOTC management framework.	FIP Executive
			Intersessional discussions held on implementing the strategy, including on sanctions, between like-minded IOTC members and organizations and formally at meetings at each IOTC meeting.	Coastal/Flag States, WWF
2	1		IOTC has adopted a robust, comprehensive rebuilding strategy for the Indian Ocean yellowfin stock, either stand-alone or as part of the overall harvest strategy for yellowfin	Coastal/Flag States
	2		Written harvest strategies drafted and reviewed. If developed internally, evidence of review by a suitably qualified independent expert	Coastal/Flag States, Project Management Team
	3	Discussions held regarding the assessment of HCRs and tools for all stocks, including how to address the assessment's findings have occurred through inter-sessional discussions and formally through the IOTC meeting process.	Meeting records show evidence of ongoing discussions regarding the assessment of HCRs and tools for all stocks.	Coastal/Flag States, WWF
		Candidate HCR and tools evaluated for effectiveness and gaps.	If undertaken internally, there shall be evidence of external review by a suitably qualified independent expert	Project Management Team
		Options for HCRs and tools for managing YFT and BET yellowfin and bigeye tuna harvest developed.	Evidence of continued progress (consideration and refinement e.g. through the Management Strategy Evaluation process) of the development of the draft harvest HCRs and tools for yellowfin and bigeye.	Coastal/Flag States
		The main uncertainties are considered and discussed inter-sessionally and formally though IOTC meeting processes. IOTC record reflect discussions and progress.	Meeting records show evidence of ongoing discussions regarding the assessment of HCRs and tools for all stocks.	Coastal/Flag States, WWF
			Comparison of likely performance of Draft HCRs and tools.	Project Management Team
		Discussions held regarding the assessment of HCRs and tools for all stocks, including how to address the assessment's findings have occurred through inter-sessional discussions and formally through the IOTC meeting process.	Evidence of continued work within the IOTC system to implement the work plan to improve HCRs and tools.	Coastal/Flag States, WWF
		<ul> <li>Industry partners shall provide a report summarizing the progress made in Years 1-2, summarising progress in:</li> <li>a) development of new tools or improving existing ones;</li> <li>b) assessment of the effectiveness of those tools (MSE);</li> <li>c) implementation of new tools; and</li> <li>d) the specific actions that were taken (e.g. measures)</li> </ul>	Progress on improving the development of new tools and improved effectiveness of existing tools encouraged and monitored.	FIP Executive
	4		Adoption of specific management measures to address the bycatch of silky shark by all fisheries in the UoA.	Fleets
	5	Ensure that shark finning does not take place in the fleets.	Measures have been put in place, if required, to ensure that shark finning does not take place.	Fleets

		Ensure that alternative measures to minimise unwanted catch are put in place, especially for associated fishing.	Implemented fleet level generic bycatch strategies.	Fleets
	6	Research into eco-sounder and sonar discrimination of schools below FADs – for reduction in catch of juvenile yellowfin and bigeye.	Report on beached FADs and mitigation of beaching impacts (external or internal / peer reviewed) published	Coastal/Flag State, Fleets
			Sonar discrimination of schools below FADs – reduction in proportion of juveniles in yellowfin and bigeye landings - research commenced	Fleets
		Ensure accountability through independent verification and tracking of all drifting FADs to assist their responsible management and decommissioning.	An independent FAD monitoring program is agreed by all FIP participants and a registration system is in place.	FIP Executive
	8	Observer data analysed to determine level of interactions, entanglements, captures, releases and mortality of silky sharks and whale sharks.	Analysis report or presentation produced, and if internal peer-reviewed.	Coastal/Flag States
		Conduct gaps analysis of bycatch reporting system to ensure it is adequate for management purposes.	Gaps analysis completed and recommendations made for upgrading data collection, if necessary	Project Management Team
		Annual bycatch reporting, with fishing mortality information being fully utilised for primary species stock assessment and management purposes.	Preparation of a scientific report on the likely mortality of ETP species after their release from fishing gear, and an analysis of the likely impact of such mortality on Indian Ocean populations.	Project Management Team
		Quantify the level of post-release mortality and the consequence for the status of ETP species.		Fleets
	9	An independent review determines the extent and effectiveness of national legislation and identifies major legislative gaps in national efforts to comply with IOTC CMMs.	Deficiencies in national legislation that create barriers to the deliver management outcomes consistent with MSC Principles 1 and 2, identified	FIP Executive
	10	Paper/s reviewed and revised if necessary.	Intersessional discussions held on implementing the strategy, including on roles and responsibilities, between like-minded IOTC members and organizations and formally at meetings at each IOTC meeting.	Coastal/Flag States
	12		The IOTC has: • considered a proposed strategy to strengthen compliance by development of sanctions for any instances where members repeatedly fall short in complying with IOTC management measures • agreed to a strategy enhance the reporting of member's non-compliance with management measures by the IOTC, including the quality of member's reporting.	Coastal/Flag States
			The IOTC has commenced a process to: • develop sanctions for the IOTC • enhance (in-depth and critical) reporting of non-compliance.	Coastal/Flag States
3	1	Support the ability of CPCs to meet IOTC obligations with respect 16/01 and other data reporting	Stock rebuilding strategy implemented.	Coastal/Flag States
			Fishing mortality F is <fmsy< td=""><td>Project Management Team</td></fmsy<>	Project Management Team
	2		Written harvest strategies drafted and reviewed. If developed internally, evidence of review by a suitably qualified independent expert.	Project Management Team

		Interim harvest strategy proposed to IOTC and adopted. The proposed Harvest Strategy includes the requirement to evaluate its effectiveness within specified timeframe.	Coastal/Flag States
3		IOTC has adopted formal scientifically-based appropriately precautionary harvest control rules for bigeye and yellowfin stocks as part of the harvest strategy implementation approach (see IPG 3).	Coastal/Flag States
		Progress on improving the development of new tools and improved effectiveness of existing tools encouraged and monitored.	Coastal/Flag States
		There is evidence of continued work within the IOTC system to require the development and implementation of a plan to improve the effectiveness of the existence and use of tools to implement harvest control rules.	Project Management Team
4		Adoption of specific management measures to address the bycatch of main secondary species by all fisheries in the UoA.	Coastal/Flag States
5	Assess and test that the management measures in IPG 5 will be effective.	Management measures and outcome indicators reviewed for likely effectiveness.	Project Management Team
6	Ensure accountability through independent verification and tracking of all drifting FADs to assist their responsible management and decommissioning.	FIP participants develop a strategy to ensure FADs are under control at all times.	Fleets
	All FADs operated by FIP participants are tracked and able to be verified by an independent FAD monitoring program, losses are registered and best practical efforts made for their location and recovery		Fleets
	Evaluation of results, identification and implementation of additional mitigation measures, if required.	Report on the likely habitat impacts of FADs and how they could be mitigated published	Fleets
	Publish and/or present at RFMO meetings the results of the actions specified above, including recommendations on minimum standards for data gathering and compilation, and measures put in place to mitigation impacts.	Information published or made available to each RFMO on number of FADs deployed, fate of FADs, movement of FADs.	Fleets
	Information gaps analysis in 7B on the main impacts the UoA on key ecosystem elements evaluated and addressed, where necessary	Additional data and information gathering initiatives, if necessary, formally agreed and in place	Project Management Team
	Risk assessment of the use of FADs and their possible impact on key elements underlying ecosystem structure and function, and habitat damage	Credible and peer reviewed risk assessment published.	Project Management Team
		IOTC puts into place management measures, as necessary, to implement an ecosystem approach to fisheries management.	Coastal/Flag States
7		The IOTC has a workplan to improve the information available and/or estimates of uncertainty on all other fishery removals from the stock in the Indian Ocean.	Coastal/Flag States
8	Observer data analysis (all oceans; sharks, turtles and cetaceans) and dissemination of results to RFMOs as necessary.	Options for mitigation of impacts on silky sharks and whale sharks evaluated and presented in reports or presentations.	Coastal/Flag States

			Summary report prepared setting out whether each purse seine fleet's operations are likely to have effects on silky shark and whale shark populations, via direct capture or FAD entanglement. and if so what mitigation measures have been put in place.	Project Management Team
		Fleet operators and where necessary IOTC, develop strategy to put into place management measures, as necessary, to reduce the mortality of ETP species where analysis has identified/confirmed an issue.		Fleets
		Ensure that information is adequate to measure trends and support a strategy to manage impacts on primary, secondary and ETP species.		Project Management Team
	9		Strategies developed to address identified national gaps	FIP Executive
	10	Proposal to amend the relevant IOTC legal framework/s (e.g. the Rules of Procedure) to ensure the functions, role and responsibilities of all organisations and individuals are explicitly defined and well understood in the context of each IOTC subsidiary body.	Functions, roles and responsibilities of all of the types of organisations and individuals are adopted into the appropriate IOTC framework by the IOTC.	Coastal/Flag States
	11		The IOTC has adopted sanctions for non- compliance with IOTC management measures.	Coastal/Flag States
4	1	Stock assessment or other incontrovertible evidence shows that that current F is "likely" to be less than FMSY so as to justify an 80 score for PI 1.1.2(b) (see SA2.3.4.1), or alternatively provide clear evidence that the stocks are rebuilding or will rebuild within the required timeframe (see SA2.3.4.3).	There is evidence that the rebuilding strategies are rebuilding the Indian Ocean yellowfin stock, 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 (the shorter of 20 years or 2 times its generation time)	Project Management Team
	2	Data and research which can be used to evaluate the interim harvest strategies evaluated and compiled $- e.g.$ updated catch and effort data, stock assessments, forward projections etc. (management strategy evaluation)	Plan or proposal put forward for the evaluation of the harvest strategies.	Coastal/Flag States
	5	Provide evidence that the measures/strategy is being implemented successfully.	Review of management measures and their implementation processes to assess implementation successes and barriers. Put in place alternative measures as required.	Project Management Team
	6	Ensure that management measures to address any identified risks (including of lost FADs), if any, are agreed and undergoing implementation.		Project Management Team
			New non-entangling FADs trialled and approved for use under the code of good practice.	Fleets
			An independent review is produced of the FAD reporting system that indicates that the loss of FADs is minimised and they are highly unlikely to impact on VMEs.	Project Management Team
			Sonar discrimination of schools below FADs – reduction in proportion of juveniles in yellowfin and bigeye landings	Fleets
		An internal evaluation provides objective evidence that the ecosystem-based management strategy is being implemented successfully.	Ecosystem-based strategic approach to tuna fisheries management in the Indian Ocean is being successfully implemented.	FIP Executive

	7		The IOTC has a workplan to improve the information available and/or estimates of uncertainty on all other fishery removals from the stock in the Indian Ocean. The work plan is implemented.	Coastal/Flag States
	9		Evidence presented that any major legislative gaps are being effectivity addressed.	Coastal/Flag States
	11		Resolution, Recommendation or other suitable paper to the IOTC Secretariat which would incorporate the ecosystem approach to management explicitly in IOTC's long-term objectives adopted by IOTC	Coastal/Flag States
	12		Public reporting of non-compliance levels, including quality of reporting, and sanctions imposed as a result, if any required.	Coastal/Flag States
5	2	A study to evaluate the effectiveness of the current harvest strategy for the stocks using testing on contemporary data sets listed in Year 4 milestones has been completed. Testing has been used to consider the full interactions between different components of the harvest strategy (draft or final), HCRs (draft or final), use of information, and the current status stocks based on an updated stock assessment.	Harvest Strategies evaluated to assess evidence that they are achieving their objectives.	FIP Executive
			Harvest strategies adopted by IOTC.	Coastal/Flag States
	3		Formally binding, scientifically-based HCRs for bigeye, yellowfin and skipjack stocks have been implemented by IOTC. There is a clear basis for considering that they will be successful in achieving the desired outcome and that they have taken into account the main uncertainties.	Coastal/Flag States
			Formal evidence is provided to demonstrate the HCR tools are appropriate and effective in reducing exploitation levels where necessary.	Project Management Team
	6		Summary report – ecosystem impacts of FADs and how they can be mitigated	Project Management Team
		Ecosystem-based strategic approach to tuna fisheries management is independently evaluated.	An independent evaluation provides objective evidence that the ecosystem-based management strategy is working.	FIP Executive
	7		IOTC Scientific Committee is able to confirm that available data are sufficient to evaluate stocks such that the harvest strategy is supported	Coastal/Flag States

Appendix 1 - Participants at the Liverpool stakeholder/partner action plan meeting

Jan Robinson (Seychelles Fishing Authority)

Roy Clarisse (Ministry of Agriculture and Fisheries, Seychelles)

Andrew Conway (Princes)

Ruth Simpson (Princes)

Martyn Rodmell (Princes )

Francisco Leotte (Thai Union)

Tony Lazazzara (Thai Union)

Miguel Herrera (OPAGAC)

Anertz Muniategi (ANABAC)

**Michel Goujon (ORTHONGEL)** 

Wetjens Dimmlich (WWF)

Jose Luis Jauregui (Hartswater Ltd)

Jon Ander Etxebarria (INPESCA Fishing Ltd)

Pierre Alain Carre (CFTO)

Pierre Martinez (TOG)

Martin Denniel (SAPMER)

Xabier Urrutia (Beach Fishing Ltd)

Tracy Cambridge (WWF)