

**Thai Union Taiwan-based WCPO tuna purse seine
fishery**

FIP Action Plan

FINAL APPROVED

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1. Introduction

The document is an Action Plan for a Fishery Improvement Project (FIP) for a Taiwan-based tuna purse seine fishery, targeting bigeye, skipjack and yellowfin tuna in the Western and Central Pacific Ocean (WCPO). The Action Plan has been prepared by Jo Gascoigne in June 2018, on behalf of Thai Union Europe. It is based on a set of six overlapping pre-assessments (one for each of the three species, free-school sets and FAD sets) drafted by FishListic in November 2015 and updated by Key Traceability in September 2019. It is not based on any direct contact with the fishery in question.

2. Description of fishery

The fishery which is targeted for a FIP is made up of a fleet of 40-45 tuna purse seine vessels, flagged either to Taiwan or to a range of Pacific Island states. The vessels fish in the WCPO for the three tropical tuna species (with most of the catch being made up of skipjack). They deploy FADs, and fish on FADs and other floating objects, as well as setting on free schools.

3. Summary of pre-assessment results

The pre-assessment is based on the MSC Fisheries Standard version 2.0; the current version in force. The results of the updated pre-assessments are summarised in Table 1 (Principle 1) and

Table 2 (Principle 2).

For Principle 1, Table 1 also includes the agreed harmonised MSC scorings for skipjack and yellowfin (results of a harmonisation meeting in April 2016) and the scorings from a bigeye fishery which became MSC certified in March 2019. For skipjack and yellowfin there are no differences. For bigeye, an update to the 2017 stock assessment was presented in 2018 (WCPFC, 2018a) at the 14th session of the Scientific Committee (SC14). This most recent publication confirms the more positive stock status indicated in McKechnie et al., 2017. There is now one MSC certified fishery¹ for WCPO bigeye, with others underway, with this FIP has harmonised. IPGs are required for all stocks in relation to harvest strategy (PI 1.2.1) and harvest control rules (PI 1.2.2).

For Principle 2,

¹ see <https://fisheries.msc.org/en/fisheries/szlc-csfc-fzlc-fsm-eez-longline-yellowfin-and-bigeye-tuna/@@view>

Table 2 also includes scorings from the Public Certification Report (PCR) from the most recent re-assessment of the PNA free-school fishery (Blyth-Skyrme et al., 2018), and the scorings used as a basis for the OPAGAC FIP, for comparison. Generally, the scores align for both the free-school and FAD assessments. For FADs, two important issues are raised in the pre-assessment scoring; i.e. the unobserved mortality of ETP species due to FAD entanglement; and the ecosystem impact of FADs. The former only applies if entangling FADs are used, but it is thought that this may be the case in this fishery. Entanglement in FADs is an issue for a range of species, but principally, it is thought, silky sharks (Filmalter et al., 2013) and turtles. Silky sharks should be considered an ETP species in the WCPO because they are protected under WCPFC CMM 2013-08.

For Principle 3, the pre-assessment, which considered the WCPFC management system only, predicted scores of 80 or above for all but one of the PIs. The less than SG80 score was given in 'compliance and enforcement' (PI 3.2.3) to highlight the potential for non-conformity with the non-entangling FAD regulations detailed in CMM 2018-01, which becomes active on 1st January 2020. As no fishery-specific information was supplied for the pre-assessment, it was unclear whether entangling FADs are used in the fishery (but have to take the worst-case scenario), how they are managed and their perceived potential compliance with the new regulation and so precautionary scoring was applied.

An on-going full assessment including some Taiwanese-flagged vessels (Morgan et al., 2018), however, has set some conditions on Principle 3 relating to the Taiwanese management system. These conditions apply to the national legal framework, consultation processes, decision-making processes and the use of sanctions. An analysis of the rationales, conditions and Client Action Plan (CAP) for these conditions suggests that they arise either from i) recent changes in the national legal framework (e.g. introduction of the National Plan for Control and Inspection in 2016) making it difficult to demonstrate conclusively that it is effective; or ii) difficulties in providing auditable evidence for procedures such as consultation, which appear to place at a more informal level. In other words, the conditions do not appear to be addressing major structural issues in the Taiwanese management system. They have not, therefore, been included in the FIP Action Plan.

Table 1. Summary of pre-assessment results for Principle 1. Also provided for comparison are the agreed harmonised MSC scorings for skipjack and yellowfin and the conclusions of the only certified MSC fishery for bigeye.

PI		Pre-assessment scores			Preliminary assessment scores	Harmonised MSC scores		Comments	IPG (see below)
		BET	SKJ	YFT	BET	SKF	YFT		
1.1.1	Stock status							<p>Bigeye: New stock assessment (McKechnie et al., 2017) and 2018 (WCPFC, 2018a) updates suggests stock is consistent with MSY level; and there is approximately 95% probability that $SB > SB_{MSY}$ and $F < F_{MSY}$ and has been over recent years. This is very different to the 2015 stock assessment, which was much more pessimistic.</p> <p>There is at least one other MSC certified fishery for this stock (certified March 2019). No conditions are associated with stock status. No further action is required here.</p>	
1.1.2	Stock rebuilding	-	-	-	-	-	-		
1.2.1	Harvest strategy							Scoring consistent with certified and in-assessment fisheries for all stocks	IPG 1,2,3
1.2.2	Harvest control rules								IPG 1,2,3
1.2.3	Information								
1.2.4	Stock assessment								

Table 2. Summary of pre-assessment results for Principle 2. Also provided for comparison are the scorings from the most recent PNA re-assessment for the free-school fishery (Blyth-Skyrme et al., 2018) and the scorings from the OPAGAC FIP for FADs².

PI		Pre-assessment		PNA	OPAGAC	Comments	IPG
		Free-school	FAD	Free-school	FAD		
2.1.1	Primary spp outcome					Primary species are skipjack and yellowfin for bigeye, etc.	
2.1.2	Primary spp mgt					Main primary species are all in good health, by being above PRI and fluctuating around MSY. This is the case for both free-school and FAD fisheries. Given the stock status SG80 is met by default.	
2.1.3	Primary spp info					Good information from logbooks / observers	
2.2.1	Secondary spp outcome					No 'main' secondary species according to pre-assessment	
2.2.2	Secondary spp mgt					Lack of fishery-specific information on the fishery meant it could not be confirmed in the pre-assessment whether there is an anti-shark finning policy in place in the fishery, so a precautionary score was awarded.	IPG 4
2.2.3	Secondary spp info					Good information from logbooks / observers	
2.3.1	ETP species outcome					The updated pre-assessment (2019) includes silky sharks, oceanic whitetip sharks, turtles (not species-specific), cetaceans (not species-specific), and mobulid rays, as well as whale sharks, which were previously included in the 2015 pre-assessment.	IPG 5

² See <https://fisheryprogress.org/fip-profile/western-and-central-pacific-ocean-tropical-tuna-purse-seine-opagac>

						<u>FADs</u> : If entangling FADs are used, unseen mortality from entanglement must be considered; this is likely to result in lower score in relation to silky sharks (Filmlalter et al., 2013) and turtles (Williams et al., 2009); this has been included in Action Plan	
2.3.2	ETP species mgt					Pre-assessment scored low due to lack of management for mobulid rays	IPG 5
2.3.3	ETP species info					Good level of observer (in theory) in the fishery (100% observer coverage on trips) but due to lack of specific information from the fishery information regarding reporting in logbooks, and species-specific identification of species (for free-school and FADs) and unobserved mortality of ETP species with FADs was not known. This has been included in the Action Plan.	IPG 6
2.4.1	Habitats outcome					No habitat impacts	
2.4.2	Habitats mgt						
2.4.3	Habitats info						
2.5.1	Ecosystems outcome					<u>FADs</u> : Ecosystem impact of FADs should be considered here, including issues of FADs management and biodegradable FADs; this has been included in Action Plan	IPG 7
2.5.2	Ecosystems mgt						IPG 8
2.5.3	Ecosystems info						IPG 7

4. Scoping

The results of the pre-assessment, as well as the other scorings presented in Table 1 and

Table 2, have been used to develop a set of 'IPGs' (improved performance goals), to be addressed by the FIP. Contrary to usual practice for FIP scoring, these IPGs have not been divided into 'critical' vs. 'non-critical' (i.e. those scoring below 60 vs. those scoring between 60 and 80). This is because i) the scoring of the pre-assessment is a little uncertain in some areas (e.g. in relation to PI 2.3.3) and ii) in practice, the 'non-critical' IPGs may be just as critical for MSC certification (e.g. in relation to the free-school fishery under Principle 2, which has no scores below SG60, but the overall aggregate Principle score may not meet the required SG80, as multiple PIs score less than SG80).

In some cases, one IPG covers several MSC PIs. This is because the MSC PIs are not independent of each other; many address the same issue from different angles. It has been found that where MSC scoring of different PIs is based on the same issue, it is most useful for FIP implementers if these are merged into one IPG, because in this way the Action Plan does not duplicate the same actions multiple times in different IPGs.

The IPGs developed for this FIP are presented in Table 3.

Table 3. IPGs to cover the issues identified in the pre-assessment and other relevant scoring

IPG	Title	Objective	MSC PIs / UoA
IPG 1	Bigeye harvest strategy	Formal harvest strategy, including harvest control rules and tools, in place for WCPO bigeye as per requirements of CMM 2014-06	1.2.1, 1.2.2 – bigeye
IPG 2	Skipjack harvest strategy	Formal harvest strategy, including harvest control rules and tools, in place for WCPO skipjack as per requirements of CMM 2014-06	1.2.1, 1.2.2 – skipjack
IPG 3	Yellowfin harvest strategy	Formal harvest strategy, including harvest control rules and tools, in place for WCPO yellowfin as per requirements of CMM 2014-06	1.2.1, 1.2.2 – yellowfin
IPG4	Secondary species management	Management strategy in place to ensure shark finning is not taking place in the fishery	2.2.2
IPG 5	ETP species strategy and information	Strategy in place to management impacts on all ETP species, including mobulid rays, silky sharks and false killer whales and improved data collection of ETP interactions	2.3.2, 2.3.3 – free-school and FAD
IPG 6	Entangling FADs	Phase out the use of entangling FADs to avoid unobserved mortality of silky sharks, turtles and other ETP species	2.3.1, 2.3.2 – FAD
IPG 7	Ecosystem impact of FADs	Support research to evaluate the ecosystem impacts of FADs, and ensure that they are not causing serious or irreversible harm to the ecosystem	2.5.1, 2.5.3 – FAD
IPG 8	Management of FADs	Put in place management of FADs consistent with WCPFC requirements (CMM 2018-01) and	2.5.2, 3.2.3 ³ – FAD

³ A note of PI 3.2.3 (compliance and enforcement). This is included as without action to ensure compliance with FAD design (addressed under IPG 8) as defined by CMM 2018-01, the fishery would be in compliance with a

		the outcome of research into ecosystem impacts and the precautionary approach	
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5. Action Plan

5.1 Background to Action Plan development

For each of the IPGs set out in Table 3 above, an individual table below sets out an overall objective (as per Table 3), annual milestones, Actions and Sub-Actions. They also define for each Sub-Action the timeframe, the lead organisation, other relevant organisations and requirements for external inputs, if any. External inputs are summarised as far as possible in Section 6 below.

For Principle 1, milestones have been set in accordance with the current version of WCPFC’s agreed Harvest Strategy Work Plan (WCPFC, 2018b; Attachment L) from December 2017; the condition milestones for MSC-certified fisheries on these stocks are also aligned with this workplan for the moment. Note that WCPFC has twice adjusted these deadlines and may do so again at their next meeting in December 2018; FIP implementation and annual FIP audits will need to take this into account.

Principle 1 Actions and Sub-Actions have been taken from the agreed milestones and CAPs for MSC-certified fisheries on these stocks⁴. In particular, they have been taken from the WPSTA purse seine fishery (Morgan et al., 2018) because this CAP is very detailed. It is important to note that they were not developed for this FIP by the author, and therefore do not imply any conflict of interest of the author with any ongoing or future MSC assessments.

Principle 2 Actions and Sub-Actions have been developed by the author, taking into account the CAP for the PNA fishery (Blyth-Skyrme et al., 2018) and the Action Plan for the OPAGAC FIP⁵.

For the timeframe, the definition of ‘Year 1’ is different for IPGs 1-3 and for IPGs 4-7. The outputs of IPGs 1-3 are determined by the conclusions at each WCPFC plenary meeting in December each year, effectively setting a ‘FIP year’ to be a calendar year (i.e. starting in January and ending at plenary in December). This means that since the Action Plan is being drafted in June, Year 1 for IPGs 1-3 is only six months long (i.e. ending in December 2018). Conversely, the timeframe for the other IPGs has been set such that they start when the FIP starts; i.e. Year 1 has 12 months from the FIP start date. Although not ideal, this is unavoidable.

WCPFC-CMM, and therefore a condition raised at full assessment against PI 3.2.3. This was precautionarily raised during the updated pre-assessment report in 2019.

⁴ For purse seine fisheries, PNA, Solomon Islands and TriMarine and WPSTA are certified. For longline fisheries on yellowfin, the Cook Islands, Walker Seafood Australia, French Polynesia, American Samoa and Fiji are certified and a variety of others are in assessment. For pole-and-line for skipjack, the Solomon Islands, New Zealand Talley and a Japanese fishery are certified, with others in assessment.

⁵ See <https://fisheryprogress.org/fip-profile/western-and-central-pacific-ocean-tropical-tuna-purse-seine-opagac>. Note that Jo Gascoigne, the author, is also involved with the OPAGAC FIP, having been employed as a consultant to support the preparation of the initial Action Plan, undertake the Year 1 progress review and support the preparation of the Year 2 Action Plan.

5.2 IPG 1: Bigeye harvest strategy

IPG 1	Bigeye harvest strategy						
Overall objective	A formal harvest strategy, including harvest control rules and tools, is in place for WCPO bigeye						
MSC PIs	1.2.1, 1.2.2 (bigeye)						
Overall milestones	Year 1	Management objectives for WCPO agreed (WCPFC workplan date: December 2018)					
	Year 2	Target reference point in place for WCPO bigeye (WCPFC workplan date: December 2019)					
	Year 3	Candidate HCRs evaluated by MSE (WCPFC workplan date: December 2020)					
	Year 4	HCR adopted for WCPO bigeye (WCPFC workplan date: December 2021)					
	Year 5	HCR implemented					
Target species	BET:	✓	SKJ:		YFT:		
Target set type	Free-school:	✓	FAD:	✓			
Actions	Sub-actions			Timescale ⁶	Action lead / implementation	Action partners	External inputs ⁷
1. Lobby WCPFC via flag states to request that the timetable for bigeye in the WCPFC harvest strategy workplan (2017) is respected	1.1	Organise at least one meeting (in person or remote) with members of each relevant flag-state delegation to ask them to support progress towards a harvest strategy for bigeye, and in particular to encourage them to support the discussion and agreement of management objectives for WCPO bigeye at WCPFC15 as per the agreed harvest strategy workplan		Year 1 (Dec. 2018)	Fishing company/ies	WCPFC delegations from each flag state	None required
	1.2	Make contact with members of the Scientific Committee (SC) from the flag states (in person or by email, letter or other suitable means), prior to SC14 (~August 2018) to ask them to ensure that the SC provides clear advice on management objectives for bigeye to the Commission		Year 1 (Dec. 2018)	Fishing companies	Members of scientific delegations to SC; WCPFC flag state delegations	Scientific support for drafting letter? One day if required

⁶ WCPFC year-end is at the annual plenary in December each year; for IPGs 1-3, therefore, Year 1 is only ~6 months long

⁷ Inputs are shared in IPGs 1-3

1.3	Submit a letter to each of the flag-state delegations, prior to WCPFC15, setting out the case for a harvest strategy for bigeye and asking them to support the agreement of management objectives for bigeye at WCPFC15; this may be done in conjunction with other organisations (see Action 2 below)	Year 1 (Dec. 2018)	Fishing companies	WCPFC delegations from each flag state; NGOs and other MSC-certified fisheries (see Action 2 below)	One day if required
1.4	Organise at least one meeting (in person or remote) with members of each relevant flag-state delegation to ask them to support progress towards a harvest strategy for bigeye, and in particular to encourage them to support the agreement of a target reference point (TRP) at WCPFC16 as per the agreed harvest strategy workplan	Year 2 (Dec. 2019)	Fishing companies	WCPFC delegations from each flag state	None required
1.5	Make contact with members of the Scientific Committee (SC) from the flag states (in person or by email, letter or other suitable means), prior to SC15 (~August 2019) to ask them to ensure that the SC provides clear advice on a TRP for bigeye to the Commission	Year 2 (Dec. 2019)	Fishing companies	Members of scientific delegations to SC; WCPFC flag state delegations	One day if required
1.6	Submit a letter to each of the flag-state delegations, prior to WCPFC16, setting out the case for a harvest strategy for bigeye and asking them to support the agreement of a TRP for bigeye at WCPFC16; this may be done in conjunction with other organisations (see Action 2 below)	Year 2 (Dec. 2019)	Fishing companies	WCPFC delegations from each flag state; NGOs and other MSC-certified fisheries (see Action 2 below)	One day if required
1.7	Organise at least one meeting with members of each relevant flag-state delegation to ask them to support progress towards a harvest strategy for bigeye at WCPFC17 as per the agreed harvest strategy workplan	Year 3 (Dec. 2020)	Fishing companies	WCPFC delegations from each flag state	None required
1.8	Make contact with members of the Scientific Committee (SC) from the flag states prior to SC16 (~August 2020) to ask them to ensure that the SC provides clear advice on the performance of	Year 3 (Dec. 2020)	Fishing companies	Members of scientific delegations to SC;	One day if required

	candidate HCRs to the Commission, as per the agreed harvest strategy workplan			WCPFC flag state delegations	
1.9	Make contact with members of the Technical and Compliance Committee (TCC) from flag states prior to TCC16 (~September 2020) to ask them to ensure that the TCC provides clear advice on the implications of candidate HCRs to the Commission	Year 3 (Dec. 2020)	Fishing companies	Members of scientific delegations to TCC; WCPFC flag state delegations	Technical support for drafting letter? One day if required
1.10	Submit a letter to each of the flag-state delegations, prior to WCPFC17, setting out the case for a harvest strategy for bigeye; this may be done in conjunction with other organisations (see below)	Year 3 (Dec. 2020)	Fishing companies	WCPFC delegations from each flag state; NGOs and other MSC-certified fisheries (see Action 2 below)	One day if required
1.11	Organise at least one meeting (in person or remote) with members of each relevant flag-state delegation to ask them to support progress towards a harvest strategy for bigeye, and in particular to encourage them to support the agreement of a HCR at WCPFC18 as per the agreed harvest strategy workplan	Year 4 (Dec. 2021)	Fishing companies	WCPFC delegations from each flag state	None required
1.12	Make contact with members of the Scientific Committee (SC) from the flag states (in person or by email, letter or other suitable means), prior to SC17 (~August 2021) to ask them to ensure that the SC provides clear advice on the performance of candidate HCRs for bigeye to the Commission	Year 4 (Dec. 2021)	Fishing companies	Members of scientific delegations to SC; WCPFC flag state delegations	One day if required
1.13	Make contact with members of the Technical and Compliance Committee (TCC) from flag states prior to TCC17 (~September 2021) to ask them to ensure that the TCC provides clear advice on the implications of candidate HCRs to the Commission	Year 4 (Dec. 2021)	Fishing companies	Members of scientific delegations to TCC; WCPFC flag state delegations	One day if required
1.14	Submit a letter to each of the flag-state delegations, prior to WCPFC18, setting out the case for a harvest strategy for bigeye and asking them to support the agreement of a HCR for bigeye	Year 4 (Dec. 2021)	Fishing companies	WCPFC delegations from each flag state; NGOs and	One day if required

	at WCPFC18; this may be done in conjunction with other organisations (see below)			other MSC-certified fisheries (see below)	
	1.15 Organise at least one meeting (in person or remote) with members of each relevant flag-state delegation to ask them to support progress towards a harvest strategy for bigeye, and in particular to encourage them to support the implementation of the HCR at WCPFC19	Year 5 (Dec. 2022)	Fishing companies	WCPFC delegations from each flag state	None required
	1.16 Submit a letter to each of the flag-state delegations, prior to WCPFC19, asking them to support the implementation of the HCR for bigeye at WCPFC19; this may be done in conjunction with other organisations (see below)	Year 5 (Dec. 2022)	Fishing companies	WCPFC delegations from each flag state; NGOs and other MSC-certified fisheries (see below)	One day if required
2. Work with other MSC and FIP fisheries and NGOs for more effective lobbying by the industry in support of harvest strategies for WCPO stocks	2.1 Work with MSC-certified fisheries and NGOs such as ISSF and WWF to support and encourage the formation of a grouping to coordinate lobbying efforts on behalf of a harvest strategy and control rule	Years 1-5	Fishing companies	ISSF, WWF, other MSC-certified fisheries for WCPO stocks	Support to establish group: 10 days (Year 1);
	2.2 Support letters, position papers and meetings developed in conjunction with other fisheries or with NGOs, if applicable and relevant	Years 1-5	Fishing companies	ISSF, WWF, other MSC-certified fisheries for WCPO stocks	coordination of group and development of position papers etc.: 10 days / year

5.3 IPG 2: Skipjack harvest strategy

IPG 2	Skipjack harvest strategy						
Overall objective	A formal harvest strategy, including harvest control rules and tools, is in place for WCPO skipjack						
MSC PIs	1.2.1, 1.2.2 (skipjack)						
Overall milestones	Year 1	Management objectives agreed; candidate HCRs proposed by SC and TCC (WCPFC workplan date: December 2018)					
	Year 2	Candidate HCRs evaluated by MSE; TRP reviewed by WCPFC (WCPFC workplan date: December 2019)					
	Year 3	HCR adopted for WCPO skipjack (WCPFC workplan date: December 2020)					
	Year 4	HCR implemented					
Target species	BET:	SKJ:	✓	YFT:			
Target set type	Free-school:	✓	FAD:	✓			
Actions	Sub-actions			Timescale	Action lead / implementation	Action partners	External inputs⁸
1. Lobby WCPFC via flag states to request that the timetable for skipjack in the WCPFC harvest strategy workplan (2017) is respected	1.1	Organise at least one meeting (in person or remote) with members of each relevant flag-state delegation to ask them to support progress towards a harvest strategy for skipjack, and in particular to encourage them to support progress towards the development of management objectives at WCPFC15 as per the agreed harvest strategy workplan		Year 1 (Dec. 2018)	Fishing companies	WCPFC delegations from each flag state	Inputs shared with IPG 1
	1.2	Make contact with members of the Scientific Committee (SC) from the flag states (in person or by email, letter or other suitable means), prior to SC14 (~August 2018) to ask them to ensure that the SC provides clear advice on management objectives and candidate HCRs for skipjack to the Commission		Year 1 (Dec. 2018)	Fishing companies	Members of scientific delegations to SC; WCPFC flag state delegations	
	1.3	Make contact with members of the Technical and Compliance Committee (TCC) from flag states prior to TCC14 (~September 2018) to ask them to ensure that the TCC provides clear advice		Year 1 (Dec. 2018)	Fishing companies	Members of scientific delegations to TCC;	

⁸ Inputs are shared in IPGs 1-3

	on management objectives and candidate HCRs for skipjack to the Commission			WCPFC flag state delegations	
1.4	Submit a letter to each of the flag-state delegations, prior to WCPFC15, setting out the case for a harvest strategy for skipjack and asking them to support the progress towards the agreement of management objectives at WCPFC15; this may be done in conjunction with other organisations (see Action 2 below)	Year 1 (Dec. 2018)	Fishing companies	WCPFC delegations from each flag state; NGOs and other MSC-certified fisheries (see Action 2 below)	
1.5	Organise at least one meeting with members of each relevant flag-state delegation to ask them to support progress towards a harvest strategy for skipjack at WCPFC16 as per the agreed harvest strategy workplan; and in particular the review of the TRP and clear progress on MSE	Year 2 (Dec. 2019)	Fishing companies	WCPFC delegations from each flag state	
1.6	Make contact with members of the Scientific Committee (SC) from the flag states prior to SC15 (~August 2019) to ask them to ensure that based on the MSE the SC provides clear advice on the performance of candidate HCRs to the Commission, as per the agreed harvest strategy workplan	Year 2 (Dec. 2019)	Fishing companies	Members of scientific delegations to SC; WCPFC flag state delegations	
1.7	Make contact with members of the Technical and Compliance Committee (TCC) from flag states prior to TCC15 (~September 2019) to ask them to ensure that the TCC provides clear advice on the implications of candidate HCRs to the Commission	Year 2 (Dec. 2019)	Fishing companies	Members of scientific delegations to TCC; WCPFC flag state delegations	
1.8	Submit a letter to each of the flag-state delegations, prior to WCPFC16, setting out the case for a harvest strategy for skipjack; this may be done in conjunction with other organisations (see below)	Year 2 (Dec. 2019)	Fishing companies	WCPFC delegations from each flag state; NGOs and other MSC-certified fisheries (see Action 2 below)	

1.9	Organise at least one meeting (in person or remote) with members of each relevant flag-state delegation to ask them to support progress towards a harvest strategy for skipjack, and in particular to encourage them to support the agreement of a HCR at WCPFC17 as per the agreed harvest strategy workplan	Year 3 (Dec. 2020)	Fishing companies	WCPFC delegations from each flag state
1.10	Make contact with members of the Scientific Committee (SC) from the flag states (in person or by email, letter or other suitable means), prior to SC16 (~August 2020) to ask them to ensure that the SC provides clear advice on the performance of candidate HCRs for skipjack to the Commission	Year 3 (Dec. 2020)	Fishing companies	Members of scientific delegations to SC; WCPFC flag state delegations
1.11	Make contact with members of the Technical and Compliance Committee (TCC) from flag states prior to TCC16 (~September 2020) to ask them to ensure that the TCC provides clear advice on the implications of candidate HCRs to the Commission	Year 3 (Dec. 2020)	Fishing companies	Members of scientific delegations to TCC; WCPFC flag state delegations
1.12	Submit a letter to each of the flag-state delegations, prior to WCPFC17, setting out the case for a harvest strategy for skipjack and asking them to support the agreement of a HCR for skipjack at WCPFC17; this may be done in conjunction with other organisations (see below)	Year 3 (Dec. 2020)	Fishing companies	WCPFC delegations from each flag state; NGOs and other MSC-certified fisheries (see below)
1.13	Organise at least one meeting (in person or remote) with members of each relevant flag-state delegation to ask them to support progress towards a harvest strategy for skipjack, and in particular to encourage them to support the implementation of the HCR at WCPFC18	Year 4 (Dec. 2021)	Fishing companies	WCPFC delegations from each flag state
1.14	Submit a letter to each of the flag-state delegations, prior to WCPFC18, asking them to support the implementation of the HCR for skipjack at WCPFC18; this may be done in conjunction with other organisations (see below)	Year 4 (Dec. 2021)	Fishing companies	WCPFC delegations from each flag state; NGOs and other MSC-certified

				fisheries (see below)	
2. Work with other MSC and FIP fisheries and NGOs for more effective lobbying by the industry in support of harvest strategies for WCPO stocks	2.1	Work with MSC-certified fisheries and NGOs such as ISSF and WWF to support and encourage the formation of a grouping to coordinate lobbying efforts on behalf of a harvest strategy and control rule	Years 1-4	Fishing companies	ISSF, WWF, other MSC-certified fisheries for WCPO stocks
	2.2	Support letters, position papers and meetings developed in conjunction with other fisheries or with NGOs, if applicable and relevant	Years 1-4	Fishing companies	ISSF, WWF, other MSC-certified fisheries for WCPO stocks

5.4 IPG 3: Yellowfin harvest strategy

IPG 3	Yellowfin harvest strategy					
Overall objective	A formal harvest strategy, including harvest control rules and tools, is in place for WCPO yellowfin					
MSC PIs	1.2.1, 1.2.2 (yellowfin)					
Overall milestones	Year 1	Management objectives for WCPO yellowfin agreed (WCPFC workplan date: December 2018)				
	Year 2	Target reference point in place for WCPO yellowfin (WCPFC workplan date: December 2019)				
	Year 3	Candidate HCRs evaluated by MSE (WCPFC workplan date: December 2020)				
	Year 4	HCR adopted for WCPO yellowfin (WCPFC workplan date: December 2021)				
	Year 5	HCR implemented				
Target species	BET:	SKJ:	YFT:	✓		
Target set type	Free-school:	✓	FAD:	✓		
Actions	Sub-actions		Timescale	Action lead / implementation	Action partners	External inputs ⁹
1. Lobby WCPFC via flag states to request that the timetable for yellowfin in the WCPFC harvest strategy workplan (2017) is respected	1.1	Organise at least one meeting (in person or remote) with members of each relevant flag-state delegation to ask them to support progress towards a harvest strategy for yellowfin, and in particular to encourage them to support the discussion and agreement of management objectives for WCPO yellowfin at WCPFC15 as per the agreed harvest strategy workplan	Year 1 (Dec. 2018)	Fishing companies	WCPFC delegations from each flag state	Inputs shared with IPG 1
	1.2	Make contact with members of the Scientific Committee (SC) from the flag states (in person or by email, letter or other suitable means), prior to SC14 (~August 2018) to ask them to ensure that the SC provides clear advice on management objectives for yellowfin to the Commission	Year 1 (Dec. 2018)	Fishing companies	Members of scientific delegations to SC; WCPFC flag state delegations	

⁹ Inputs are shared in IPGs 1-3

1.3	Submit a letter to each of the flag-state delegations, prior to WCPFC15, setting out the case for a harvest strategy for yellowfin and asking them to support the agreement of management objectives for yellowfin at WCPFC15; this may be done in conjunction with other organisations (see Action 2 below)	Year 1 (Dec. 2018)	Fishing companies	WCPFC delegations from each flag state; NGOs and other MSC-certified fisheries (see Action 2 below)
1.4	Organise at least one meeting (in person or remote) with members of each relevant flag-state delegation to ask them to support progress towards a harvest strategy for yellowfin, and in particular to encourage them to support the agreement of a target reference point (TRP) at WCPFC16 as per the agreed harvest strategy workplan	Year 2 (Dec. 2019)	Fishing companies	WCPFC delegations from each flag state
1.5	Make contact with members of the Scientific Committee (SC) from the flag states (in person or by email, letter or other suitable means), prior to SC15 (~August 2019) to ask them to ensure that the SC provides clear advice on a TRP for yellowfin to the Commission	Year 2 (Dec. 2019)	Fishing companies	Members of scientific delegations to SC; WCPFC flag state delegations
1.6	Submit a letter to each of the flag-state delegations, prior to WCPFC16, setting out the case for a harvest strategy for yellowfin and asking them to support the agreement of a TRP for yellowfin at WCPFC16; this may be done in conjunction with other organisations (see Action 2 below)	Year 2 (Dec. 2019)	Fishing companies	WCPFC delegations from each flag state; NGOs and other MSC-certified fisheries (see Action 2 below)
1.7	Organise at least one meeting with members of each relevant flag-state delegation to ask them to support progress towards a harvest strategy for yellowfin at WCPFC17 as per the agreed harvest strategy workplan	Year 3 (Dec. 2020)	Fishing companies	WCPFC delegations from each flag state
1.8	Make contact with members of the Scientific Committee (SC) from the flag states prior to SC16 (~August 2020) to ask them to ensure that the SC provides clear advice on the performance of	Year 3 (Dec. 2020)	Fishing companies	Members of scientific delegations to SC;

	candidate HCRs to the Commission, as per the agreed harvest strategy workplan			WCPFC flag state delegations	
1.9	Make contact with members of the Technical and Compliance Committee (TCC) from flag states prior to TCC16 (~September 2020) to ask them to ensure that the TCC provides clear advice on the implications of candidate HCRs to the Commission	Year 3 (Dec. 2020)	Fishing companies	Members of scientific delegations to TCC; WCPFC flag state delegations	
1.10	Submit a letter to each of the flag-state delegations, prior to WCPFC17, setting out the case for a harvest strategy for yellowfin; this may be done in conjunction with other organisations (see below)	Year 3 (Dec. 2020)	Fishing companies	WCPFC delegations from each flag state; NGOs and other MSC-certified fisheries (see Action 2 below)	
1.11	Organise at least one meeting (in person or remote) with members of each relevant flag-state delegation to ask them to support progress towards a harvest strategy for yellowfin, and in particular to encourage them to support the agreement of a HCR at WCPFC18 as per the agreed harvest strategy workplan	Year 4 (Dec. 2021)	Fishing companies	WCPFC delegations from each flag state	
1.12	Make contact with members of the Scientific Committee (SC) from the flag states (in person or by email, letter or other suitable means), prior to SC17 (~August 2021) to ask them to ensure that the SC provides clear advice on the performance of candidate HCRs for yellowfin to the Commission	Year 4 (Dec. 2021)	Fishing companies	Members of scientific delegations to SC; WCPFC flag state delegations	
1.13	Make contact with members of the Technical and Compliance Committee (TCC) from flag states prior to TCC17 (~September 2021) to ask them to ensure that the TCC provides clear advice on the implications of candidate HCRs to the Commission	Year 4 (Dec. 2021)	Fishing companies	Members of scientific delegations to TCC; WCPFC flag state delegations	
1.14	Submit a letter to each of the flag-state delegations, prior to WCPFC18, setting out the case for a harvest strategy for yellowfin and asking them to support the agreement of a HCR for yellowfin	Year 4 (Dec. 2021)	Fishing companies	WCPFC delegations from each flag state; NGOs and	

	at WCPFC18; this may be done in conjunction with other organisations (see below)			other MSC-certified fisheries (see below)	
	1.15 Organise at least one meeting (in person or remote) with members of each relevant flag-state delegation to ask them to support progress towards a harvest strategy for yellowfin, and in particular to encourage them to support the implementation of the HCR at WCPFC19	Year 5 (Dec. 2022)	Fishing companies	WCPFC delegations from each flag state	
	1.16 Submit a letter to each of the flag-state delegations, prior to WCPFC19, asking them to support the implementation of the HCR for yellowfin at WCPFC19; this may be done in conjunction with other organisations (see below)	Year 5 (Dec. 2022)	Fishing companies	WCPFC delegations from each flag state; NGOs and other MSC-certified fisheries (see below)	
2. Work with other MSC and FIP fisheries and NGOs for more effective lobbying by the industry in support of harvest strategies for WCPO stocks	2.1 Work with MSC-certified fisheries and NGOs such as ISSF and WWF to support and encourage the formation of a grouping to coordinate lobbying efforts on behalf of a harvest strategy and control rule	Years 1-5	Fishing companies	ISSF, WWF, other MSC-certified fisheries for WCPO stocks	
	2.2 Support letters, position papers and meetings developed in conjunction with other fisheries or with NGOs, if applicable and relevant	Years 1-5	Fishing companies	ISSF, WWF, other MSC-certified fisheries for WCPO stocks	

5.4 IPG 4: Secondary species management strategy

IPG 4	Secondary species management strategy						
Overall objective	Strategy in place to ensure shark finning is not taking place in the fishery						
MSC PIs	2.2.2						
Overall milestones	Year 1	Shark finning risk assessment					
	Year 2	Management strategies developed or improved where gaps identified					
	Year 3	Improvement management strategies implemented across the fleet;					
	Year 4	Review of effectiveness of management strategy.					
Target species	BET:	✓	SKJ:	✓	YFT:	✓	
Target set type	Free-school:	✓	FAD:	✓			
Actions	Sub-actions			Timescale¹⁰	Action lead / implementation	Action partners	External inputs
1. Conduct a risk assessment to the likelihood of non-shark finning within the UoA. Assess effectiveness of any NPOAs for non-ETP sharks within UoA	1.1	Conduct desk-based risk analysis that shark finning is taking place within the UoA in compliance with CMM 2010-07		Year 1: Months 1-4	Fishing companies and consultant	SPC or scientific support	~10 days of consultant input; or via development of a joint research project with scientists (see IPG 7)
	1.2	Assess the effectiveness NPOAs for (non-ETP) sharks within the UoA.		Year 1: Months 1-4	Fishing companies and consultant	SPC or scientific support	
	1.3	Reporting to FIP group on gaps in shark finning compliance by fleet/effectiveness of NPOAs		Year 1: Month 12	Fishing companies and consultant	SPC or scientific support	
2. Development of management strategy for prevention of shark finning	2.1	Management strategy for shark finning development for the fleet		Year 2: Months 1-11	Scientist / consultant	Fishing companies	~10 days of consultant input if required

¹⁰ Unlike IPGs 1-3, the timescale for IPGs 4-8 starts on the FIP start date, rather than running by calendar year

3. Improve management strategies where necessary to fill gaps	3.1	Management strategies tested on board some vessels (pilot)	Year 3: Months 1-9	Fishing companies	Skippers and crew	
	3.2	Evaluate outcome of pilot in terms of effectiveness of management strategy on shark-finning	Year 3: Months 10	Scientist / consultant	Fishing companies	~5 days consultant if required
	3.3	Final management improvements agreed	Year 3: Months 11-12	Fishing companies	Skippers and crew	
4. Implement improved management strategies	4.1	Management strategies rolled out across FIP fleet	Year 4: Months 1-6	Fishing companies	Skippers and crew	
	4.2	Further improvements made if required based on feedback from vessel skippers and crew	Year 4: Months 7-12	Fishing companies	Skippers and crew	

5.6 IPG 5: ETP species strategy

IPG 5	ETP species strategy and information						
Overall objective	Strategy in place to management impacts on all ETP species, including mobulid rays, silky sharks, marine turtles and false killer whales and collection of quantitative information adequate to assess UoA related mortality.						
MSC PIs	2.3.2, 2.3.3						
Overall milestones	Year 1	All ETP species interacting with the purse seine known; gaps in management strategy for each species evaluated					
	Year 2	Management strategies developed or improved where gaps identified					
	Year 3	Improvement management strategies implemented across the fleet; monitoring of interactions on-going to collect adequate information on UoA related mortalities					
Target species	BET:	✓	SKJ:	✓	YFT:	✓	
Target set type	Free-school:	✓	FAD:	✓			
Actions	Sub-actions			Timescale¹¹	Action lead / implementation	Action partners	External inputs
1. Compile full list of ETP species interacting with the gear	1.1	Observer data and reports obtained from SPC and if necessary compiled into useable format		Year 1: Months 1-4	Fishing companies	SPC, consultant or scientific support	~20 days of consultant input; or via development of a joint research project with scientists (see IPG 7)
	1.2	Vessel captains requested to note all interactions with ETP species (turtles, cetaceans, sharks, rays, birds) in logbook		Year 1/Month 1 and ongoing	Fishing companies	Vessel skippers and crew	
	1.3	List compiled of all ETP species appearing in any data set, and where possible the nature of the interaction and the fate of the animal		Year 1: Months 5-8	Scientific / consultant support	Fishing companies	
2. Evaluate gaps in management strategy	2.1	Management strategy for each of the species on the list evaluated; gaps in management noted (e.g. species for which there is no strategy, species where strategy does not appear to be working)		Year 1: Months 9-11	Scientist / consultant	Fishing companies	~10 days of consultant input if required

¹¹ Unlike IPGs 1-3, the timescale for IPGs 4-7 starts on the FIP start date, rather than running by calendar year

	2.2	Reporting to FIP group on gaps in ETP species management by fleet	Year 1: Month 12	Scientist / consultant	Fishing companies	
3. Improve management strategies where necessary to fill gaps	3.1	Improvements proposed to address gaps in ETP species management; e.g. via workshop involving vessel skippers / crew and scientists	Year 2: Months 1-3	Fishing companies	Skippers and crew, scientist / consultant	
	3.2	Management strategies tested on board some vessels (pilot)	Year 2: Months 4-9	Fishing companies	Skippers and crew	
	3.3	Evaluate outcome of pilot in terms of ETP species interactions and outcomes	Year 2: Months 9-10	Scientist / consultant	Fishing companies	~5 days consultant if required
	3.4	Final management improvements agreed	Year 2: Months 11-12	Fishing companies	Skippers and crew	
4. Implement improved management strategies	4.1	Management strategies rolled out across FIP fleet	Year 3: Months 1-6	Fishing companies	Skippers and crew	
	4.2	Further improvements made if required based on feedback from vessel skippers and crew	Year 3: Months 7-12	Fishing companies	Skippers and crew	
5. Monitor ETP species interactions and success of management strategies	5.1	If observer data is not sufficient or available, put in place a system to collect data on ETP species interactions and outcomes; based on data collection in 1.2	Year 1 ongoing	Fishing companies	Scientist / consultant, skippers and crew	included in Action 1
	5.2	Continue to monitor ETP species interactions and outcomes	Year 1 ongoing	Fishing companies	Skippers and crew	

5.6 IPG 6: Entangling FADs

IPG 6	Entangling FADs							
Overall objective	Phase out the use of entangling FADs to avoid unobserved mortality of silky sharks, turtles and other ETP species							
MSC PIs	2.3.1, 2.3.2							
Overall milestones	Year 1	Alternatives to entangling FADs identified, sourced and tested						
	Year 2	Deployment of entangling FADs phased out						
	Year 3	Systems in place for the removal of any entangling FADs encountered during fishing operations						
Target species	BET:	✓	SKJ:	✓	YFT:	✓		
Target set type	Free-school:		FAD:	✓				
Actions	Sub-actions			Timescale	Action lead / implementation	Action partners	External inputs	
1. Formal commitment to use only non-entangling FADs	1.1	Make a formal commitment to stop deploying entangling FADs by the end of Year 2 of the FIP			Year 1: Month 1	Fishing companies	-	
	1.2	Provide training to skippers and crew on the problems with entangling FADs and the strategy for change			Year 1: throughout year	Fishing companies	Scientist / consultant or ISSF	~20 consultant days if necessary
2. Identify suitable alternative FAD designs	2.1	Review research on FAD design, effectiveness and entanglement risk; from ISSF and other bodies			Year 1: Months 2-4	Fishing companies	ISSF and other sources of data	~10 consultant days if necessary
	2.2	Review options for FAD designs			Year 1: Months 5-6	Fishing companies	ISSF, skippers and crew	
	2.3	Agree short list of appropriate FAD designs			Year 1: Month 7	Fishing companies	Skippers and crew	
3. Test non-entangling FADs	3.1	Test short-listed designs on a subset of vessels			Year 1 Month 8- Year 2 Month 2	Fishing companies	Skippers and crew	
	3.2	Agree with vessel skippers and crew the most appropriate FAD design in terms of performance, ease of deployment,			Year 2: Months 3-4	Fishing companies	Skippers and crew	

	risk of entanglement and other relevant factors (e.g. at a meeting or workshop)				
4. Convert to deploying non-entangling FADs	4.1 Switch FAD sourcing or construction to the new design	Year 2: Months 5-8	Fishing companies	Skippers and crew	
	4.2 Ensure all vessels in the FIP are supplied with the new FADs	Year 2: Months 9-12	Fishing companies	Skippers and crew	
	4.3 Retrieve and destroy or convert any remaining entangling FADs	Year 2: Months 9-12	Fishing companies	Skippers and crew	
5. Retrieve non-entangling FADs found during fishing	5.1 In discussion with skippers and crew, evaluate the options for checking FADs at sea and retrieving entangling FADs when possible and safe to do so (could be done at same workshop as 3.2)	Year 2: Months 3-4	Fishing companies	Skippers and crew	
	5.2 Based on these discussions, establish a policy on retrieval of entangling FADs at sea	Year 2: Months 5-8	Fishing companies	Skippers and crew	
	5.3 Inform skippers and crew of the new policy	Year 2: Months 9-12	Fishing companies	Skippers and crew	
	5.4 Check implementation of the new policy (e.g. via observer reports); make changes if required	Year 3 and ongoing	Fishing companies	Skippers and crew, observers	

5.7 IPG 7: Ecosystem impact of FADs

IPG 7	Ecosystem impact of FADs					
Overall objective	Support research to evaluate the ecosystem impacts of FADs, and ensure that they are not causing serious or irreversible harm to the ecosystem					
MSC PIs	2.5.1, 2.5.3					
Overall milestones	Year 1	Research plan agreed with scientific institute				
	Year 2	FAD data provided to scientists, fishing companies participating in research				
	Year 3	FAD data provided to scientists, fishing companies participating in research				
	Year 4	Conclusions of research published				
	Year 5	Management and use of FADs adjusted to mitigate ecosystem impacts, if necessary				
Target species	BET:	✓	SKJ:	✓	YFT:	✓
Target set type	Free-school:		FAD:	✓		
Actions	Sub-actions		Timescale	Action lead / implementation	Action partners	External inputs
1. Agree research plan with scientific institute	1.1	Make contact with appropriate scientific institute, in Taiwan or elsewhere	Year 1: Months 1-3	Fishing companies	Scientists	See Section 6
	1.2	Agree framework contract and data sharing / confidentiality protocols	Year 1: Months 4-5	Fishing companies	Scientists	
	1.3	Review existing literature on the ecosystem impact of FADs and identify key research questions and how to address them	Year 1: Months 6-9	Scientists	Fishing companies	
	1.4	Draw up research plan and detailed contract	Year 1: Months 10-12	Fishing companies	Scientists	
2. Provide data for research	2.1	Provide data on FAD deployments, use and loss; FAD tracks; FAD sonar	Year 2 and ongoing	Fishing companies	Scientists, skippers	
	2.2	Establish systems on board to collect other data as required	Year 2: Months 1-6	Fishing companies	Skippers	

	2.3	Conduct other research as required (e.g. deploy instruments, invite scientist on board)	Year 2 and ongoing	Scientists	Skippers, fishing companies	
3. Analyse data and publish research	3.1	Analyse data, prepare publications	Year 3: Month 7 and ongoing	Scientists	Fishing companies	
	3.2	Review conclusions and publications	Year 4: Months 1-12	Fishing companies	Scientists	
4. Evaluate management implications	4.1	Provide advice on management changes that might mitigate any ecological impacts identified in 3.1	See IPG 7 below	See IPG 8 below	See IPG 8 below	See IPG 8 below

5.8 IPG 8: Management of FADs

IPG 8	Management of FADs						
Overall objective	Put in place management of FADs consistent with WCPFC requirements (CMM 2018-01) and the outcome of research into ecosystem impacts and the precautionary approach						
MSC PIs	2.5.2						
Overall milestones	Year 1	FAD management aligned with WCPFC requirements (e.g. CMM 2018-01) as required					
	Year 2	As Year 1					
	Year 3	Preliminary conclusions on management implications of ecosystem research (IPG 7) reviewed					
	Year 4	Final conclusions on management implications of ecosystem research (IPG 7) evaluated					
	Year 5	Management in place to mitigate ecosystem impacts of FADs					
Target species	BET:	✓	SKJ:	✓	YFT:	✓	
Target set type	Free-school:		FAD:	✓			
Actions	Sub-actions			Timescale ¹²	Action lead / implementation	Action partners	External inputs
1. Align use of FADs with WCPFC requirements	1.1	Review current WCPFC requirements for FADs; ensure company policy is aligned		Year 1: Months 1-4	Fishing companies	WCPFC delegations	
	1.2	Provide training to skippers and crew on the use of FADs and management requirements, if necessary		Year 1: Months 5-9	Fishing companies	Skippers and crew, ISSF	ISSF can support
	1.3	Establish an ongoing process to monitor WCPFC requirements in relation to FADs and update company policies and operations as required		Year 1: Months 10-12	Fishing companies	WCPFC delegations	
2. Review management implications of FAD ecosystem research	2.1	Meet scientists to evaluate preliminary research conclusions (see IPG 6 above)		Year 2: Months 10-12	Scientists	Fishing companies	See Section 6
	2.2	If the research suggests management changes, discuss with vessel skippers and crew in terms of impacts on catch, practicality etc.; e.g. via workshop		Year 3: Months 1-4	Fishing companies	Scientists, skippers and crew, ISSF	ISSF may support

¹² Timescale aligned with IPG 6 above

	2.3	Evaluate final research conclusions with scientists	Year 4: Months 1-6	Scientists	Fishing companies	See Section 6
	2.4	If these suggest management changes, discuss with vessel skippers and crew in terms of impacts on catch, practicality etc.; e.g. via workshop	Year 4: Months 7-10	Fishing companies	Scientists, skippers and crew, ISSF	
	2.5	If necessary, agree potential management changes based on research conclusions	Year 4: Months 11-12	Fishing companies	Scientists, skippers and crew, ISSF	
3. Put in place management to mitigate ecosystem impacts of FADs, if necessary	3.1	Test new management measures on board selected vessels (preliminary measures if any from 2.2, final measures from 2.3)	Year 3 and ongoing as available	Fishing companies	Skippers and crew, scientists	See Section 6
	3.2	Evaluate conclusions of test with skippers, crew and scientists	Year 3 and ongoing as available	Fishing companies	Skippers and crew, scientists	See Section 6
	3.3	Develop new FAD management policy and systems	Year 5: Months 1-6	Fishing companies		
	3.4	Implement new FAD management policy	Year 5: Months 7-12 and ongoing	Fishing companies	Skippers and crew, observers	
	3.5	Monitor implementation	Year 5: Months 7-12 and ongoing	Fishing companies	Skippers and crew, observers	

6. Suggested approaches to implementation, and external inputs

6.1 Inputs for IPGs 1-3; Action 1

For IPGs 1-3, the main inputs involve lobbying national WCPFC and regional WCPFC bodies to support the implementation of harvest strategies according to the agreed timetable. Consultant inputs may or may not be required, according to the skills of FIP participants. In the case that support is required for drafting letters and other inputs, the following time estimates are provided:

IPG	Sub-Action	Year	Consultant activity	Consultant days
IPGs 1-3	1.2	Y1	Lobbying flag-state delegations to SC	1
	1.3	Y1	Lobbing flag-state delegations to WCPFC	1
	1.5	Y2	Lobbying flag-state delegations to SC	1
	1.6	Y2	Lobbing flag-state delegations to WCPFC	1
	1.8	Y3	Lobbying flag-state delegations to SC	1
	1.9	Y3	Lobbying flag-state delegations to TCC	1
	1.10	Y3	Lobbing flag-state delegations to WCPFC	1
	1.12	Y4	Lobbying flag-state delegations to SC	1
	1.13	Y4	Lobbying flag-state delegations to TCC	1
	1.14	Y4	Lobbing flag-state delegations to WCPFC	1
	1.16	Y5	Lobbing flag-state delegations to WCPFC	1
		Y1	Sub-total	2 days
		Y2	Sub-total	2 days
		Y3	Sub-total	3 days
		Y4	Sub-total	3 days
		Y5	Sub-total	1 day

6.2 Inputs for IPGs 1-3; Action 2

For Action 2 of IPGs 1-3, the proposed approach is to work with other MSC-certified and FIP fisheries on the same stocks, as well as NGOs such as WWF and ISSF who are working towards the same goals. It is proposed that a consultant is used to coordinate inputs, for which the costs can be shared with the other participant fisheries. The overall input requirements are estimated approximately as given below. Such a group existed in the past before failing due to lack of funding support, so more detailed cost estimates should be available from the former coordinator¹³.

- Establishment of group: ~10 days

¹³ See

https://sites.google.com/site/seafoodcompaniestunamanagement/home/WCPO_Tuna_Alignment_Group/link_s/21-may-2014-meeting-FIP-MSC-Aligning-P1; further information is available on request

Drafting and coordination of inputs: ~10 days per year

6.3 Inputs for IPG 4

IPG 4 (management strategy for shark finning) requires some technical which could be delivered by a consultant (risk assessment and development of a management strategy for shark finning), as well as feedback from the fleet in order to make any additional improvements to the implemented strategy.

IPG	Action / Sub-Action	Year	Consultant activity	Consultant days
IPG 4	Action 1	Y1	Shark-finning risk assessment and effectiveness of NPOAs for non-ETP sharks, report to FIP group on gaps	~10 days
	Action 2	Y2	Development of management strategy for shark finning for the fleet	~5 days
	Action 3	Y3	Evaluate outcome of pilot in terms of effectiveness of management strategy on shark-finning	~5 days

6.4 Inputs for IPG 5

IPG 5 (management of ETP species interactions) requires some scientific / technical inputs which could be delivered via a consultant. However, another approach would be to include in in the contract agreed with a scientific institute to deliver IPG 6 (see below). In the case that this cannot done, or a separate consultant is preferred, inputs are roughly estimated below.

IPG	Action / Sub-Action	Year	Consultant activity	Consultant days
IPG 5	Action 1	Y1	Obtain and compile observer data, develop logbook additions for skippers to track ETP species interactions, review logbook and observer data and compile list of ETP species interacting with the fishery	~20 days
	Action 2	Y1	Review management strategy for each ETP species; identify gaps where management not in place or not working	~10 days
	3.3	Y2	Evaluate results of pilot test of management options for ETP species; make recommendations for changes if required	~5 days
		Y1	Sub-total	~30 days
		Y2	Sub-total	~5 days

6.4 Inputs for IPG 6

For IPG 6 (phasing out of entangling FADs), considerable resources are already available in support; most notably from ISSF who have been supporting research into FAD designs and impacts for some

time. It is suggested that the FIP initially contact ISSF, who may be able to provide the required external inputs (similarly for IPG 8). Failing that, however, consultant inputs for IPG 6 are approximately estimated below.

IPG	Action / Sub-Action	Year	Consultant activity	Consultant days
IPG 6	1.2	Y1	Train skippers and crew on entangling FADs, problems and strategies for change	~20 days
	2.1-2.2	Y1	Review FAD designs according to effectiveness and entanglement risk; present best FAD re-design options	~10 days
		Y1	Sub-total	~30 days

6.5 Inputs for IPGs 7 and 8

IPG 7 entails a relatively significant scientific research project addressing the potential ecosystems impacts of FADs. This is likely to involve the review and mining of existing research, analysis of detailed data on FAD deployments, including FAD sonar, and potentially further field research on board the fishing vessels. A more suitable FIP partner would therefore be a scientific institute, rather than a consultant, since individuals or consultancy companies are not likely to have the necessary resources or facilities. (OPAGAC are addressing this element of their FIP via a series of research contracts with the Spanish marine research institute AZTI.) A suitable institute is likely to exist in Taiwan, as well as elsewhere in East Asia, notably Japan, as well as in the western Pacific region, notably in Australia and New Zealand.

It is appreciated that FAD data is often commercially sensitive; time has been allowed in the Action Plan to agree a suitable data-handling protocol with the scientists concerned.

No attempt has been made to quantify the inputs required from the scientific research project; more familiarity with existing research, the types of data available and the expertise of the scientist's concerns is required to obtain a credible estimate.

For some elements of IPG 8, which overlap with IPG 6, ISSF is proposed as the first port of call.

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