Appendix 2 – Individual IPGs and milestones: End of Year 3 review

FOR REVIEW BY SAG

INDIVIDUAL IPGS AND MILESTONES FOR WORK PLAN 1 – ICCAT PRINCIPLE 1 AND PRINCIPLE 3

IPG 1 **Outcome: Robust and precautionary harvest strategies in place for tuna stocks**	
UoCs	Atlantic Ocean (ICCAT) – yellowfin, bigeye, Eastern skipjack, Western skipjack
Performance Indicator	PI 1.2.1 – Harvest Strategy There is a robust and precautionary harvest strategy in place.
Unmet Scoring Issues	PI 1.2.1(a) – Harvest Strategy Design; PI 1.2.1(c) – Harvest Strategy Monitoring
Linkages	IPG 2, IPG 3, IPG 4, IPG 5, IPG 6
Priority	High (scoring issue a)
Responsible Parties	OPAGAC working together with like-minded ICCAT members and other stakeholders
Scoping Doc. reference	IPG 1
STATUS END YEAR 1	**ON TARGET**
STATUS END YEAR 2	**ON TARGET**
STATUS END YEAR 3	**ON TARGET**
Description and timetable By the end of the fifth year, there shall be robust and precautionary harvest strategies in place for bigeye, yellowfin, and skipjack tuna stocks. 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. There should be evidence that the harvest strategy is achieving or will achieve its stated objective. That evidence shall derive from testing and evaluation which considers the full interactions between different components of the harvest strategy, use of information, and the assessment of stock status.	

Scoring end Year 1 – E skj	**high priority**
Scoring end Year 1 – W skj	**high priority**
Scoring end Year 1 – yft	**medium priority**
Scoring end Year 1 – bet	**high priority**
Scoring end Year 2 – E skj	**high priority**
Scoring end Year 2 – W skj	**high priority**
Scoring end Year 2 – yft	**medium priority**
Scoring end Year 2 – bet	**high priority**
Scoring end Year 3 – E skj	**high priority**
Scoring end Year 3 – W skj	**high priority**
Scoring end Year 3 – yft	**medium priority**
Scoring end Year 3 – bet	**high priority**

End date	**Milestone**	**Met?**
End Year 3	OPAGAC shall present evidence of continued progress (consideration and refinement e.g. through the Management Strategy Evaluation process) of the development of the draft harvest strategies.	ICCAT has an overall workplan for the development of harvest strategies for their key stocks, following a process of MSE (see Appendix 16 of the 2018 SCRS report (ICCAT 2018b) for the agreed timetable). The sequence in terms of timing is: N albacore – bluefin – N swordfish – tropicals. In 2018 the objectives for the tropical species were for SWGSM and Panel 1 (ICCAT 2018a,c) to consider management objectives, which took place during their respective meetings (see meeting reports). Met.
End Year 4	OPAGAC shall present evidence of continued progress (consideration and refinement e.g. through the Management Strategy Evaluation process) of the development of the draft harvest strategies.	n/a

End Year 5	The draft harvest strategy/ies for Atlantic bigeye, yellowfin and skipjack (east and west) tuna stocks submitted as a proposal for adoption by ICCAT, and a robust and precautionary harvest strategy is adopted by ICCAT.	n/a

IPG 2 **Outcome: Implementation of precautionary harvest control rules that are expected to reduce the exploitation rate of tuna stocks as the limit reference point is approached**	
UoCs	Atlantic Ocean (ICCAT) – yellowfin, bigeye, Eastern skipjack, Western skipjack
Performance Indicator	PI 1.2.2 – Harvest Control Rules and Tools There are well defined and effective HCRs in place.
Unmet Scoring Issues	PI 1.2.2(a) – HCR design and application, PI 1.2.2(b) – HCRs robustness to uncertainty, PI 1.2.2(c) – HCR evaluation
Linkages	IPG 1, IPG 3, IPG 4, IPG 5, IPG 6
Priority	High
Responsible Parties	OPAGAC working together with like-minded ICCAT members and other stakeholders
Scoping Doc. reference	IPG 2 and IPG 3 (have been merged here)
STATUS END YEAR 1	**BEHIND TARGET**
STATUS END YEAR 2	**ON TARGET***
STATUS END YEAR 3	**BEHIND TARGET**
By the end of the fifth year, ICCAT shall formally adopt and implement appropriately precautionary harvest control rules for tuna stocks 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 (east and west) tuna are appropriate and effective in controlling exploitation. * Second Year 2 milestone cannot be evaluated yet because SCRS report was not available at time of review.	
Scoring end Year 1 – E skj	**high priority**

Scoring end Year 1 – W skj	**medium priority**	
Scoring end Year 1 – yft	**medium priority**	
Scoring end Year 1 – bet	**high priority**	
Scoring end Year 2 – E skj	**high priority**	
Scoring end Year 2 – W skj	**medium priority**	
Scoring end Year 2 – yft	**medium priority**	
Scoring end Year 2 – bet	**high priority**	
Scoring end Year 3 – E skj	**high priority**	
Scoring end Year 3 – W skj	**medium priority**	
Scoring end Year 3 – yft	**medium priority (awaiting new stock assessment report to finalise)**	
Scoring end Year 3 – bet	**high priority**	
End date	**Milestone**	**Met?**
Note: At the last meeting of the SAG (2017) it was agreed that these milestones should be adjusted based on the MSE timetable for tropical tuna stocks proposed by the Tropical Tuna Species Group in September 2017 (see their report, Table 11). This has been done below. Since the milestones are new, they are provided from Year 2 onwards.		
End Year 2	New bigeye stock assessment incorporated into MSE process	New stock assessment conducted in July 2018; see ICCAT 2018a; https://www.iccat.int/Documents/Meetings/Docs/2018/REPORTS/2018_BET_SA_ENG.pdf. Met.
	MSE framework for tropical tunas in development; Panel 1 to define management objectives and performance indicators, SCRS to provide input to condition operating model.	For Panel 1 meeting, see IPG1. There was no specific request from the Commission to the SCRS for input to the MSE operating model for tropical tunas. SCRS provided some information in response to requests on tropical tunas: an analysis of the effectiveness of the time/area closure and an analysis of the impact on MSY, B_{MSY} and relative stock status from reductions in catch of given individual fisheries. These are both useful pieces of information to contribute to the MSE, but fall short of the progress previously expected. The most recent workplan for progressing on harvest strategies for each stock (SCRS 2018, Appendix 16) does not

		foresee the completion and condition of MSE operating models for the tropical species being completed before 2020. Not met.
	Continue capacity building activities to allow CPCs and stakeholders to participate in MSE process	There have been a range of ICCAT initiatives during 2018; e.g. scientific workshops on MSE, presentations of MSE concepts and terminology in English, French and Spanish; these are described in the report of the SWGSM (ICCAT 2018d): see https://www.iccat.int/Documents/Meetings/Docs/2018/2018_SWGSM_ENG.PDF. OPAGAC has been involved in various capacity-building efforts in the Atlantic although not directly related to MSE (e.g. developing a framework for port inspections in the COMHAFAT region, support for participation in the ROP for Sao Tome) (see review of Workplan 1, Appendix 1). Met.
End Year 3	New skipjack [bigeye] stock assessment incorporated into MSE process	There was no skipjack stock assessment during 2019; there was a yellowfin stock assessment (July 2019 – only early draft report available. It is too early to evaluate how the results of this assessment have been incorporated into management.) During 2018 there was a bigeye assessment. The results of the assessment and its implications for management were discussed by the SCRS and are set out clearly in the SCRS advice to the Commission (ICCAT 2018b), which is that a way must be found to reduce catches and F. The MSE process is not sufficiently advanced as yet to require any adjustment to this new assessment, which will presumably become the basis for the bigeye analysis. Met.
	Panel 1 to finalise list of candidate HCRs, MPs and performance indicators	SWGSC agreed and Panel 1 discussed a set of qualitative management objectives (ICCAT 2018a,c), and noted that these are the same as for N albacore; this means that there are already a set of performance indicators associated with each of these objectives. Panel 1 did not, however, explicitly agree any indicators etc. They requested further information from SCRS, and suggested (but did not draft) an additional objective on reducing the catch of juvenile bigeye. Not met.
	SCRS to continue the development of MSE simulation framework	As noted above, work on the tropical tuna MSE is progressing, but slowly. The simulation framework has not yet been developed. Not met.
	Continue capacity building activities to allow CPCs and stakeholders to participate in MSE process	SWGSC met in May 2018 (ICCAT 2018a), but is not foreseen to meet in 2019. OPAGAC has been involved in capacity building work through OSPESCA and ATLAFCO (e.g. joint meeting, 26 July 2019). Met.

End Year 4	New yellowfin stock assessment incorporated into MSE process	n/a
	Commission to review advancement of work thus far	n/a
End Year 5	All simulations finalised, report prepared for Commission	n/a
	Commission agrees management framework and HCRs for tropical tuna stocks	n/a

IPG 3 **Outcome: Evidence that stocks are at a level which maintain high productivity and have a low probability of recruitment overfishing**	
UoCs	Atlantic Ocean (ICCAT) – yellowfin
Performance Indicators	PI 1.1.1 and 1.1.2 Stock status and stock rebuilding The stock is at a level which maintains high production and has a low probability of falling below its limit reference point (LRP). Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe.
Unmet Scoring Issues	PI 1.1.1(b) – Stock status in relation to achievement of Maximum Sustainable Yield (MSY), PI 1.1.2(a) – Rebuilding timeframes, and PI 1.1.2(b) – Rebuilding evaluation.
Linkages	IPG 1, IPG 2, IPG 4
Priority	High
Responsible Parties	OPAGAC working together with like-minded ICCAT members and other stakeholders
Scoping Doc. reference	Not in the Scoping Document
STATUS END YEAR 1	**COMPLETED**
By the end of Year 5, there shall be evidence that the Atlantic yellowfin 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).	
Scoring end Year 1	**NO FURTHER ACTION NEEDED**
Scoring end Year 2	**NO REVIEW IN YEAR 2**
Scoring end Year 3	**Review of 2019 stock assessment suggests stock at ~MSY level; no action needed**

IPG 4 **Outcome: Evidence that stocks are at a level which maintain high productivity and have a low probability of recruitment overfishing**	
UoCs	Atlantic Ocean (ICCAT) – bigeye
Performance Indicators	PI 1.1.1 and 1.1.2 Stock status and stock rebuilding The stock is at a level which maintains high production and has a low probability of falling below its limit reference point (LRP). Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe.
Unmet Scoring Issues	PI 1.1.1(b) – Stock status in relation to achievement of Maximum Sustainable Yield (MSY), PI 1.1.2(a) – Rebuilding timeframes, and PI 1.1.2(b) – Rebuilding evaluation.
Linkages	IPG 1, IPG 2, IPG 3
Priority	High
Responsible Parties	OPAGAC working together with like-minded ICCAT members and other stakeholders
Scoping Doc. reference	Not in the Scoping Document
STATUS END YEAR 1	**ON TARGET**
STATUS END YEAR 2	**BEHIND TARGET**
STATUS END YEAR 3	**BEHIND TARGET**
By the end of Year 4 there shall be evidence that the Atlantic bigeye 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).	

Scoring end Year 1	**high priority**	
Scoring end Year 2	**high priority**	
Scoring end Year 3	**(no new stock assessment – same scoring as Year 2)**	
End date	**Milestone**	
End Year 2	If necessary, a draft rebuilding plan proposed consistent with 1.1.2; and/or incorporated into the harvest strategy for ICCAT bigeye (see IPGs 1 and 2). If developed internally, show evidence of review by an external expert.	The 2018 stock assessment (ICCAT 2018d) suggests that the bigeye stock remains overfished. The current TAC is projected to rebuild the stock but not within an appropriate timeframe; in any case it has been exceeded for the past two years. It was emphasised at the TTSG intersessional meeting in 2017 (ICCAT 2017c) that Panel 1 should agree a rebuilding timetable for bigeye (see workplan; TTSG report Table 11). Panel 1 made a series of detailed recommendations about bigeye (see Panel 1 report (ICCAT 2018c), Appendix 5) but they did not agree a rebuilding timetable. Not met. Note, however, that OPAGAC has been active in putting forward solutions for some of the issues facing bigeye management; for example, Sharma and Herrera (2018; SCRS/2018/116) evaluates options for management of the purse seine fishery by effort and capacity limitation rather than by catch limits, which are clearly not working in the case of bigeye.
Year 1 onwards	Follow harvest strategy and HCR activities (IPG 1 and IPG 2)	See analysis for Year 3 under IPG1 and IPG2
End Year 4	The stock is above the level which maintains high productivity and/or the stock rebuilding strategies have been implemented. OPAGAC shall provide evidence that current F is “likely” to be less than F_{MSY} 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).	n/a

IPG 5 Outcome: Information is collected and monitoring is conducted to support the harvest strategies for tuna stocks		
UoCs	Atlantic Ocean (ICCAT) – skipjack, Eastern stock	
Performance Indicator	PI 1.2.3 – Information and monitoring Relevant information is collected to support the harvest strategy.	
Unmet Scoring Issue	PI 1.2.3(a) – Range of information	
Linkages	IPG 1, IPG 2, IPG6	
Priority	Medium	
Responsible Parties	OPAGAC working together with ICCAT and other scientists	
Scoping Doc. reference	Not in the Scoping Document	
STATUS END YEAR 1	**ON TARGET**	
STATUS END YEAR 2	**ON TARGET**	
STATUS END YEAR 3	**ON TARGET**	
By the end of the fourth or fifth year, sufficient relevant information related to stock structure, stock productivity, fleet composition and other data are available to support the harvest strategy.		
Scoring end Year 1	**medium priority**	
Scoring end Year 2	**medium priority**	
Scoring end Year 3	**medium priority**	
End date	**Milestone**	**Met?**
End Year 2	A work plan or research proposal is developed to improve the information available and/or estimates of uncertainty on all other fishery removals from the eastern Atlantic skipjack stock	A stock assessment for E. and W. skipjack will be conducted in 2019, which will be preceded by a data preparation workshop which will evaluate data sources and gaps in detail. Meanwhile, research is ongoing,

		such as the AOTTP, which according to SCRS should help to address some questions (see SCRS report 2017; ICCAT 2017a, p. 58-59). Meanwhile, OPAGAC have been contributing to the analysis of tropical tuna catch data and how it might be improved. Herrera and Báez (2018; SCRS/2018/136) considers potential sources of bias in purse seine catch estimates and how they could be addressed, while Moniz et al (2018; SCRS/2018/119) considers how a FAD-based abundance index could be generated for tropical tuna species. Met.
End Year 3	Implementation of the work plan or research has started	The skipjack stock assessment has been pushed back to 2020, hence the data preparation workshop has not yet taken place (see Y2 analysis above). Relevant technical publications in which OPAGAC has been involved (author and/or based on OPAGAC data): • Grande et al. 2018. Best standards for data collection and reporting requirements on FOBs: towards a science-based FOB fishery management. IOTC-2018-WPDCS14-39 • Herrera and Báez 2018. On the potential biases of scientific estimates of catches of tropical tunas of purse seine monitored by European scientists, and catches reported to the ICCAT and IOTC. IOTC-2018-WPTT20-17 • Moniz et al. 2018. Using FADs to develop better abundance indices for tropical tuna. SCRS/2018/119 • Grande et al. 2018. Using instrumented buoys to monitor the activity of the purse seine fleet on FADs. IOTC-2018-WPTT20-23_Rev1 • Santiago et al. 2019. A novel index of abundance of juvenile yellowfin tuna in the Atlantic Ocean derived from echosounder buoys. SCRS/2019/075 • Herrera 2019. Exploring the potential for misreporting of length samples by longline crew and likely consequences on indices of abundance derived from logbook reports. Presentation to IOTC joint Asian CPUE workshop (Pasaia, April 2019)

		Met.
End Year 4	Results and data are presented to SCRS for input into forthcoming stock assessments	n/a
End Year 5	SCRS able to confirm that available data have started to improve, and are being provided to the ICCAT Secretariat as required under the relevant management measures.	n/a
	A written report is presented to WWF by OPAGAC which summarizes the improvements in data collection and/or estimates of uncertainty for other fishery removals that were achieved over the five-year period of the FIP. This report shall identify the specific steps taken by OPAGAC to improve data collection and/or estimates of uncertainty on catches. It shall present quantitative data to show how data collection and/or stock assessments were improved and where significant information gaps remain. The summary report shall also provide a description of obstacles encountered and recommendations for continued improvement in means of collecting information on other fishery removals.	n/a

IPG 6 **Outcome: Information is collected and monitoring is conducted to support the harvest strategies for tuna stocks**	
UoCs	Atlantic Ocean (ICCAT) – skipjack, Western stock
Performance Indicator	PI 1.2.3 – Information and monitoring Relevant information is collected to support the harvest strategy.
Unmet Scoring Issue	PI 1.2.3(a) – Range of information; PI 1.2.3(b) – monitoring
Linkages	IPG 1, IPG 2, IPG5

Priority	Medium	
Responsible Parties	OPAGAC working together with ICCAT and other scientists	
Scoping Doc. reference	Not in the Scoping Document	
STATUS END YEAR 1	**ON TARGET**	
STATUS END YEAR 2	**ON TARGET**	
STATUS END YEAR 3	**ON TARGET**	
By the end of the fourth or fifth year, sufficient relevant information related to stock structure, stock productivity, fleet composition and other data are available to support the harvest strategy.		
Scoring end Year 1	**medium priority**	
Scoring end Year 2	**medium priority**	
Scoring end Year 3	**medium priority**	
End date	**Milestone**	**Met?**
End Year 2	A work plan or research proposal is developed to improve the information available and/or estimates of uncertainty on all other fishery removals from the western Atlantic skipjack stock	See IPG5
End Year 3	Implementation of the work plan or research has started	See IPG5
End Year 4	Results and data are presented to SCRS for input into forthcoming stock assessments	n/a
End Year 5	SCRS able to confirm that available data have started to improve, and are being provided to the ICCAT Secretariat as required under the relevant management measures.	n/a
	A written report is presented to WWF by OPAGAC which summarizes the improvements in data collection and/or estimates of uncertainty for other fishery removals that were achieved over the five-year period of the FIP. This report shall identify the specific steps taken by OPAGAC to improve data collection and/or estimates of uncertainty on catches. It shall present quantitative data to show how data collection and/or stock assessments were improved and where significant information gaps remain. The summary report shall also provide a description of obstacles encountered and recommendations for continued improvement in means of collecting information on other fishery removals.	n/a

IPG 7 Outcome: Legal and customary framework addresses the resolution of disputes		
UoCs	Atlantic Ocean (ICCAT) – all stocks	
Performance Indicator	PI 3.1.1 – Governance and policy – Legal and/or customary framework The management system exists within an appropriate and effective legal and/or customary framework which ensures that it incorporates an appropriate dispute-resolution framework.	
Unmet Scoring Issue	PI 3.1.1b – Resolution of disputes	
Linkages	IPG 8, IPG 9, IPG 10, IPG 11	
Priority	Medium	
Responsible Parties	OPAGAC working together with ICCAT and other stakeholders	
Scoping Doc. reference	Not in the Scoping Document	
STATUS END YEAR 1	**ON TARGET**	
STATUS END YEAR 2	**ON TARGET**	
STATUS END YEAR 3	**ON TARGET**	
By the end of Year 4, there shall be a more effective framework within ICCAT for the resolution of disputes, based on best practice in other similar organisations		
Scoring end Year 1	**medium priority**	
Scoring end Year 2	**medium priority**	
Scoring end Year 3	**medium priority**	
End date	**Milestone**	**Met?**
End Year 1 and ongoing	Inter-sessional discussions held on implementing the strategy, including on dispute resolution, between like-minded ICCAT members and	Year 2 review: The report of the 6th meeting of the Working Group on Convention Amendment (May 2018; ICCAT 2018b; https://www.iccat.int/Documents/Meetings/Docs/2018/2018_CONV_ENG.PDF)

	organizations and formally at meetings at each ICCAT meeting; ICCAT meeting reports reflect discussions	agreed draft wording changes to for Articles VIII and VIIIb, as well as a new Annex 1, which together provide a detailed dispute resolution procedure. This is due to be presented to the Commission at the 2018 meeting. Met.
End Year 2	Paper presented to the ICCAT Secretariat giving options for best practice in dispute resolution, including examples from other RFMOs if relevant; if prepared internally evidence of external review by an appropriate expert	Year 3 review: The Commission adopted the report of the WG on Convention Amendment and its recommendations, and agreed a workplan to finalise the Convention amendments (see Commission report 2018, p. 511; ICCAT 2018e). The workplan foresees legal review in early 2019, followed by circulation of a multilingual draft to all CPCs 6 months prior to the 2019 ICCAT meeting, at which it is hoped that the revised Convention can be adopted and deposited with FAO. Met.
End Year 4	Dispute resolution framework accepted by ICCAT	n/a

IPG 8 **Outcome: The management system has effective consultation processes that are open to interested and affected parties**	
UoCs	Atlantic Ocean (ICCAT) – all stocks
Performance Indicator	PI 3.1.2 – Governance and policy – Consultation, roles and responsibilities 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.
Unmet Scoring Issues	PI 3.1.2(a) – Roles and responsibilities
Linkages	IPG 7, IPG 9, IPG 10, IPG 11
Priority	Medium
Responsible Parties	OPAGAC working together with ICCAT and other stakeholders
Scoping Doc. reference	Not in the Scoping Document

STATUS END YEAR 1	**ON TARGET**
STATUS END YEAR 2	**ON TARGET**
STATUS END YEAR 3	**COMPLETE**
By the end of Year 3, there shall be a clear definition of the roles and responsibilities of all ICCAT stakeholders	
Scoring end Year 1	**medium priority**
Scoring end Year 2	**medium priority**
Scoring end Year 3	**NO FURTHER ACTION NEEDED**

End date	**Milestone**	**Met?**
End Year 1 and ongoing	Inter-sessional discussions held on implementing the strategy, including roles and responsibilities, between like-minded ICCAT members and organizations and formally at meetings at each ICCAT meeting; ICCAT meeting reports reflect discussions	Year 2 review: The amended text put forward by the Working Group on Convention Amendment (see IPG7 above) includes the definition of roles and responsibilities for the Commission (Articles IIIb and IV), Council (Article V), Species Panels (Article VI), Executive Secretary (Article VII), Members (formerly Contracting Parties) (Articles VIII, IX and X – including applying and enforcing recommendations and the Convention, providing data and contributing to the budget), FAO (Article XI) and parties who would like to adhere (Article XIV) (ICCAT 2018b). The draft will go forward for discussion by the Commission in December 2018. Year 3 review: See IPG 7 above. Met.
End Year 2	Paper presented to the ICCAT Secretariat setting out clearly the roles and responsibilities of ICCAT bodies, including examples from other RFMOs if relevant; if prepared internally evidence of external review by an appropriate expert	
End Year 3	Approved information paper setting out roles and responsibilities of ICCAT stakeholders accepted by ICCAT	The amended draft was accepted by the plenary in 2018 (ICCAT 2018e), as noted under IPG 7 above. Met.

IPG 9

Outcome: The management policy has clear long-term objectives to guide decision- making that is consistent with MSC fisheries standard, and incorporates the precautionary approach

UoCs	Atlantic Ocean (ICCAT) – all stocks
Performance Indicator	PI 3.1.3 – Governance and policy – Long-term 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.
Unmet Scoring Issue	PI 3.1.3(a) – Objectives
Linkages	IPG 7, IPG 8, IPG 10, IPG 11
Priority	Medium
Responsible Parties	OPAGAC working together with ICCAT and other stakeholders
Scoping Doc. reference	Not in the Scoping Document
STATUS END YEAR 1	**COMPLETED**
By the end of Year 4, the precautionary approach and the ecosystem approach to management will be explicit in ICCAT's long-term objectives	
Scoring end Year 1	**NO FURTHER ACTION NEEDED – NO FURTHER REVIEW IN YEARS 2 OR 3**

IPG 10 Outcome: Monitoring, control and surveillance mechanisms ensure the management measures are enforced and complied with in the fishery	
UoCs	Atlantic Ocean (ICCAT) – all stocks
Performance Indicator	PI 3.2.3 – Fishery specific management system – Compliance and enforcement Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with.
Unmet Scoring Issues	PI 3.2.3(b) – Sanctions
Linkages	IPG 5, IPG 6, IPG 7, IPG 8, IPG 9, IPG 11
Priority	Medium
Responsible Parties	OPAGAC with EU delegation and/or other stakeholders
Scoping Doc. reference	Not in the Scoping Document
STATUS END YEAR 1	**COMPLETED**
By the end of the fourth year, there shall be evidence that ICCAT has begun to address issues of non-compliance with management measures through the use of sanctions. Initial efforts shall focus on members providing timely and accurate catch data to the ICCAT Secretariat.	
Scoring end Year 1	**NO FURTHER ACTION NEEDED – NO FURTHER REVIEW IN YEARS 2 OR 3**

IPG 11 Outcome: Effective decision-making processes	
UoCs	Atlantic Ocean (ICCAT) – all stocks
Performance Indicator	PI 3.2.2 – Fishery specific management system – Decision-making processes The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives and has an appropriate approach to actual disputes in the fishery
Unmet Scoring Issues	PI 3.2.2(b) – Responsiveness of decision-making processes

Linkages	IPGs 7-10	
Priority	Low	
Responsible Parties	OPAGAC working together with ICCAT and other stakeholders	
Scoping Doc. reference	Not in the Scoping Document	
STATUS END YEAR 1	**ON TARGET**	
STATUS END YEAR 2	**ON TARGET**	
STATUS END YEAR 3	**ON TARGET**	
By the end of the fifth year, there shall be evidence that decision-making process at ICCAT are responsive to serious and other important issues in a transparent, timely and adaptive manner.		
Scoring end Year 1	**low priority (not re-evaluated in Year 1)**	
Scoring end Year 2	**low priority**	
Scoring end Year 3	**low priority (not re-evaluated in Year 3 – no milestone)**	
End date	**Milestone**	**Met?**
End Year 2	Responsiveness of decision-making at ICCAT is evaluated and options for action considered	Decision-making at ICCAT was evaluated by the Performance Review in 2016 (see Spenser et al., 2016, pp.55-59). They concluded that ICCAT should be more willing to put decisions to a vote, rather than withdraw motions not likely to achieve consensus, and also that opt-out procedures in the Convention should be reviewed and revised. A review of the draft text proposed by the Working Group on Convention Amendment (see above) shows that this section (Article VIII) has indeed been completely redrafted (ICCAT 2018b). The draft will be discussed by the Commission at their next meeting. Met.
End Year 5	Decision-making process is transparent, timely and adaptive for serious and important issues	n/a

INDIVIDUAL IPGS FOR WORK PLAN 2 – IOTC PRINCIPLE 1 AND PRINCIPLE 3

IPG 12 **Outcome: Robust and precautionary harvest strategies in place for tuna stocks**	
UoCs	Indian Ocean (IOTC) – yellowfin, bigeye, skipjack
Performance Indicator	PI 1.2.1 – Harvest Strategy There is a robust and precautionary harvest strategy in place.
Unmet Scoring Issues	PI 1.2.1(a) – Harvest Strategy Design; PI 1.2.1(b) – Harvest Strategy Evaluation (yellowfin); PI 1.2.1(c) – Harvest Strategy Monitoring
Linkages	IPG 13, IPG 14, IPG 15
Priority	High
Responsible Parties	OPAGAC working together with like-minded IOTC members and other stakeholders
Scoping Doc. reference	IPGs 9A, 9B and 10 in the Scoping Document – merged here
STATUS END YEAR 1	**ON TARGET**
STATUS END YEAR 2	**ON TARGET**
STATUS END YEAR 3	**ON TARGET**
Description and timetable 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 testing and evaluation which considers the full interactions between different components of the harvest strategy, use of information, and the assessment of stock status.	
Scoring end Year 1 – skj	**NO FURTHER ACTION NEEDED – NO FURTHER REVIEW IN YEARS 2 OR 3**

Scoring end Year 1 – yft	**high priority**
Scoring end Year 1 – bet	**high priority**
Scoring end Year 2 – yft	**high priority**
Scoring end Year 2 – bet	**high priority**
Scoring end Year 3 – yft	**high priority**
Scoring end Year 3 – bet	**high priority**

End date bet and yft	**Milestone**	**Met?**
End Year 2	Start the development of harvest strategies for the stocks that fulfils the MSC specifications (e.g. response to stock status, explain how elements work together). 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 2nd IOTC Technical Committee on Management Procedure met 18-19 May 2018, and reviewed progress towards a OMP for yellowfin and bigeye, for which MSE is being carried out under a contract with CSIRO (IOTC 2018a, Kolody and Jumppanen 2018a,b); see http://www.iotc.org/meetings/2nd-technical-committee-management-procedures-tcmp02); they made some recommendations about tuning objectives and simulation timeframes which were reviewed by the Commission. This keeps the process on track in relation to the agreed harvest strategy workplan (IOTC 2017b; IOTC-2017-S21-14). Met.
Year 2 and onwards	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.	Year 2 review: OPAGAC participated in stakeholders meetings in Seychelles to prepare for IOTC plenary, as well as contributing to discussions on allocation criteria (see correspondence with Seychelles, Mauritius and IOC; March 2018). Tuna harvest strategies are discussed by the LDAC (see meeting agenda, March 2018; http://ldac.ldac.eu/post/working-group-1-191767), who are also supporting the Indian Ocean Dialogue for Fisheries Governance (see correspondence). Met. Year 3 review: In terms of formal IOTC inter-sessional meetings, the Technical Committee on Management Procedures met in June 2019 to discuss progress with the MSE and next steps in

		developing the harvest strategies for each species (IOTC 2019e). It is noted in the report that funding has been secured to continue this work. In relation to other inter-sessional meetings focusing on Indian Ocean harvest strategies, OPAGAC participated in the following: • Meeting with Secretaria General de Pesca (11 Feb 2019) for discussion of IOTC and ICCAT, including quotas and alternative (effort-based) management options • Joint meeting with WWF, DG MARE and other industry participants in Brussels (7 May 2019), on approaches to yellowfin rebuilding in Indian Ocean • SIOTI Stakeholder Advisory Group meeting (22 May 2019); discussion of how to make progress on Indian Ocean harvest strategies; SIOTI have retained Laurie Kell to try alternative approaches for the yellowfin stock assessment with the aim of supporting more robust decision-making at IOTC; see also joint OPAGAC-SIOTI letter to IOTC on harvest strategies (IOTC-2019-S23-INF17) • Annual meeting of FarFISH EU research project (Las Palmas, June 2019) – the development of harvest strategies is a work package Met.
End Year 4	Interim harvest strategy proposed to IOTC. The proposed Harvest Strategy includes the requirement to evaluate its effectiveness within specified timeframe.	n/a
End Year 4	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.	n/a

End Year 5	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. Evidence that 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. Development and execution of the study may proceed within OPAGAC, externally, or in some combination. Evidence of study initiation may include, for example, OPAGAC or another party acting on their behalf (e.g. the Government of Spain) soliciting requests for proposals from suitably qualified independent parties or evidence of 'in house' development.	n/a
End Year 5	Harvest strategies adopted by IOTC.	n/a

IPG 13 **Outcome: Implementation of precautionary harvest control rules that are expected to reduce the exploitation rate of tuna stocks as the limit reference point is approached**	
UoCs	Indian Ocean (IOTC) – yellowfin, bigeye, skipjack
Performance Indicator	PI 1.2.2 – Harvest Control Rules and Tools There are well defined and effective HCRs in place.
Unmet Scoring Issues	PI 1.2.2(a) – HCR design and application, PI 1.2.2(b) – HCRs robustness to uncertainty, PI 1.2.2(c) – HCR evaluation
Linkages	IPG 12, IPG 14, IPG 15
Priority	High
Responsible Parties	OPAGAC working together with like-minded IOTC members and other stakeholders
Scoping Doc. reference	IPGs 11A, 11B and 12 in the Scoping Document – merged here

STATUS END YEAR 1	**ON TARGET**	
STATUS END YEAR 2	**BEHIND TARGET – skipjack**	
STATUS END YEAR 2	**ON TARGET – yellowfin and bigeye**	
STATUS END YEAR 3	**BEHIND TARGET – all**	
By the end of the second year* for skipjack or third year* for yellowfin and bigeye, IOTC shall formally adopt and implement appropriately precautionary harvest control rules for tuna stocks 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. * *under the revised milestones (see below) the deadline remains the same for skipjack, but shifts back one year to the fourth year for yellowfin and bigeye*		
Scoring end Year 1 – skj	**medium priority**	
Scoring end Year 1 – yft	**high priority**	
Scoring end Year 1 – bet	**high priority**	
Scoring end Year 2 – skj	**medium priority**	
Scoring end Year 2 – yft	**high priority**	
Scoring end Year 2 – bet	**high priority**	
Scoring end Year 3 – skj	**medium priority**	
Scoring end Year 3 – yft	**high priority**	
Scoring end Year 3 – bet	**high priority**	
End date	**Milestone**	**Met?**
Note: At the End Year 1 (2017) meeting of the SAG it was agreed that these milestones should be adjusted based on the MSE timetable for tropical tuna stocks agreed by the Commission in 2017 (via their acceptance of document IOTC-2017-S21-14). This has been done below. The milestones are therefore provided from Year 2 onwards.		
End date skipjack	**Milestone**	**Met?**

End Year 2	TCMP to advise Commission on outcomes of application of the HCR; Commission to apply the TAC required by the HCR and request WPs and SC to revise the HCR if necessary; WPs and SC to feed Commission advice into MSE process as required	Discussion is ongoing about allocation criteria (see 2018 Commission report, pp. 14-16; IOTC 2018b), and it was agreed to defer a decision until after some further external analysis, for which a contract is currently being allocated (P. de Bruyn pers. comm.). Not met. <u>Year 3</u>: The discussion on allocation criteria is still ongoing. Members of the TCAC noted during the IOTC plenary discussion (June 2019) that meetings were too short to allow for any negotiating momentum to develop, and it was agreed to extend next year's meeting to 5 days, with the Secretariat to explore external funding. The results of the contract (see above) were presented and some additional analysis requested. Not met.
End Year 3	TCMP to advise Commission on any issues with the HCR requiring a decision; Commission to consider this advice	The TCMP in 2019 (IOTC 2019e) made a range of decisions, but these were generally of a technical nature (e.g. on operating models, model tuning, model input specifications) not requiring Commission validation. The TCMP requested the SC to extend the workplan for management procedure development past 2020, and requested the Commission to validate the continued functioning of the TCMP. The SC in 2018 (IOTC 2018b) did not provide a workplan, but did in its recommendations underline the importance of MSE work, external review, science-manager dialogue and capacity building. At plenary (June 2019), the Commission endorsed the recommendations of the TCMP and voted for it to continue its work for another year. Met (but Year 2 still not fully met).
End Year 4	HCR outcome (TAC) to be estimated by SC based on results of 2020 stock assessment	n/a
End Year 5	Revised TAC to be applied	n/a
End date yellowfin and bigeye	**Milestone**	**Met?**

End Year 2	Technical Committee on Management Procedure to advise Commission on candidate HCRs and their performance against Commission objectives; Commission to provide direction as required; WP and SC to provide input into MSE process as required	The process of evaluating candidate HCRs for yellowfin and bigeye is underway under a contract to CSIRO (see Kolody and Jumppanen 2018a,b); progress was reviewed by the Technical Committee on Management Procedure and the Commission in May 2018 as noted above. See also IPG12 above for a description of intersessional discussions outside the IOTC process. Met.
End Year 3	TCMP to advise Commission on candidate HCRs and their performance against Commission objectives; Commission to adopt a management plan or to provide direction to WPs and SC for additional evaluation of alternative plans, if necessary	TCMP reviewed progress on MSE and took a range of technical decisions, as noted above. The Commission plenary reviewed the analysis, particularly for yellowfin, and requested some additional input (that catch of juveniles be used as a tuning factor or failing that a performance criterion). There are, however, no explicit candidate HCRs recommended by TCMP as yet. Not met.
End Year 4	Commission to adopt a management plan for yellowfin and bigeye	n/a

IPG 14 **Outcome: Evidence that stocks are at a level which maintain high productivity and have a low probability of recruitment overfishing**	
UoCs	Indian Ocean (IOTC) – yellowfin
Performance Indicators	PI 1.1.1 and 1.1.2 Stock status and stock rebuilding The stock is at a level which maintains high production and has a low probability of falling below its limit reference point (LRP). Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe.
Unmet Scoring Issues	PI 1.1.1(b) – Stock status in relation to achievement of Maximum Sustainable Yield (MSY), PI 1.1.2(a) – Rebuilding timeframes, and PI 1.1.2(b) – Rebuilding evaluation.
Linkages	IPG 12, IPG 13, IPG 15
Priority	High
Responsible Parties	OPAGAC working together with like-minded IOTC members and other stakeholders

Scoping Doc. reference	IPG 8 in the Scoping Document	
STATUS END YEAR 1	**BEHIND TARGET**	
STATUS END YEAR 2	**BEHIND TARGET**	
STATUS END YEAR 3	**BEHIND TARGET**	
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). *this would now be the fifth year – see 'note' below		
Scoring end Year 1	**high priority**	
Scoring end Year 2	**high priority**	
Scoring end Year 3	**high priority**	
End date	**Milestone**	**Met?**
Note: It was agreed by the SAG at the Year 1 review (2017) that the milestones should be pushed back by one year; i.e. the Year 1 milestones are retained for Year 2 (see Year 1 review report for details).		
Year 2	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	16-01 has been replaced with 17-01 and then 18-01 for yellowfin (interim rebuilding plan). The EU requested that simulations for likely rebuilding under this interim plan be conducted by WPTT (see IOTC 2018c; IOTC-2018-S22-08); this has not been done as yet – WPTT meets on October 29. The yellowfin rebuilding process has been folded into the overall MSE development process. Under this process, simulations were conducted to evaluated rebuilding under different timeframes based on different candidate HCRs (see Kolody and Jumppanen, 2018a,b); i.e. rebuilding is being evaluated under different scenarios. On this basis, this milestone can be considered to be met.
End Year 2	On the basis of the above, a robust, comprehensive rebuilding strategy for the Indian Ocean yellowfin stock has been drafted by and considered by IOTC.	Not met in Year 2 or Year 3 (see below).

Year 2 ongoing	Follow harvest strategy activities incorporating requirements for rebuilding of the yellowfin stock; see IPG 12	See IPG12
End Year 3	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	Resolution 19-01 adopted at plenary in June 2019, but this is not significantly more robust than previous rebuilding plans. Not met.
End Year 5	The Indian Ocean yellowfin stock is above the level which maintains high productivity and/or the stock rebuilding strategies have been implemented. OPAGAC shall provide evidence 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).	n/a

IPG 15 **Outcome: To ensure that relevant information is collected to support the harvest strategies for the Indian Ocean tropical tuna stocks.**	
UoCs	Indian Ocean (IOTC) – all stocks
Performance Indicator	PI 1.2.3 – Information and monitoring – Relevant information is collected to support the harvest strategy.
Unmet Scoring Issue	PI 1.2.3(c) - Comprehensiveness of information Note: MSC Guidance in GSA2.6.1 - Information categories: The reference to 'other' fishery removals in Scoring Issue (c) relates to vessels outside or not covered by the unit of assessment.
Linkages	IPG 12, IPG 13, IPG 14
Priority	Low

Responsible Parties	OPAGAC working together with IOTC and other stakeholders	
Scoping Doc. reference	IPG 13 in the Scoping Document	
STATUS END YEAR 1	**ON TARGET**	
STATUS END YEAR 2	**ON TARGET**	
STATUS END YEAR 3	**ON TARGET**	
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.		
Scoring end Year 1	**medium priority**	
Scoring end Year 2	**medium priority**	
Scoring end Year 3	**medium priority (not re-evaluated – no milestone)**	
End date	**Milestone**	**Met?**
End Year 2	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.	The WPTT (IOTC 2017a) reviewed in detail the data available for stock assessment for the three stocks, including fishery removals. They made a series of requests and recommendations; e.g. for skipjack analysis of catch on individual FAD sets and the development of FAD-based effort indicators. The EU presented a standardised CPUE time series based on details of FAD sets, which the WPTT acknowledged as a 'major step forward' in generating a purse seine abundance index (see WPTT report para. 163; IOTC 2017a). OPAGAC has been involved in this work, as described for ICCAT – see e.g. Moniz et al. 2018. Other improvements have also been made or are ongoing; e.g. a review and revision of historical catch/effort data from Maldives and the EU, work towards improving catch statistics from Pakistan. Met.
End Year 5	IOTC Scientific Committee is able to confirm that available data are sufficient to evaluate stocks such that the harvest strategy is supported.	n/a

IPG 16 Outcome: The management system has effective consultation processes that are open to interested and affected parties		
UoCs	Indian Ocean (IOTC) – all stocks	
Performance Indicator	PI 3.1.2 – Governance and policy – Consultation, roles and responsibilities 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.	
Unmet Scoring Issues	PI 3.1.2(a) – Roles and responsibilities	
Linkages	IPG 17, IPG 18, IPG 19	
Priority	Medium	
Responsible Parties	OPAGAC working together with like-minded IOTC members and other stakeholders	
Scoping Doc. reference	Not in the Scoping Document	
STATUS END YEAR 1	**ON TARGET**	
STATUS END YEAR 2	**ON TARGET**	
STATUS END YEAR 3	**COMPLETED**	
By the end of the third year, there shall be a clear definition of the roles and responsibilities of all IOTC stakeholders		
Scoring end Year 1	**medium priority**	
Scoring end Year 2	**medium priority**	
Scoring end Year 3	**NO FURTHER ACTION NEEDED**	
End date	**Milestone**	**Met?**
Year 1 and ongoing	Inter-sessional discussions held on implementing the strategy, including on roles and responsibilities, between like-	The first Technical Committee on Performance Review met in February 2018 (IOTC 2018d) to consider how to implement the recommendations of the review. This includes recommendations on amending the IOTC agreement to specify roles and responsibilities

	minded IOTC members and organizations and formally at meetings at each IOTC meeting. Record of IOTC and other meetings to reflect discussion.	more clearly (e.g. #12 – specify Member's duties as flag states; #14-16 – improved enforcement of responsibilities, e.g. in relation to data provision; #19 – use of intersessional processes to improve participation in decision-making; #23 –cost recovery, budgeting, staff development and evaluations; #24 – role of FAO) (see summary in IOTC 2018e; IOTC-2018-TCPR01-02). Met.
End Year 2	Information paper prepared for IOTC members if required, setting out clearly the roles and responsibilities of IOTC bodies and members. If prepared internally by OPAGAC there shall be internal review.	The above process is clarifying roles and (particularly) responsibilities. The information requested is publically available, as described above (and see also IOTC Agreement and Rules of Procedure: http://www.iotc.org/about-iotc/basic-texts). Since the process is underway, it does not seem an appropriate moment to prepare an information paper. However, the concerns that led to this scoring (i.e. Members not meeting their responsibilities, in particular in relation to data provision) are being addressed by various means (as described above, plus capacity building and other sources of support; e.g. see WPTT in relation to Pakistan). On this basis, this milestone can be considered to be met.
End Year 3	Paper reviewed and accepted by IOTC	The second meeting of the Technical Committee on Performance Review took place in March 2019 (IOTC 2019a). They discussed new Convention text on roles and responsibilities, including coastal states, flag states, port states, CCPs, the Commission, subsidiary bodies, SC and TCC, as well as issues such as compliance, observers, cooperation with non-contracting parties etc. Two alternative texts were provided, depending on whether IOTC remains linked to FAO or not. At plenary (June 2019) there was no consensus as to whether IOTC should maintain its link with FAO, and on that basis a decision was deferred until the plenary in 2020. However, it was noted that out of 63 actions recommended by the TCPR, 32 have become part of regular procedure for the Commission already, and only 2 have not yet been started. On this basis, we can conclude that in practice the analysis is accepted and implemented. Met.

IPG 17
Outcome: The management policy has clear long-term objectives to guide decision- making that is consistent with MSC fisheries standard, and incorporates the precautionary approach

UoCs	Indian Ocean (IOTC) – all stocks	
Performance Indicator	PI 3.1.3 – Governance and policy – Long-term 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.	
Unmet Scoring Issue	PI 3.1.3(a) – Objectives	
Linkages	IPG 16, IPG 18, IPG 19	
Priority	Medium	
Responsible Parties	OPAGAC working together with ICCAT and other stakeholders	
Scoping Doc. reference	Not in the Scoping Document	
STATUS END YEAR 1	**ON TARGET**	
STATUS END YEAR 2	**ON TARGET**	
STATUS END YEAR 3	**COMPLETED**	
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		
Scoring end Year 1	**medium priority**	
Scoring end Year 2	**medium priority**	
Scoring end Year 3	**NO FURTHER ACTION NEEDED**	
End date	**Milestone**	**Met?**
Year 1 and ongoing	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. Record of IOTC and other meetings to reflect discussion.	See IPG16 above. Recommendations currently under discussion relating to this IPG include #1 – modernisation of the Agreement to reflect modern concepts of fisheries management; #7c – development of an ecosystem modelling framework; #7d – robust stock management objectives and #7f – full implementation of the precautionary approach (as per Res. 12-01). Met.
End Year 2	Draft Resolution or other suitable paper proposed to the IOTC Secretariat which would incorporate the precautionary approach and the ecosystem approach to	See above. Met.

	management explicitly in IOTC's long-term objectives.	
End Year 3	Resolution reviewed and revised if required by IOTC	See above and IPG 16.
End Year 4	Resolution accepted by IOTC	n/a

IPG 18 Outcome 13: Monitoring, control and surveillance mechanisms ensure the management measures are enforced and complied with in the fishery		
UoC	Indian Ocean (IOTC) – all stocks	
Performance Indicator	PI 3.2.3 – Fishery specific management system – Compliance and enforcement Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with.	
Unmet Scoring Issues	PI 3.2.3(b) – Sanctions, PI 3.2.3(a) – MCS implementation, PI 3.2.3(c) – Compliance	
Linkages	IPG 16, IPG 17, IPG 19	
Priority	Medium	
Responsible Parties	OPAGAC with EU delegation and/or other suitable stakeholders	
Scoping Doc. reference	IPG 15 in the Scoping Document	
STATUS END YEAR 1	**ON TARGET**	
STATUS END YEAR 2	**ON TARGET**	
STATUS END YEAR 3	**ON TARGET**	
By the end of the fourth year, there shall be evidence that IOTC has begun to address issues of non-compliance with management measures through the use of sanctions. Initial efforts shall focus on members providing timely and accurate catch data to the IOTC Secretariat.		
Scoring end Year 1	**medium priority**	
Scoring end Year 2	**medium priority**	
Scoring end Year 3	**medium priority**	
End date	**Milestone**	**Met?**
End Year 2	The IOTC has: • considered a proposal to strengthen compliance by development of sanctions for any instances where members repeatedly fall	A suite of recommendations to improve compliance from the performance review are currently under consideration, including #4 – compliance with data provision requirements; #14 – develop a comprehensive MCS system; #15 – follow-up on infringements, including failure to provide data; #16 – mechanisms to detect and

	short in complying with IOTC management measures • agreed to enhance the reporting of member's non-compliance with management measures by the IOTC, including the quality of member's reporting	deter non-compliance; as well as #5 – capacity building to support reporting by members. Met.
	Review recent reports of the Compliance Committee and evaluate whether sanctions are providing sufficient deterrence	Document IOTC-2018-CoC15-03 (IOTC 2018f) summarises compliance by CMM. Compliance with some important CMMs is high (e.g. 17-01 – yellowfin rebuilding; 16-06 – data provision; 17-03 – IUU listing; all above 90% compliance); however compliance with some is low (e.g. FAD management plan – 50%, port state measures – 47%, shark catch data – 17%). Assessment of key compliance gaps is the role of the CoC (see IOTC 2018g), who note improvements in compliance in some areas, but overall an ongoing significant problem. OPAGAC has also worked with other FIPs (SIOTI) on an external evaluation of compliance (Hosch 2018), based on which they have formulated a list of recommendations, similar to those put forward by OPAGAC last year, i.e: EMS and electronic reporting, Regional Observer Scheme, trade measures (strengthen 10/10, repeal 16/06), catch documentation scheme and ongoing capacity building. Met.
	If not, engage with EU delegation or other appropriate stakeholders to request assessment of key compliance gaps by Compliance Committee or by a suitable external expert	
End Year 3	The IOTC has commenced a process to: • develop sanctions for the IOTC • provide more in-depth and critical reporting of non-compliance	Appendix 6 of the Compliance Committee report (IOTC 2019c) provides an update on progress with the performance review, as regards compliance. It notes that a proposal has been submitted to amend Appendix V of the IOTC rules of procedure, with the aim of streamlining and strengthening the review and analysis of compliance with IOTC requirements. There is now an annual review of compliance by CPC. A workshop on MCS and a catch documentation scheme was held in Feb 2019, according to the CC report. In 2018, IOTC passed Resolution 18/07 'On measures applicable in case of non-fulfilment of reporting obligations in the IOTC', which involves sanctions. Met.
End Year 4	The IOTC has adopted sanctions for non-compliance with IOTC management measures	n/a
	IOTC presents a public in-depth summary of all non-compliances, including the quality of reporting;	n/a

	sanctioned any members with repeated non-compliance with IOTC management measures.	

IPG 19 **Outcome: Effective decision-making processes**		
UoCs	Indian Ocean (IOTC) – all stocks	
Performance Indicator	PI 3.2.2 – Fishery specific management system – Decision-making processes The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives and has an appropriate approach to actual disputes in the fishery	
Unmet Scoring Issues	PI 3.2.2(b) – Responsiveness of decision-making processes, PI 3.2.2(c) – Precautionary approach	
Linkages	IPG 16, IPG 17, IPG 18	
Priority	Low	
Responsible Parties	OPAGAC working together with ICCAT and other stakeholders	
Scoping Doc. reference	Not in the Scoping Document	
STATUS END YEAR 1	**ON TARGET**	
STATUS END YEAR 2	**ON TARGET**	
STATUS END YEAR 3	**ON TARGET**	
By the end of the fifth year, there shall be evidence that decision-making process at IOTC is responsive to serious and other important issues in a transparent, timely and adaptive manner, and uses the precautionary approach and the best available information.		
Scoring end Year 1	**low priority (not re-evaluated in Year 1)**	
Scoring end Year 2	**low priority**	
Scoring end Year 3	**low priority (not re-evaluated in Year 3 – no milestone)**	
End date	**Milestone**	**Met?**

End Year 2	Responsiveness and precaution of decision-making at IOTC, and options for action if required, are evaluated	As noted above (IPG17), recommendations for improving decision-making and operationalising the precautionary approach (based on the formal commitment in 12-01) are currently under discussion. Met.
End Year 5	Decision-making process is transparent, timely and adaptive for serious and important issues	n/a

INDIVIDUAL IPGS FOR WORK PLAN 3 – IATTC PRINCIPLE 1 AND PRINCIPLE 3

IPG 20 **Outcome: Robust and precautionary harvest strategies in place for tuna stocks**	
UoC	Eastern Pacific (IATTC) – yellowfin, bigeye, skipjack
Performance Indicator	PI 1.2.1 – Harvest Strategy There is a robust and precautionary harvest strategy in place.
Unmet Scoring Issues	PI 1.2.1(a) – Harvest Strategy Design; PI 1.2.1(b) – Harvest Strategy Evaluation; PI 1.2.1(c) – Harvest Strategy Monitoring; PI 1.2.1(d) – Harvest Strategy Review
Linkages	IPG 21, IPG 22, IPG 23
Priority	High
Responsible Parties	OPAGAC and Ecuador FIP, working together with like-minded IATTC members and other stakeholders
Scoping Doc. reference	IPG 5 in the Scoping Document
STATUS END YEAR 1	**ON TARGET**
STATUS END YEAR 2	**ON TARGET**
STATUS END YEAR 3	**ON TARGET**

By the end of the fifth year, there shall be robust and precautionary harvest strategies in place for EPO bigeye, yellowfin and skipjack tuna stocks. 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 is initiated to assess whether there is evidence that the harvest strategy is achieving its stated objective. That evidence shall derive from testing and evaluation which considers the full interactions between different components of the harvest strategy, use of information, and the assessment of stock status.		
Scoring end Year 1 – skj	**medium priority**	
Scoring end Year 1 – yft	**NO ACTION NEEDED – NO FURTHER REVIEW IN YEAR 2**	
Scoring end Year 1 – bet	**NO ACTION NEEDED – NO FURTHER REVIEW IN YEAR 2**	
Scoring end Year 2 – skj	**medium priority**	
Scoring end Year 3 – skj	**medium priority**	
End date	**Milestone**	**Met?**
Year 1 and onwards	Intersessional discussions to progress the harvest strategies between like-minded IATTC members and organisations, and formally at the relevant IATTC meetings. Meeting records reflect progression of the harvest strategies project intersessionally.	Reference points and a harvest strategy in place (C-16-02 and C-17-01). This has never been scored 'green' for skipjack because assessment teams have concluded that the strategy is not directly responsive to the state of the skipjack stock; operating instead by analogy from bigeye and yellowfin (if it works for them, it must work for skipjack too). It is acknowledged that the current harvest strategy is not ideal; it is due to operate until 2020, when a review process should result in a new strategy for implementation in 2021. OPAGAC, working with the other tuna FIP in the region (TUNACONS) in pushing for a formal MSE process (see letters to IATTC Heads of Delegation, 1 August and 1 August 2018 and presentation by Miguel Herrera to an IATTC MSE workshop, August 2018. Met.
End Year 2	Harvest strategies drafted and reviewed. If developed internally, evidence of review by a suitably qualified independent expert.	
End Year 3	Interim harvest strategy proposed to IATTC. The proposed Harvest Strategy includes the requirement to evaluate its effectiveness within specified timeframe.	An interim harvest strategy is in place, but cannot currently be fully applied due to problems with the stock assessments for both bigeye and yellowfin. IATTC staff have put forward a workplan (document SAC 10-01a; IATTC 2019b) for an MSE process, including technical work and a series of workshops during 2019 and 2020, resulting in an evaluation and overhaul of

		both the stock assessments and the harvest strategy by 2021. This has been supported by the SAC. Met.
Years 3 ongoing	Evidence of continued progress (consideration and refinement e.g. through the Management Strategy Evaluation process) of the development of the draft harvest strategies.	See above. Met.
End Year 4	Plan or proposal prepared for the evaluation of the interim harvest strategies, including compilation of data and research – e.g. updated catch and effort data, stock assessments, forward projections etc.	n/a
End Year 5	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 shall be used in the study 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. Development and execution of the study may proceed within OPAGAC, externally, or in some combination. Evidence of study initiation may include, for example, OPAGAC or another party acting on their behalf (e.g. the Government of Spain) soliciting requests for proposals from suitably qualified independent parties or evidence of 'in house' development.	n/a
	Robust and precautionary harvest strategy adopted by IATTC.	n/a

IPG 21 **Outcome: Implementation of precautionary harvest control rules that are expected to reduce the exploitation rate of tuna stocks as the limit reference point is approached**	
UoCs	Eastern Pacific (IATTC) – yellowfin, bigeye, skipjack
Performance Indicator	PI 1.2.2 – Harvest Control Rules and Tools There are well defined and effective HCRs in place.
Unmet Scoring Issues	PI 1.2.2(b) – HCRs robustness to uncertainty, PI 1.2.2(c) – HCR evaluation
Linkages	IPG 20, IPG 22, IPG 23
Priority	High
Responsible Parties	OPAGAC and Ecuador FIP, working together with like-minded IATTC members and other stakeholders
Scoping Doc. reference	IPGs 6 and 7 in the Scoping Document – merged here
STATUS END YEAR 1	**COMPLETED**
STATUS END YEAR 3	**ON TARGET ***
By the end of the fifth year, IATTC shall formally adopt and implement appropriately precautionary harvest control rules for tuna stocks 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. **Year 3: This IGP has been re-opened in Year 2 because the HCR has not been fully applied for 2018 or 2019, because the underlying estimates of Fmult are not considered reliable. This means that PI 1.2.2 could be scored <80, on the basis that the tools in place to apply the HCR are not being fully used. This scoring is in line with scoring recently proposed for MSC full assessments of fisheries on this stock, but is not yet agreed by inter-CAB harmonisation (as required) – it is therefore provisional, and is applied here to be precautionary*.	
Scoring end Year 1 – skJ	**NO FURTHER ACTION NEEDED – NO FURTHER REVIEW IN YEAR 2**
Scoring end Year 1 – yft	**NO FURTHER ACTION NEEDED – NO FURTHER REVIEW IN YEAR 2**
Scoring end Year 1 – bet	**NO FURTHER ACTION NEEDED – NO FURTHER REVIEW IN YEAR 2**

Scoring end Year 3 – skj	**medium priority**	
Scoring end Year 3 – yft	**medium priority**	
Scoring end Year 3 – bet	**medium priority**	
End date	**Milestone**	**Met?**
End Year 3	Evidence of continued progress of the development of the draft harvest strategies (e.g. via Management Strategy Evaluation)	See Year 3 milestones for IPG 20. Met.
End Year 4	Progress on improving the development of new tools and improved effectiveness of existing tools encouraged and monitored is evaluated via a report summarizing the progress made in Years 1-4 on: a) developing new tools or improving existing ones; b) assessing the effectiveness of those tools; c) implementing new tools; and d) the specific actions that were taken (e.g. measures)	n/a
	IATTC has adopted formal scientifically-based appropriately precautionary harvest control rules for the bigeye, yellowfin, and skipjack stocks.	n/a
End Year 5	There is a clear basis for considering that the HCRs will be successful in achieving the desired outcome and that they have taken into account the main uncertainties.	n/a
	Evidence that tools used or available to implement bigeye tuna, yellowfin and skipjack tuna harvest control rules are appropriate and effective in controlling exploitation at level of IATTC.	n/a

IPG 22 **Outcome: Evidence that stocks are at a level which maintain high productivity and have a low probability of recruitment overfishing**

UoCs	Eastern Pacific (IATTC) – yellowfin
Performance Indicators	PI 1.1.1 and 1.1.2 Stock status and stock rebuilding The stock is at a level which maintains high production and has a low probability of falling below its limit reference point (LRP). Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe.
Unmet Scoring Issues	PI 1.1.1(b) – Stock status in relation to achievement of Maximum Sustainable Yield (MSY), PI 1.1.2(a) – Rebuilding timeframes, and PI 1.1.2(b) – Rebuilding evaluation.
Linkages	IPG 20, IPG 21
Priority	High
Responsible Parties	OPAGAC and Ecuador FIP, working together with like-minded IATTC members and other stakeholders
Scoping Doc. reference	Not in the Scoping Document
STATUS END YEAR 1	**COMPLETED**
By the fourth year, there shall be evidence that the EPO 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).	
Scoring end Year 1	**NO FURTHER ACTION NEEDED – confirmed in Years 2 and 3 based on stock assessment update**

IPG 23 **Outcome: Evidence that stocks are at a level which maintain high productivity and have a low probability of recruitment overfishing**	
UoCs	Eastern Pacific (IATTC) – bigeye
Performance Indicators	PI 1.1.1 and 1.1.2 Stock status and stock rebuilding The stock is at a level which maintains high production and has a low probability of falling below its limit reference point (LRP). Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe.
Unmet Scoring Issues	PI 1.1.1(b) – Stock status in relation to achievement of Maximum Sustainable Yield (MSY), PI 1.1.2(a) – Rebuilding timeframes, and PI 1.1.2(b) – Rebuilding evaluation.

Linkages	IPG 20, IPG 21
Priority	High
Responsible Parties	OPAGAC and Ecuador FIP, working together with like-minded IATTC and WCPFC members and other stakeholders
Scoping Doc. reference	IPG 4 in the Scoping Document
STATUS END YEAR 1	**COMPLETED**
STATUS END YEAR 2	**BEHIND TARGET**
STATUS END YEAR 3	**ON TARGET (following new milestones – see below)**

By the fourth* year, there shall be evidence that the EPO / Pacific bigeye 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).

*now fifth year – see below

Year 3: The problem with the assessment of bigeye stock status is that the stock assessment is highly uncertain (unusable). During Year 2, IATTC set out a timetable for the complete review of the bigeye stock assessment, including external review (during 2019 – FIP Year 3) and benchmarking (during 2020 – FIP Year 4). At the SAG meeting in 2018, it was agreed that the milestones should be adjusted to this timetable. On this basis, new milestones have been added for Years 3 and 4, and the end milestone in Year 4 has been pushed back to Year 5

Scoring end Year 1	
Scoring end Year 2	**RESCORED AFTER STOCK ASSESSMENT IN 2018 – high priority**
Scoring end Year 3	**high priority**

End date (revised)	**Milestone**	**Met?**
End Year 2	If necessary, simulations conducted showing likely rebuilding times under different scenarios.	Not possible – assessment too uncertain; also the case at end Year 3

	Rebuilding plan presented to IATTC consistent with MSC PI 1.1.2, and/or incorporate into harvest strategy for bigeye	End Year 2: Unclear if rebuilding required; review and benchmarking of stock assessment due in 2019-20 in preparation for review of harvest strategy in 2020. End Year 3: Review still underway
	Follow harvest strategy activities incorporating requirements for rebuilding of the bigeye stock (see IPG 20 and IPG 21)	
End Year 3 (new)	An external review of the stock assessment has been conducted	The external review took place in March 2019 and the report is available (Punt et al., 2019). Met.
End Year 4 (new)	An benchmarking stock assessment has been conducted and the status of the stock can be evaluated with reasonable confidence	
End Year 5 (formerly end Year 4)	The stock is above the level which maintains high productivity and/or the stock rebuilding strategies have been implemented. OPAGAC shall provide evidence 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).	n/a

IPG 24 **Outcome: The fishery has a system to monitor and evaluate the performance of its fishery-specific management system against its objectives and there is timely review**	
UoCs	Eastern Pacific (IATTC) – all stocks
Performance Indicator	PI 3.2.4 – Fishery specific management system – Management and management performance evaluation There is a system to monitoring and evaluating the performance of its fishery-specific management system against its objectives and there is timely review of the fishery-specific management system.
Unmet Scoring Issues	PI 3.2.4(b) – Internal and/or external review

Linkages	IPG 25, IPG 26, IPG 26B
Priority	Medium
Responsible Parties	OPAGAC, Ecuador FIP and other like-minded stakeholders
Scoping Doc. reference	Not in the Scoping Document
STATUS END YEAR 1	**COMPLETED**
By the end of the second year, there has been an external review of the IATTC management system	
Scoring end Year 1	**NO FURTHER ACTION NEEDED – NO FURTHER REVIEW IN YEARS 2 OR 3**

IPG 25 **Outcome: Fishery-specific objectives are in place**	
UoCs	Eastern Pacific Ocean (IATTC) – all stocks
Performance Indicator	PI 3.2.1 – Fishery specific management system – Fishery-specific objectives The fishery-specific management system has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2
Unmet Scoring Issues	PI 3.2.1(a) – Fishery-specific objectives
Linkages	IPG 24, IPG 26, IPG 26B
Priority	Low
Responsible Parties	OPAGAC, Ecuador FIP and other like-minded stakeholders
Scoping Doc. reference	Not in the Scoping Document
STATUS END YEAR 1	**COMPLETED**
By the end of the fifth year, there shall be evidence that fishery-specific objectives are in place for all stocks managed by IATTC.	
Scoring end Year 1	**NO FURTHER ACTION NEEDED – NO FURTHER REVIEW IN YEARS 2 OR 3**

IPG 26 Outcome: Effective decision-making processes	
UoCs	Eastern Pacific Ocean (IATTC) – all stocks
Performance Indicator	PI 3.2.2 – Fishery specific management system – Decision-making processes The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives and has an appropriate approach to actual disputes in the fishery
Unmet Scoring Issues	PI 3.2.2(b) – Responsiveness of decision-making processes
Linkages	IPG 24, IPG 25, IPG 26B
Priority	Low
Responsible Parties	OPAGAC, Ecuador FIP and other like-minded stakeholders
Scoping Doc. reference	Not in the Scoping Document
STATUS END YEAR 1	**ON TARGET**
STATUS END YEAR 2	**ON TARGET**
STATUS END YEAR 3	**ON TARGET**
By the end of the fifth year, there shall be evidence that decision-making process at IATTC is responsive to serious and other important issues in a transparent, timely and adaptive manner.	
Scoring end Year 1	**low priority (not re-evaluated this year)**
Scoring end Year 2	**low priority (not re-evaluated this year)**
Scoring end Year 3	**low priority (not re-evaluated this year)**

End date	Milestone	Met?
End Year 3	No Year 3 milestones	n/a

End Year 5	Decision-making process is transparent, timely and adaptive for serious and important issues	n/a

IPG 26B **Outcome: Management performance is evaluated and improved as required**	
UoCs	Eastern Pacific Ocean (IATTC) – all stocks
Performance Indicator	PI 3.2.4 – Fishery specific management system – Management performance evaluation There is a system for monitoring and evaluating the performance of the fishery-specific management system against its objectives. There is effective and timely review of the fishery-specific management system.
Unmet Scoring Issues	PI 3.2.4(b) – Internal and external review
Linkages	IPG 24, IPG 25, IPG 26
Priority	Medium
Responsible Parties	OPAGAC, Ecuador FIP and other like-minded stakeholders
Scoping Doc. reference	Not in the Scoping Document
STATUS END YEAR 1	**ON TARGET**
STATUS END YEAR 2	**BEHIND TARGET**
STATUS END YEAR 3	**ON TARGET**
By the end of the fifth year, there shall be evidence that that IATTC is responding to external review by incorporating the review recommendations into its management framework.	
Scoring end Year 1	**medium priority**
Scoring end Year 2	**medium priority**

Scoring end Year 3	medium priority	
End date	**Milestone**	**Met?**
End Year 2	There is evidence that IATTC have started the process of incorporating the review recommendations (Moss-Adams, 2016) into their management framework (e.g. management changes, follow-up meetings, new resolutions or recommendations etc.)	Some elements of the performance review have been addressed (e.g. see discussion in relation to bigeye under P1) but there is so far no systematic process, as far as we can tell.
End Year 3	The IATTC management framework has started to change as a response to the external review	IATTC has been commissioning work on how best to make improvements to respond to the findings of the performance review – e.g. Meski 2019 on the institutional framework and management of personnel. Met.
End Year 4	All key recommendations are being addressed by IATTC	n/a
End Year 5	All key recommendations are incorporated into the IATTC management framework	n/a

INDIVIDUAL IPGS FOR WORK PLAN 4 – WCPFC PRINCIPLE 1 AND PRINCIPLE 3

IPG 27 **Outcome: Robust and precautionary harvest strategies in place for tuna stocks**	
UoC	Western Pacific (WCPFC) – yellowfin, bigeye, skipjack
Performance Indicator	PI 1.2.1 – Harvest Strategy There is a robust and precautionary harvest strategy in place.
Unmet Scoring Issues	PI 1.2.1(a) – Harvest Strategy Design; PI 1.2.1(b) – Harvest Strategy Evaluation; PI 1.2.1(c) – Harvest Strategy Monitoring
Linkages	IPG 28, IPG 29, IPG 30
Priority	High
Responsible Parties	OPAGAC working together with like-minded WCPFC members and other stakeholders

Scoping Doc. reference	IPGs 17A and 17B in the Scoping Document – merged here	
STATUS END YEAR 1	**BEHIND TARGET**	
STATUS END YEAR 1 BASED ON NEW MILESTONES (see note below)	**skipjack**	**BEHIND TARGET**
	yellowfin and bigeye	**ON TARGET**
STATUS END YEAR 2	**skipjack**	**BEHIND TARGET**
	yellowfin and bigeye	**ON TARGET**
STATUS END YEAR 3	**skipjack**	**BEHIND TARGET**
STATUS END YEAR 3	**yellowfin and bigeye**	
By the end of the third year for skipjack or the fifth year for yellowfin and bigeye, there shall be robust and precautionary harvest strategies in place for bigeye, yellowfin and skipjack tuna stocks. 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 is initiated to assess whether there is evidence that the harvest strategy is achieving its stated objective. That evidence shall derive from testing and evaluation which considers the full interactions between different components of the harvest strategy, use of information, and the assessment of stock status.		
Scoring end Year 1 – skj	**medium priority**	
Scoring end Year 1 – yft	**medium priority**	
Scoring end Year 1 – bet	**medium priority**	
Scoring end Year 2 – skj	**medium priority**	
Scoring end Year 2 – yft	**medium priority**	
Scoring end Year 2 – bet	**medium priority**	
Scoring end Year 2 – skj	**medium priority**	
Scoring end Year 2 – yft	**medium priority**	
Scoring end Year 2 – bet	**medium priority**	

End date	Milestone	Met?
Note: It was agreed by the SAG at the Year 1 review that the milestones for IPG27 and IPG28 should be merged, and adjusted based on the most recent iteration of the WCPFC workplan (WCPFC 2018, Attachment L). According to this workplan, skipjack should have a HCR in place by the end of 2020, corresponding to End Year 4 in the FIP workplan, while the other tropical tuna stocks should have a HCR in place by the end of 2021 (End Year 5). Logically, on that basis, the milestones for all the stocks should be aligned with the workplan milestones as follows: 2018=End Year 2, 2019= End Year 3, 2020= End Year 4, 2021= End Year 5. However, there is a problem with this timing, in as much as the year-end review for the FIP takes place in October/November of each year, while the WCPFC plenary meeting is held annually in December. Hence the decisions taken in 2018 are not known until after the end of the FIP annual review process, even though FIP years and WCPFC years are both (more or less) aligned with calendar years. It does not make sense to push back the FIP milestones by a whole year, so the proposed solution to this is to include in each FIP review both the previous and current years' milestones. It should not be considered surprising if the FIP is evaluated as behind target based on the current year's milestones, since the relevant decision-making meeting has not yet taken place, but the previous year's milestones should be met. Note, however, that the 'Year 1' milestones given below correspond to the 2017 milestones in the WCPFC 2017 workplan, not the 'Year 1' milestones in the FIP workplan as evaluated last year. *Because the milestones have been changed as described above, all the milestones are provided here.*		
skipjack	**Milestone**	**Met?**

Year 1	SC provides advice on the performance of candidate HCRs	The SC discussed the harvest strategy process in 2017 (WCPFC 2017b) but did not provide any explicit candidate HCRs. Not met.
End Year 1	Commission considers advice on candidate HCRs	As above (WCPFC 2017a); not met.
Year 2	SC provides advice on the performance of candidate HCRs	SC did not provide candidate HCRs for any of the tropical tuna species
Year 2	TCC evaluates implications of candidate HCRs	No candidate HCRs provided to discuss; not met
End Year 2	Commission considers advice on candidate HCRs	No candidate HCRs provided to discuss; not met
Year 3	SC provides advice on the performance of candidate HCRs	SC15 discussed the performance of a range of candidate management procedures (set out in Scott et al., 2019), including various technical issues: problems with use of purse seine CPUE (effort creep), Performance indicator 5 (SIDS fisheries performance), development of separate El Niño/La Niña models, developing a plausible range of uncertainties, defining 'exceptional circumstances'. They did not make any specific recommendations on candidate HCRs for the Commission to consider. Not met.
Year 3	TCC evaluates implications of candidate HCRs	(not yet held)
End Year 3	Commission considers advice on candidate HCRs	(not yet held)
End Year 3	Target reference point is reviewed and revised if necessary	n/a
End Year 4	WCPFC adopts a HCR for skipjack	n/a
yellowfin and bigeye	**Milestone**	**Met?**

Year 1	SC provides advice on performance indicators to evaluate candidate HCRs	Year 1: The SC discussed the harvest strategy process in 2017 (WCPFC 2017b) but did not provide any explicit candidate HCRs. Not met. Year 2: SC14 considered a range of performance indicators (biological, ecological and socio-economic) and using the skipjack purse seine fishery as an example, provided a list of 11 for consideration by the Commission. Met.
End Year 1	Commission notes performance indicators	Year 1: As above (WCPFC 2017a); not met. Year 2: The Commission postponed discussion of performance indicators to 2019, during which a science-management dialogue process is planned. Not met.
End Year 2	(no milestones)	n/a
Year 3	SC provides advice on suitable target reference points for yellowfin and bigeye	SC15 evaluated the work of SPC on reference points for yellowfin and bigeye, but did not make any specific recommendations for the WCPFC plenary, although they noted that a decision should be taken at the next meeting (December 2019). Not met.
Year 3	SC provides advice on the performance on candidate HCRs	SC15 did not discuss candidate HCRs for yellowfin and bigeye. Not met.
End Year 3	Commission adopts a target reference point for yellowfin and bigeye	n/a
End Year 3	Commission considers advice on the performance of candidate HCRs	n/a
Year 4	SC provides advice on the performance of candidate HCRs	n/a
Year 4	TCC evaluates implications of candidate HCRs	n/a
End Year 4	Commission considers advice on candidate HCRs	n/a
End Year 5	WCPFC adopts a HCR for yellowfin and bigeye	n/a

IPG 28 **Outcome: Implementation of precautionary harvest control rules that are expected to reduce the exploitation rate of tuna stocks as the limit reference point is approached**		
UoCs	Western Pacific (WCPFC) – yellowfin, bigeye, skipjack	
Performance Indicator	PI 1.2.2 – Harvest Control Rules and Tools There are well defined and effective HCRs in place.	
Unmet Scoring Issues	PI 1.2.2(a) – HCR design and application, PI 1.2.2(b) – HCRs robustness to uncertainty, PI 1.2.2(c) – HCR evaluation	
Linkages	IPG 27, IPG 29, IPG 30	
Priority	High	
Responsible Parties	OPAGAC working together with like-minded WCPFC members and other stakeholders	
Scoping Doc. reference	IPGs 18A, 18B and 19 in the Scoping Document – merged here	
STATUS END YEAR 1	**BEHIND TARGET**	
STATUS END YEAR 1 BASED ON NEW MILESTONES (see note below)	**skipjack**	**BEHIND TARGET**
	yellowfin and bigeye	**ON TARGET**
STATUS END YEAR 2	**skipjack**	**BEHIND TARGET**
	yellowfin and bigeye	**ON TARGET**
STATUS END YEAR 3	**BEHIND TARGET**	
By the end of the fourth year for skipjack and the fifth year for yellowfin and bigeye, WCPFC shall formally adopt and implement appropriately precautionary harvest control rules for tuna stocks 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 in the Eastern and Western Pacific Ocean. *NOTE: Milestones based on the work plan for 14-06 are set out in full in IPG 27 (harvest strategy for WCPFC stocks) and are not repeated here.*		

Scoring end Year 1 – skj	**medium priority**
Scoring end Year 1 – yft	**medium priority**
Scoring end Year 1 – bet	**medium priority**
Scoring end Year 2 – skj	**medium priority**
Scoring end Year 2 – yft	**medium priority**
Scoring end Year 2 – bet	**medium priority**
Scoring end Year 3 – skj	**medium priority**
Scoring end Year 3 – yft	**medium priority**
Scoring end Year 3 – bet	**medium priority**

End date	**Milestone**	**Met?**
End Year 2	See IPG27 above	See IPG27 above
End Year 3	See IPG27 above	See IPG27 above

IPG 29 **Outcome: Evidence that stocks are at a level which maintain high productivity and have a low probability of recruitment overfishing**	
UoCs	Western Pacific (WCPFC) – bigeye
Performance Indicators	PI 1.1.1 and 1.1.2 Stock status and stock rebuilding The stock is at a level which maintains high production and has a low probability of falling below its limit reference point (LRP). Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe.
Unmet Scoring Issues	PI 1.1.1(a) – Stock status in relation to the point of recruitment impairment (PRI), PI 1.1.1(b) – achievement of Maximum Sustainable Yield (MSY), PI 1.1.2(a) – Rebuilding timeframes, and PI 1.1.2(b) – Rebuilding evaluation.

Linkages	IPG 27, IPG 28, IPG 30
Priority	High
Responsible Parties	OPAGAC working together with like-minded WCPFC and IATTC members and other stakeholders
Scoping Doc. reference	IPG 16 in the Scoping Document
STATUS END YEAR 1	**COMPLETED**
By the fourth year, there shall be evidence that the WCPFC/ Pacific bigeye 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).	
Scoring end Year 1	**NO FURTHER ACTION NEEDED**
Scoring end Year 2	**NO FURTHER ACTION NEEDED – confirmed by 2018 update of stock assessment**
Scoring end Year 3	**NO FURTHER ACTION NEEDED – no review in Year 3 since no new stock assessment**

IPG 30 **Outcome: To ensure that relevant information is collected to support the harvest strategies for WCPFC tropical tuna stocks.**	
UoCs	Western Pacific (WCPFC) – all stocks
Performance Indicator	PI 1.2.3 – Information and monitoring – Relevant information is collected to support the harvest strategy.
Unmet Scoring Issue	PI 1.2.3(a) – Range of information PI 1.2.3(b) – Monitoring PI 1.2.3(c) - Comprehensiveness of information Note: MSC Guidance in GSA2.6.1 - Information categories:

	"The reference to 'other' fishery removals in Scoring Issue (c) relates to vessels outside or not covered by the unit of assessment.
Linkages	IPG 27, IPG 28, IPG 29
Priority	Low
Responsible Parties	OPAGAC working together with WCPFC and other stakeholders
Scoping Doc. reference	Not in the Scoping Document
STATUS END YEAR 1	**COMPLETED**
By the end of the fourth year, there must be improved information on all other fishery removals of Western Pacific 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.	
Scoring end Year 1	**NO FURTHER ACTION NEEDED – NO FURTHER REVIEW IN YEARS 2 OR 3**

IPG 31 **Outcome: Effective decision-making processes**	
UoCs	Western Pacific (WCPFC) – all stocks
Performance Indicator	PI 3.2.2 – Fishery specific management system – Decision-making processes The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives and has an appropriate approach to actual disputes in the fishery
Unmet Scoring Issues	PI 3.2.2(b) – Responsiveness of decision-making processes
Linkages	IPG 32
Priority	Low
Responsible Parties	OPAGAC working together with WCPFC and other stakeholders
Scoping Doc. reference	Not in the Scoping Document

STATUS END YEAR 1	COMPLETED
By the end of the fifth year, there shall be evidence that decision-making process at WCPFC is responsive to serious and other important issues in a transparent, timely and adaptive manner.	
Scoring end Year 1	**NO FURTHER ACTION NEEDED – NO FURTHER REVIEW IN YEARS 2 OR 3**

IPG 32 **Outcome: Effective monitoring, control and surveillance**	
UoCs	Western Pacific (WCPFC) – all stocks
Performance Indicator	PI 3.2.3 – Fishery specific management system – Compliance and enforcement Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with.
Unmet Scoring Issues	PI 3.2.3(b) – Sanctions, PI 3.2.3(a) – MCS implementation, PI 3.2.3(c) – Compliance
Linkages	IPG 31
Priority	Low
Responsible Parties	OPAGAC working together with WCPFC and other stakeholders
Scoping Doc. reference	Not in the Scoping Document
STATUS END YEAR 1	**COMPLETED**
By the end of the fifth year, there shall be evidence that WCPFC has effective monitoring and sanctions systems and good compliance with CMMs.	
Scoring end Year 1	**NO FURTHER ACTION NEEDED – NO FURTHER REVIEW IN YEARS 2 OR 3**

INDIVIDUAL IPGS FOR WORK PLAN 5 – PRINCIPLE 2 ALL OCEANS

IPG 33 **Outcome: Negligible impact of fishing operations on recovery of critically-endangered Indian Ocean cetaceans**		
UoCs	Indian Ocean – all stocks	
Performance Indicator	PI 2.3.1 – ETP species – Outcome status The UoA meets national and international requirements for protection of ETP species. The UoA and associated enhancement activities do not hinder recovery of ETP species.	
Unmet Scoring Issues	PI 2.3.1a – Effects of the UoA on population/ stocks within national or international limits, where applicable, PI 2.3.1(b) – Direct effects; PI 2.3.1 – Indirect effects.	
Linkages	IPG 38, IPG 39	
Priority	High	
Responsible Parties	OPAGAC	
Scoping Doc. reference	IPG 14 in the Scoping Document	
STATUS END YEAR 1	**ON TARGET**	
STATUS END YEAR 2	**BEHIND TARGET**	
STATUS END YEAR 3	**COMPLETED**	
By the end of the third year, there shall be sufficient quantitative information to objectively evaluate whether OPAGAC's purse seine operations are likely to hinder recovery of the Indian Ocean populations of pygmy blue whales and Arabian Sea humpback whales.		
Scoring end Year 1	**high priority**	
Scoring end Year 2	**medium priority (two years of preliminary data suggest no negative interactions)**	
Scoring end Year 3	**NO FURTHER ACTION NEEDED**	
End date	**Milestone**	**Met?**
Year 1 ongoing	If necessary, additional observer training shall be provided for cetacean species	IOTC cetacean ID materials are not yet ready,

	identification; by means of workshops or training materials	but cetaceans are included in the Code of Good Practice; observers have been trained from Seychelles, Madagascar and the TAAF in the Indian Ocean, as well as from Spain (AZTI 2018). Met.
End Year 2	Fishery-cetacean interactions and their outcome analysed by AZTI or other appropriate organisation or person	Data analysis is not yet complete, although preliminary analyses suggest no negative interactions. Not met – behind target.
	Analysis of likely impact of fishery on whale populations produced and if an internal document externally peer-reviewed	
	Measures in place to mitigate impacts, if required (via code of good practice). See IPG 39.	Cetaceans introduced into the Code of Good Practice and associated documents (observer data forms, training etc.); example forms provided in AZTI 2018. Met.
End Year 3	Summary report advising fleet impact on pygmy blue whale and Arabian Sea humpback whale populations and mitigation measures.	Moniz et al. (2019) provides comprehensive analysis of logbook and observer data, 2003-2017, showing i) no overlap between fishing area (south of 20ºN) and distribution of Arabian Sea humpbacks; and ii) no evidence of any significant interactions with baleen whales. Mitigation measures not required. Met.

IPG 34 **Outcome: Low impact on silky sharks and whale sharks**	
UoC	All oceans, all stocks
Performance Indicator	PI 2.2.1 – Secondary species – Outcome status The UoA maintains secondary species above a biological based limit and does not hinder recovery of secondary species if they are below a biological based limit.

	PI 2.3.1 – ETP species – Outcome status The UoA does not hinder recovery of ETP species
Unmet Scoring Issues	PI 2.2.1(a) – Main secondary species stock status OR PI 2.3.1(b) – Direct effects on ETP species and PI 2.3.1(c) – Indirect effects on ETP species
Linkages	IPG 36, IPG 37, IPG 38, IPG 39
Priority	Medium
Responsible Parties	OPAGAC
Scoping Doc. reference	Not in the Scoping Document
STATUS END YEAR 1	**ON TARGET**
STATUS END YEAR 2	**ON TARGET**
STATUS END YEAR 3	**COMPLETED**

By the end of the third year there shall be sufficient quantitative information to objectively evaluate whether OPAGAC's purse seine operations are likely to impact populations of silky sharks (*Carcharhinus falciformis*) and whale sharks (*Rhincodon typus*) either through capture or FAD entanglement.

Note: In Year 2 the SAG noted the need to include mobulids explicitly in the workplan and Appendix 2. During Year 3, IOTC passed Res. 19/03 on mobulid conservation, on which OPAGAC worked with WWF; Garcia and Herrera (2018) shows that mobulid bycatch by OPAGAC vessels is minimal. Hence the milestones below were not changed at the end of Year 3.

Scoring end Year 1	**medium priority**
Scoring end Year 2	**medium priority**
Scoring end Year 3	**NO FURTHER ACTION NEEDED**

End date	Milestone	Met?
Year 1 ongoing	Additional observer training provided as required, via workshops or materials; some form of observation for all trips (observer or electronic)	100% coverage (human or EMS) achieved in Year 1. Observers trained by AZTI since the start of the project as follows: AZTI – 23, AZTI digital – 36, Madagascar – 8, IEO – 88, Ocean Eye – 97, Seychelles – 46, TAAF – 2 (AZTI 2018). Met.
	Start process of developing observation	

	system for all trips (observer or electronic)	
End Year 2	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.	Observers evaluate FADs by 'entanglement' category (7 categories; threshold for entanglement set at >=7cm, following ISSF). More than 80,000 FADs have been evaluated since 2015, including 21k in the Pacific, 35k in the Atlantic and 24k in the Indian Ocean. In 2017 for the Atlantic and Indian Oceans, >80% of FADs were in the completely non-entangling category – a marked improvement since the start of the project (~30% in 2015). In the Pacific, the data do not allow a detailed analysis of observed FADs, but the available data suggest a similar level of compliance (~80%). Systematic recording of entangling events started in 2017 for the Atlantic/Indian Ocean, and 73/16 events were observed (AZTI 2018).
End Year 3	Options for mitigation of impacts on silky sharks and whale sharks evaluated and presented in reports or presentations	According to Grande et al. (2019a), for the last two years analysed (CGP logsheets, 2016-17) all whale sharks were released alive from the net, and they estimate ~100% post-release survival. Hence further mitigation measures are not required. For sharks in general (constituting 98% of interactions, not always identified to species), they note high survival if released from the net but low if they arrive on deck. Mitigation measures are in place (minimise time to release, good handling practices) but AZTI suggest some additional options (direct brailing into the sea, use of hoppers, develop handling tools). The HELEA project (AZTI, supported by OPAGAC) is working on the development of handling tools for sharks, with the aim of improving post-release survival and of reducing risks to crew from handling sharks by hand (Grande et al. 2019a,b,c IEO 2019). Met.
	Summary report prepared setting out whether OPAGAC's purse seine fleet 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.	FAD entanglement – not relevant; all vessels use non-entangling FADs and the CGP now includes replacement of entangling FADs when found at sea. Estimates for the EPO (Grande et al. 2019a): ~30,000 sharks per year; nearly all silky sharks. Of these, >50% are released alive, but post-release survival does not seem to be high. For whale sharks, the estimate is 9 individuals, with high post-release survival (~100%). Therefore, mitigation measures are not required for whale sharks, but for silky sharks improvements could still be made; however, all the simple options (good handling etc.)

		are already in place. Further options are being evaluated under project HELEA as described above. Met.
	Code of good practice reviewed and revised to ensure mitigation as per the above analysis. See IPG 39.	See presentation of Grande et al. (2019) to IATTC, 11 May 2019: The CGP has developed a structure which allows continual review and improvement – i.e. it has a Steering Committee (joint industry-science) and 6-monthly reporting. The CGP was comprehensively reviewed and updated last year (see under IPG39, Year 2 milestones), but in 2018-19 has been improved via development of new training materials and integration of the CGP observer forms into the ObServe electronic reporting system. For this purpose, OPAGAC has signed a contract with AZTI for the period 2019-20. In relation to this milestone, since the mitigation measures are still in development (project HELEA), they cannot be incorporated into the CGP as yet; however, given the framework now in place for continued review and improvement of the CGP, there can be confidence that there is a process in place to integrate such measures as prove effective and workable in due course. Furthermore, the objective of the IPG (which relates to data) has been met. It is therefore reasonable to consider this milestone to be met.

IPG 35 **Outcome: Effective management of interactions with silky sharks and whale sharks**	
UoC	All oceans, all stocks
Performance Indicator	PI 2.2.2 – Secondary species – Management strategy There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of populations of secondary species; and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch. PI 2.3.2 – ETP – Management strategy The UoA has in place precautionary management strategies designed to: • meet national and international requirements;

	• ensure the UoA does not hinder recovery of ETP species. Also, the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of ETP species
Unmet Scoring Issues	PI 2.2.2(c) – Management strategy implementation and PI 2.2.2(e) – Review of alternative measures to minimise mortality of unwanted catch PI 2.3.2(a/b) – There is a strategy in place that is expected to ensure the UoA does not hinder the recovery of ETP species
Linkages	IPG 34, IPG 36, IPG 39
Priority	Medium
Responsible Parties	OPAGAC
Scoping Doc. reference	Not in the Scoping Document
STATUS END YEAR 1	**ON TARGET**
STATUS END YEAR 2	**ON TARGET**
STATUS END YEAR 3	**COMPLETED**
By the end of the third year, there will be management strategies in place to ensure that the UoA does not hinder the recovery of silky sharks and whale sharks.	
Scoring end Year 1	**medium priority**
Scoring end Year 2	**medium priority**
Scoring end Year 3	**NO FURTHER ACTION NEEDED**

End date	**Milestone**	**Met?**
End Year 2	See IPG39	See IPG39
End Year 3; see IPG 34	Code of good practice reviewed and improved to ensure mitigation of any issues raised. See IPG 39.	The CGP has developed a structure which allows continual review and improvement – i.e. it has a Steering Committee (joint industry-science) and 6-monthly reporting. The CGP was comprehensively reviewed and updated last year (see under IPG39, Year 2 milestones), but in 2018-19 has been improved via development of new training materials and integration of the CGP

		observer forms into the ObServe electronic reporting system. For this purpose, OPAGAC has signed a contract with AZTI for the period 2019-20. See IPG34 for information on mitigation measures in relation to sharks. Met.
End Year 3	Agreed process for periodic review and updating of the code of good practice, and implementation of the updated code, based on observer and other monitoring data	There is a clear process in place for ongoing evaluation, review and improvement, as set out under IPG34 above (see Grande et al. 2019 – presentation to IATTC 11 May 2019). Met.

IPG 36 **Outcome: Sufficient information to evaluate and mitigate impacts on silky sharks and whale sharks**	
UoC	All oceans, all stocks
Performance Indicator	PI 2.2.3 – Secondary species – Information 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. PI 2.3.3 – ETP species – Information Relevant information is collected to support the management of UoA impacts on ETP species, including: • Information for the development of the management strategy; • Information to assess the effectiveness of the management strategy; and • Information to determine the outcome status of ETP species
Unmet Scoring Issues	PI 2.2.3(a) – Information adequacy for assessment of impact on main secondary species, PI 2.2.3(b) – Information adequacy for assessment of impact on minor secondary species, and PI 2.2.3(c) – Information adequacy for management strategy 2.3.3(a) - Information adequacy for assessment of impact on ETP species, PI 2.3.3(b) – Information adequacy for management strategy
Linkages	IPG 34, IPG 35, IPG 39
Priority	Medium
Responsible Parties	OPAGAC

Scoping Doc. reference	Not in the Scoping Document	
STATUS END YEAR 1	**ON TARGET**	
STATUS END YEAR 2	**ON TARGET**	
STATUS END YEAR 3	**COMPLETED**	
By the end of the third year there shall be sufficient quantitative information to objectively evaluate whether OPAGAC's purse seine operations are likely to impact populations of silky sharks and whale sharks either through capture or FAD entanglement.		
Scoring end Year 1	**medium priority**	
Scoring end Year 2	**medium priority**	
Scoring end Year 3	**NO FURTHER ACTION NEEDED**	
End date	**Milestone**	**Met?**
As for IPG 34	See IPG 34	See IPG 34

IPG 37 **Outcome: Low impact on turtles**	
UoC	All oceans, all stocks
Performance Indicator	PI 2.3.1 – ETP species – Outcome status The UoA does not hinder recovery of ETP species
Unmet Scoring Issues	PI 2.3.1(b) – Direct effects on ETP species and PI 2.3.1(c) – Indirect effects on ETP species
Linkages	IPG 34, IPG 38, IPG 39
Priority	Medium
Responsible Parties	OPAGAC
Scoping Doc. reference	Not in the Scoping Document

STATUS END YEAR 1	**ON TARGET**	
STATUS END YEAR 2	**BEHIND TARGET**	
STATUS END YEAR 3	**COMPLETE**	
By the end of the third year there shall be sufficient quantitative information to objectively evaluate whether OPAGAC's purse seine operations are likely to impact populations of turtles (all species) either through capture or FAD entanglement.		
Scoring end Year 1	**medium priority**	
Scoring end Year 2	**medium priority**	
Scoring end Year 2	**NO FURTHER ACTION NEEDED**	
End date	**Milestone**	**Met?**
Year 1 ongoing	Additional observer training provided as required, via workshops or materials; some form of observation for all trips (observer or electronic)	100% coverage achieved in all oceans. See IPG34 for details of observer training. Met.
	Start process of developing observation system for all trips (observer or electronic)	
End Year 2	Observer data analysed to determine level of interactions, entanglements, captures, releases and mortality of turtles. Analysis report or presentation produced and if internal peer-reviewed.	Year 2: These data are being collected but there is no final analysis report as yet. Not met. Year 3: Interactions and mortality of turtles and other sensitive bycatch evaluated in EPO (Grande et al., 2019), Indian Ocean (Garcia and Herrera, 2018; IOTC-2018-WPDCS14-26) and Atlantic (Grande et al., 2019c; SCRS/2019/057). OPAGAC only operates to a limited extent in the WCPO, and it is probably reasonable to apply estimates of catch rates from other oceans, given that they are of similar orders of magnitude. The first analysis (Indian Ocean) was presented to IOTC WPDCS with the purpose of obtaining external review as to the approach and methodology (see letter to ICCAT SCRS from OPAGAC, 16 May 2019). Met.
End Year 3	Options for mitigation of impacts on turtles evaluated and	Data suggest that interactions with and mortalities of turtles are very

	presented in reports or presentations	low; particularly since the proportion of entangling FADs has been declining in all oceans, and should continue to decline given RFMO requirements and OPAGAC's policy of replacing entangling FADs when found at sea. Further mitigation measures for turtles are not considered to be required (see for example Grande et al. presentation to IATTC, 11 May 2019). Met.
	Summary report prepared setting out whether OPAGAC's purse seine fleet operations are likely to have effects on turtle populations, via direct capture or FAD entanglement, and if so what mitigation measures have been put in place.	Summary reports for each ocean referenced above. Mitigation measures for turtles include best-practice handling and dehookers, with training provided (see presentation Grande et al., 11 May 2019). Further mitigation measures are not considered to be required.
	Code of good practice reviewed and revised to ensure mitigation as per the above analysis. See IPG 39.	See IPG35 – contract signed with AZTI for verification and review for 2019-20. Project HELEA working on improving mitigation measures where the need has been identified (sharks) (see Grande et al. 2019b, IEO 2019). Met.

IPG 38 **Outcome: Low impact on cetaceans**	
UoC	All oceans, all stocks except pygmy blue whales and Arabian Sea humpbacks in the Indian Ocean (see IPG 33 above)
Performance Indicator	PI 2.3.1 – ETP species – Outcome status The UoA does not hinder recovery of ETP species
Unmet Scoring Issues	PI 2.3.1(b) – Direct effects on ETP species and PI 2.3.1(c) – Indirect effects on ETP species
Linkages	IPG 33, IPG 34, IPG 37, IPG 39
Priority	Medium
Responsible Parties	OPAGAC
Scoping Doc. reference	Not in the Scoping Document
STATUS END YEAR 1	**ON TARGET**

STATUS END YEAR 2	**BEHIND TARGET**
STATUS END YEAR 3	**COMPLETED**
By the end of the third year there shall be sufficient quantitative information to objectively evaluate whether OPAGAC's purse seine operations are likely to impact populations of cetaceans (all species) either through capture or FAD entanglement.	
Scoring end Year 1	**medium priority**
Scoring end Year 2	**medium priority**
Scoring end Year 3	**NO FURTHER ACTION NEEDED**

End date	**Milestone**	**Met?**
Year 1 ongoing	Additional observer training provided as required, via workshops or materials; some form of observation for all trips (observer or electronic)	See IPG34 and IPG37. Met.
	Start process of developing observation system for all trips (observer or electronic)	
End Year 2	Observer data analysed to determine level of interactions, entanglements, captures, releases and mortality of cetaceans. Analysis report or presentation produced and if internal peer-reviewed.	Year 2: These data are being collected but there is no final analysis report as yet. Not met. Year 3: See IPG37. Met.
End Year 3	Options for mitigation of impacts on cetaceans evaluated and presented in reports or presentations	See IPG37 for citation of reports and presentations for each ocean.
	Summary report prepared setting out whether OPAGAC's purse seine fleet operations are likely to have effects on cetacean populations, via direct capture or FAD entanglement. and if so what mitigation measures have been put in place.	Very limited interactions and no evidence of any mortality for cetaceans. Additional mitigation measures not required. Met.
	Code of good practice reviewed and revised to ensure mitigation as per the above analysis. See IPG 39.	See IPG37. Met.

IPG 39

Outcome: Effective management of interactions with ETP species to achieve negligible impact on their recovery		
UoC	All	
Performance Indicator	PI 2.3.2 – ETP species – Management strategy The UoAs have in place precautionary management strategies designed to: meet national and international requirements; and ensure the UoAs do not hinder recovery of ETP species. Also, the UoAs regularly review and implement measures, as appropriate, to minimise the mortality of ETP species.	
Unmet Scoring Issues	PI 2.3.2(a) – Management strategy in place (national and international requirements), PI 2.3.2(b) – Management strategy in place (alternative), PI 2.3.2(c) – Management strategy evaluation and PI 2.3.2(e) – Alternative measures	
Linkages	IPG 35	
Priority	Medium	
Responsible Parties	OPAGAC with AZTI	
Scoping Doc. reference	Not in the Scoping Document	
STATUS END YEAR 1	**ON TARGET**	
STATUS END YEAR 2	**ON TARGET**	
STATUS END YEAR 3	**COMPLETED**	
By the end of the third year OPAGAC will improve and verify its Code of Good Practices to show i) cetaceans are included; ii) entangling FADs are removed or modified to non-entangling ones when encountered and iii) it is being implemented in all oceans. OPAGAC will develop a process for periodic review and updating of the Code of Good Practices following best practice, and for implementing changes.		
Scoring end Year 1	**medium priority**	
Scoring end Year 2	**medium priority**	
Scoring end Year 3	**NO FURTHER ACTION NEEDED**	
End date	**Milestone**	**Met?**
Year 1 ongoing	Training workshops held or materials prepared to train	>500 skippers and seamen trained so far by AZTI; training now incorporates new elements of the code (cetaceans, new FAD

	skippers and crews in the code of good practice	definitions) (AZTI 2018). Met.
End Year 2	All OPAGAC vessels use 100% non-entangling FADs	OPAGAC has used 100% non-entangling FADs since 2012
	Code evaluated in the light of the above and research conducted for the other P2 IPGs; proposals for review put forward	The Code has been reviewed and updated to include cetaceans (and develop best handling practice) and to update the definition of entangling FADs as described above. Met.
End Year 3	Revised code approved and implemented	Code implemented in 2018-19 as revised in 2017, with additional changes made in 2018 (improved training materials, standardisation of data collection / management systems) (see Grande et al. presentation to IATTC, 11 May 2019). Revised Code formally approved. Contract signed with AZTI for ongoing verification (2019-20). Met.
Year 4	Verification of revised code started by AZTI	Contract signed for 2019-20 as noted above. Elements verified recently, e.g. see analysis of fauna release operations, AZTI 2018; verification in the Atlantic (Grande et al., 2019b). Met.
	Process established for periodic review of data and best practice, updating of the code and implementation and verification of the updated code	See IPG34 – Met.

IPG 40 **Outcome: Quantitative information to evaluate outcome, management, and information for ecosystem impacts**	
UoC	All oceans, all stocks
Performance Indicator	PI 2.5.1 – Ecosystem – Outcome status
Unmet Scoring Issue	PI 2.5.1(a) Ecosystem status
Linkages	IPG 41, IPG 42
Priority	Medium
Responsible Parties	OPAGAC

Scoping Doc. reference	Not in the Scoping Document	
STATUS END YEAR 1	**BEHIND TARGET**	
STATUS END YEAR 2	**ON TARGET**	
STATUS END YEAR 3	**AHEAD OF TARGET**	
By the end of the fifth year there shall be sufficient quantitative information to objectively evaluate whether OPAGAC's purse seine operations, specifically its FADs, have an effect on the ecosystem in the Atlantic, Eastern and Western Pacific and Indian Oceans.		
Scoring end Year 1	**medium priority**	
Scoring end Year 2	**medium priority**	
Scoring end Year 3	**medium priority**	
End date	**Milestone**	**Met?**
Note: At the SAG meeting after Year 1 it was agreed that a new milestone be added to this IPG for Year 2, to obtain more harmonised objectives and requirements for FAD data across RFMOs, with the milestone for releasing FAD data moved back a year. Other milestones have been kept the same. *Because the milestones have been changed as described above, all the remaining milestones are provided here.*		
End Year 2	Objectives and data requirements for FADs clarified and harmonised across RFMOs	As part of the EU project RECOLAPE (Regional Cooperation in Large Pelagic Fisheries Data Collection) there has been a synthesis of data requirements in relation to FADs (see RECOLAPE Working Document WP.3). OPAGAC was part of the FAD WG of ICCAT, providing advice to the Commission on data submission and design of data forms (see correspondence between WG members, Sept. 2018); see also Baez et al. 2017a submitted as a working document to SCRS in 2017. OPAGAC participated in the 3rd Meeting of the IATTC ad-hoc Working Group on FADs, La Jolla 11-12 May 2018 (IATTC 2018). OPAGAC co-authored a paper submitted to the IOTC Working Party on Data Collection and Statistics (WPDCS13, November 2017), which made recommendations to improve and clarify IOTC's FAD data requirements (as per Res. 17/08) and align forms, definitions and codes with other RFMOs (Baez et al. 2017b). WCPFC have no specific requirements for operators to submit FAD data, and for the FAD provisions of CMM 17-01 rely on observers (100% coverage required). Overall, progress is being made, although some work remains before FAD data requirements across RFMOs are completely harmonised.

		Nevertheless, OPAGAC has signed an agreement with AZTI to provide detailed information on FADs in the Atlantic Ocean, and has also used this information to provide a FAD-based CPUE time series to IOTC, as described in IPG15. OPAGAC have also collaborated with ISSF on research into the ecological impact of FADs (e.g. Moreno et al. 2016, 2018). The intent of this milestone was the conditions were created whereby FAD data could be released by OPAGAC for use in research. Since this is clearly the case, the milestone is evaluated to be on target.
End Year 3	Report on beached FADs and mitigation of beaching impacts (external or internal / peer reviewed) published	Report on FADWatch project in the Seychelles (Zudaire et al. 2018) and presentation to IOTC WPEB by the same authors, Sept. 2018: OPAGAC established a FAD detection system in a 5nm/3nm buffer zone around Alphonse, Farquhar, Desroches, Poivre, Aride and Silhouette islands), ICS was altered and intercepted the FAD (recording data on location, habitat, vessel, design, entangled fauna and fate (removal, disposal). 0.8%/0.5% of FADs in the Seychelles EEZ beached during 2016/2017; 19 FADs were intercepted in the buffer areas. Beaching events have been reduced by 41%. The objective is to expand to other areas (see presentation at ISSF/ABNJ workshop, 26-27 April 2018 and IOTC-WPEB14; Moniz et al. 2018, and correspondence with SIOTI, Sept. 2018); also document with summary of progress and problems of FADWatch project in Seychelles, with a roadmap for setting up similar projects elsewhere; Herrera et al., 2019. Met.
End Year 4	Report on the likely habitat impacts of FADs and how they could be mitigated published	n/a But ISSF and ABNJ co-sponsored a workshop in Rome on mitigating the environmental impacts of tuna purse-seine fisheries (March 2019; Restrepo et al., 2019), with OPAGAC as a participant. This summarises clearly the state of knowledge of ecosystem impacts (including impacts from FADs – a strong emphasis of the discussion) and likely solutions – noting that there is no 'magic bullet' and solutions may vary by fleet or area. As far as FAD beaching is concerned, the workshop suggesting that key mitigation measures revolve around FAD design (e.g. bio-FADs, depth of floatation), incentives for FAD retrieval, technology (FAD tracking, high-tech FADs mean fewer FADs) and of course better management (see discussion 'The next 10 years'). Met.
	Information published or made available to each RFMO on number of FADs deployed, fate of FADs, movement of	n/a

	FADs	
	New non-entangling FADs trialled and approved for use under the code of good practice	n/a
	Sonar discrimination of schools below FADs – reduction in proportion of juveniles in yellowfin and bigeye landings	n/a
End Year 5	Summary report – ecosystem impacts of FADs and how they can be mitigated	n/a

IPG 41 **Outcome: Quantitative information to evaluate outcome, management, and information for ecosystem impacts**	
UoC	All oceans, all stocks
Performance Indicator	PI 2.5.2 – Ecosystem – Management strategy
Unmet Scoring Issues	PI 2.5.2(b) – Management strategy evaluation, and PI 2.5.2(c) – Management strategy implementation.
Linkages	IPG 40, IPG 42
Priority	Medium
Responsible Parties	OPAGAC
Scoping Doc. reference	Not in the Scoping Document
STATUS END YEAR 1	**BEHIND TARGET**
STATUS END YEAR 2	**ON TARGET**
STATUS END YEAR 3	**AHEAD OF TARGET**
By the end of the fifth year there shall be sufficient quantitative information to objectively evaluate whether OPAGAC's purse seine operations, specifically its FADs, have an effect on the ecosystem in the Atlantic, Eastern and Western Pacific and Indian Oceans.	

Scoring end Year 1	**medium priority**	
Scoring end Year 2	**medium priority**	
Scoring end Year 3	**medium priority**	
End date	**Milestone**	**Met?**
As for IPG 40	See IPG 40	See IPG 40

IPG 42 **Outcome : Quantitative information to evaluate outcome, management, and information for ecosystem impacts**	
UoC	All oceans, all stocks
Performance Indicator	PI 2.5.3 – Ecosystem – Information and monitoring There is adequate knowledge of the impacts of the UoA on the ecosystem.
Unmet Scoring Issues	PI 2.5.3(a) – Information quality, PI 2.5.3(b) – Investigation of UoA impacts, PI 2.5.3(d) – Information relevance, and PI 2.5.3(e) – Monitoring.
Linkages	IPG 40, IPG 41
Priority	Medium
Responsible Parties	OPAGAC
Scoping Doc. reference	Not in the Scoping Document
STATUS END YEAR 1	**BEHIND TARGET**
STATUS END YEAR 2	**ON TARGET**
STATUS END YEAR 3	**AHEAD OF TARGET**
By the end of the fifth year there shall be sufficient quantitative information to objectively evaluate whether OPAGAC's purse seine operations, specifically its FADs, have an effect on the ecosystem in the Atlantic, Eastern and Western Pacific and Indian Oceans.	
Scoring end Year 1	**medium priority**

Scoring end Year 2	**medium priority**	
Scoring end Year 3	**medium priority**	
End date	**Milestone**	**Met?**
As for IPG 40	See IPG 40	See IPG 40