Action Plan and budget for the Kiribati Purse Seine Tuna Fishery Improvement Project (FIP)

FIP Workplan
Version 1.0

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Contents

Glossary[1]

Pre-assessment: A pre-assessment is a preliminary evaluation of a fishery against all MSC performance indicators to provide a picture of the fishery's baseline environmental performance and challenges. A pre-assessment allows a fishery to identify any areas that need to be improved to reach an unconditional pass of the MSC standard. A pre-assessment must be completed by someone experienced with applying the MSC standard (e.g., is a registered MSC technical consultant or accredited auditing body).

Basic FIP: A Fishery Improvement Project (FIP) with time bound objectives for addressing a specific set of the fishery's environmental challenges to improve its performance against the MSC fisheries standard. Basic FIPs complete a needs assessment to understand the challenges in the fishery.

Comprehensive FIP: A Fishery Improvement Project with time bound objectives for addressing all of the fishery's environmental challenges necessary to achieve a level of performance consistent with an unconditional pass of the MSC fisheries standard. Comprehensive FIPs engage a party experienced with applying the MSC fisheries standard to complete an MSC pre-assessment to understand the challenges in the fishery and must have independent, in-person audits of progress against the MSC fisheries standard every three years.

Performance Indicator: A Performance Indicator (PI) evaluates the success of a particular activity when compare against desired goals. In the case of FIPs that follow the MSC fisheries standard, it measures the impact of the action in place against desired conditions or results.

[1] Also see Pre-assessment Glossary

Introduction

The Fishery Improvement Project's (FIP) scope is the Kiribati Purse Seine Tuna Fishery targetting skipjack (*Katsuwonus pelamis*), yellowfin (*Thunnus albacares*) and bigeye tuna (*Thunnus obesus*) through free-school and Fish Aggregation Device (FAD)-associated sets. The fleet of ten purse seine vessels are flagged to China and operate mainly in the Kiribati EEZ, other Party to the Nauru Agreement (PNA) countries' EEZs and potentially on the high seas. The fishery is managed regionally by the Western and Central Pacific Fisheries Commission (WCPFC).

Table 1. Catch volumes of target species (client data)

Species	2017 (mt)	2018 (mt)	2019* (mt)
Skipjack tuna	60442.25	84306.75	72103
Yellowfin tuna	12207.8	7553.79	2961.66
Bigeye tuna	734.17	953.15	401.11

**** Year to date Jan-Sept.***

The fishery which is targeted for the FIP is made up of a fleet of ten tuna Purse Seine (PS) vessels, flagged to China (Table 2). These purse seine vessels fish for around 20-25 days at a time with up to 12 trips taking place a year.

Table 2 - List of vessels included in the FIP

Ref.	Vessel Name	Type	Licence Valid Date	Gross Tonnage	Call Sign	Flag
1	Jinhui 58	PS	01/01/2018-31/12/2019	1782	BZW2A	China
2	Jinhui 6	PS	01/01/2018-31/12/2019	1198	BIWX	China
3	Jinhui 7	PS	01/01/2018-31/12/2019	1769	BIWT	China
4	Jinhui 8	PS	01/01/2018-31/12/2019	1640	BIWM	China
5	Jinhui 9	PS	01/01/2018-31/12/2019	1640	BIWO	China
6	Jinhui 18	PS	01/01/2018-31/12/2019	1792	BZU8E	China
7	Jin Liao Yu 57	PS	01/01/2018-31/12/2019	1095	BAWB	China
8	Jin Liao YU 77	PS	01/01/2018-31/12/2019	1091	BAWC	China
9	Zhong Tai 1	PS	01/01/2018-31/12/2019	1087	BZZW4	China
10	Zhong Tai 3	PS	01/01/2018-31/12/2019	1284	BZZY8	China

The following Units of Assessment (UoAs) were considered in this report, there are a total of six UoAs:

- Western and Central Pacific Ocean (WCPO) stocks of skipjack, bigeye and yellowfin, caught by purse seine on FAD associated sets and managed by relevant national management (Kiribati) and regionally by the WCPFC (three UoAs);

- Western and Central Pacific Ocean (WCPO) stocks of skipjack, bigeye and yellowfin, caught by purse seine on non-associated sets (free-school) and managed by relevant national (Kiribati) management and regionally by the WCPFC (three UoAs).

Regarding FAD vs free-school, although there are currently several free-school purse seine tuna fisheries certified in the WCPO area, there are impending changes to the MSC Fisheries Certification Process. In December 2019, the MSC Technical Advisory Board (TAB) endorsed and recommended to the Board the MSC Executive's proposal to amend the definitions of Unit of Assessment (UoA) to require all activities undertaken by a specific gear-type to be included in an MSC assessment, thus preventing compartmentalisation in which certified and uncertified activities with a defined gear occur on the same trip. This will have significant implications for purse seine fisheries which will no longer be allowed to separate between FAD and free-school UoAs in MSC assessments. While this change has yet to be formally adopted, it will likely become a reality. In this case, all tuna purse seine fisheries are to consider all set types as part of a single UoA, without separation into separate scoring elements. The pre-assessment and workplan for this fishery have taken this into account to ensure scores are precautionary and that if this happens the workplan would not be significantly affected.

Overview of pre-assessment results

The pre-assessment only considered publicly available data and no site visits or consultations with stakeholders were carried out. Data was collected from mostly Regional Fisheries Management Organisations (RFMOs) websites, the annual report submissions from CCMs to the WCPFC and the FAO. Additional information was obtained from existing MSC fishery assessments and pre-assessments.

Overall, all stocks would pass Principle 1 (P1), with two conditions per stock. All stocks are well above the point of recruitment impairment (PRI) and fluctuating around F_{MSY} and are not likely to be subject to overfishing. However, the continued lack of HCRs for tuna species continues to be the main issue for P1.

For Principle 2 (P2), the fishery predominantly catches the target species, with very small percentages of other bycatch species. The free-school UoAs overall scored well, as have other MSC-certified purse seine fisheries in the region. Two important issues have been identified in relation to FAD use in the fishery. One surrounds the unobserved mortality of ETP species caused by entanglement with FADs, and the other, the lack of information on ecosystem impacts of FADs. The former only applies if entangling FADs are used and the FIP will verify the case for this fishery. Entanglement in FADs is an issue for a range of species, but principally, it is thought, silky sharks (Filmalter et al., 2013[2]) and turtles. Note, no direct catch information from the fishery nor aggregated observer data for the fleet was received. This means that the Principle 2 analysis is a generic summary of likely species interactions with the fishery.

For Principle 3 (P3), the pre-assessment, considered the Kiribati and Chinese national management, sub-regional PNA management and regional WCPFC management systems. All of which, except China scored

[2] Filmalter, J.D., Capello, M., Deneubourg, J-L., Cowley, P.D., Dagourn, L. 2013. Looking behind the curtain: quantifying massive shark mortality in fish aggregating devices. IOTC-2013-WPEB-09-21.

well and were almost all over SG80 (Pass), as per recent full assessment scores for overlapping elements. With China, the main issue is lack of information, so if this can be gathered during the life of the FIP, scores for Chinese national management may well improve.

It should also be noted that as of 1st January 2020, CCMs shall ensure that the design and construction of any FAD to be deployed in or that drifts into, the WCPFC Convention Area shall comply with the non-entangling design currently specified in CMM 2018-01. The purpose of which is to reduce the risk of entanglement of sharks, marine turtles or any other species. Failure to comply with this would raise compliance issues and would at least lead to a condition at full assessment. To ensure this is assessed during the FIP, PI 3.2.3, compliance and enforcement scored a precautionary 60 – 79 score (Pass with conditions).

The table of all scores by MSC Performance Indicator (PI) is provided in Appendix A.

In conclusion, this fishery would not be able to currently pass MSC certification and thus a FIP has been conceived to address the shortcomings. The purpose of this 'Workplan' document is to outline the actions needed to be implemented in order to address these shortcomings and be in a position to achieve MSC certification.

Principle 1: Sustainability of fish stocks

Action Number and Name	**1 – Promote the development of a well-managed harvest strategy for all three tuna species by the WCPFC**
Action Goal	There is a robust and precautionary harvest strategy in place for skipjack, bigeye and yellowfin tuna
Action Description	The fishery should detail how the performance of the harvest strategy is currently monitored, reviews and where necessary amended in response to the state of the stock. A harvest strategy can then be developed from this review. This IPG has two actions associated with it. 1. To address SIa, explicit harvest strategies for tuna are to be designed. 2. To address SIb, a formal evaluation procedure for the harvest strategies is to be put in place for tuna. The FIP shall monitor and engage with WCPFC, China, Kiribati and other PNA countries to educate them on the needs of the FIP to meet its objectives to enable them to successfully advocate the WCPFC to create a well-managed harvest strategy. The tasks listed under Action 1 are essentially advocacy-related but for this activity the FIP will also monitor how and when the HS/HCR components are anticipated met (as for example per the WCPFC workplan CMM-2014-06). The current version of the WCPFC HS/HCR workplan milestones anticipate Skipjack HCR adoption in 2020 and Bigeye/Yellowfin in 2021.
Expected Completion Date	December 2024
Priority	Medium
Estimated Cost	Year 1: US$ 23,000 plus US$ 3,000 for expenses Year 2: As per year 1 Year 3: As per year 1 Year 4: As per year 1 Year 5: As per year 1

Responsible Parties	The FIP led by Key Traceability will be advocating to WCPFC and China, Kiribati and other PNA countries to develop harvest strategies. It is the responsibility of the WCPFC to develop and implement them.
MSC PI Addressed by the Action	1.2.1

Tasks	**Responsible (lead)**	**Responsible (supporting role)**	**Starting date**	**Actual completion date**	**Evidence of completion / results**
1a. Monitor and report on the WCPFC workplan for the adoption of HCRs and monitor and report on, and if appropriate to participate with, existing advocacy activities such as the NGO Tuna Forum.	FIP co-ordinator	Fishery	January 2020		
1b: Engage with WCPFC scientists and CCM delegations to advocate for Management Strategy Evaluation (MSE) options for controlling SKJ, YFT and BET tuna harvest developed.	FIP co-ordinator, WCPFC	Coastal states, NGOs	January 2020		
1c: Hold meetings with delegation members with the following purpose: I. Continuing to emphasise the importance of the harvest strategy and harvest control rule process to the FIP industry partners and other fisheries in the western and central Pacific Ocean. II. Proposing practical ways that the governments could support the process; e.g. via liaison to support capacity-building with Coastal states, or other activities reporting regularly to the delegations so that the they are kept informed of current ideas and proposals at WCPFC and within Coastal states where the industry partners have	FIP co-ordinator, WCPFC	Coastal states, NGOs	January 2020		

links.					
1d: WCPFC briefing document on Harvest Strategies (2020). Prior to WCPFC plenary 2020 produce a formal briefing document regarding the status of the current harvest strategy, the objective of WCPFC, the position of key players and likely upcoming proposals, and the outcome preferred by the FIP, to brief the governments and other stakeholders.	FIP co-ordinator, WCPFC	Coastal states, NGOs	January 2020		
1e: Position paper for a harvest strategy and HCRs. Prepare a position paper to submit to plenary in support of making significant progress in developing a harvest strategy and control rules for all three species. Work with the governments delegations to obtain their support for the paper, as well as that of other member states as far as possible.	FIP co-ordinator, WCPFC	Coastal states, NGOs	January 2020		
1f: Promote best practice for harvest strategy. Promote through the governments a process of consultation to inform WCPFC members about best practice for harvest strategy and stock rebuilding, to build consensus towards support of proposals of management measures prior to WCPFC Sessions.	FIP co-ordinator, WCPFC	Coastal states, NGOs	January 2020		
1g: Continue to advocate for progression of harvest strategy and MSE development. Intersessional discussions to progress the harvest strategies between like-minded WCPFC members and organisations, and formally at the relevant WCPFC meetings.	FIP co-ordinator, WCPFC	Coastal states, NGOs	January 2020		

Action Number and Name	**2 – Promote the development of Harvest Control Rules (HCRs) and tools for bigeye and yellowfin tuna by the WCPFC**
Action Goal	There are well-defined and effective HCRs in place for bigeye and yellowfin tuna
Action Description	The seasonal closure is likely to be sufficient to control the exploitation rate to ensure that the PRI is not reached, meeting SG60 for SIc. However, it cannot be argued to be likely to achieve the exploitation rates set out in the HCR (and target reference points (TRP) are still to be defined for bigeye and yellowfin, there is an interim TRP in place for skipjack already). If there is a stock recruitment relationship, which is a common assumption in many other tuna stock assessments, then effort would have to be reduced significantly. We must undertake an initial review of the tools which are used to set the exploitation rate in the fishery as determined by the HCRs. This we will then be used to amend the tools in use to control the exploitation rate as defined by the HCR. These should then be implemented and periodically reviewed.
Expected Completion Date	December 2025
Priority	Medium
Estimated Cost	Year 1: US$ 10,000 Year 2: US$ 5,000 Year 3: No associated costs Year 4: US$ 10,000
Responsible Parties	WCPFC, Coastal states
MSC PIs Addressed by the Action	1.2.2

Tasks	Responsible (lead)	Responsible (supporting role)	Starting date	Actual completion date	Evidence of completion / results
2a: Building consensus on the need for robust HCRs. Intersessional discussions on HCRs and tools between like-minded WCPFC members and organisations and formally at meetings at each WCPFC meeting. Options for harvest control rules (HCRs) and tools for managing YFT and BET tuna harvest developed. The FIP will coordination activities with other FIPs and MSC certified fisheries e.g. through the WCPO Tuna MSC Alignment Group. Such coordination is intended help drive the momentum and overall likelihood of success for the FIP.	FIP co-ordinator, Fishery	Coastal states, NGOs	December 2020		
2b: Ensure a holistic implementation HCR development. Monitor work plan development for the implementation of Res. C-17-02 (or other proposal for a harvest strategy) (see IPG 1.2) to ensure the development, evaluation, and agreement of an HCR for the three species, alongside the development of the tools required for implementation. Options for harvest control rules (HCRs) and tools for managing YFT and BET tuna harvest developed.	FIP co-ordinator, WCPFC	Coastal states, fishery, NGOs	December 2020		
2c: If necessary, provide an independent paper on the scope and needs of HCRs. Conduct a study to identify candidate HCRs and tools for BET and YFT (candidate HCRs already tested for SKJ) that meet the objective of IPG 3 for submission to the WCPFC. Will include an evaluation of current (candidate) HCRs and tools for their effectiveness, and the main uncertainties identified and considered. Options for harvest control rules (HCRs) and tools for managing YFT and BET tuna harvest developed.	FIP co-ordinator, WCPFC	Coastal states, fishery, NGOs	December 2020		

2d: On-going engagement with Coastal states and WCPFC over HCR development. Discussions held with like-minded WCPFC members and organisations regarding the assessment of HCRs and tools for all stocks, including how to address the assessment's findings have occurred through inter-sessional discussions and formally through the WCPFC meeting process. WCPFC's record to reflect discussions and progress. The main uncertainties for different HCR options are identified. Depending on results and implementation of the HCR by the RFMO this task may either continue ongoing or follow-on to task 2e.	FIP co-ordinator, WCPFC	Coastal states, fishery, NGOs	December 2021		
2e: Independent evaluation of HCR robustness and effectiveness. Conduct further study to evaluate progress made in developing HCRs, focussing on their potential effectiveness in reducing exploitation levels when required, and their ability to account for uncertainties that might affect their implementation. HCRs for all three species discussed and agreed within WCPFC and formally adopted as part of the harvest strategy implementation approach (see IPG 2). The main uncertainties are considered and discussed inter-sessionally and formally though WCPFC meeting processes. WCPFC's record to reflect discussions and progress.	FIP co-ordinator, WCPFC	Coastal states, fishery, NGOs	June 2024		

Principle 2: Minimising environmental impacts

Action Number and Name	**3 – Data collection, review and analysis relating to the FIP vessels (UoA)**
Action Goal	Reliable logbook and observer data processed.
Action Description	Due to the uncertainties highlighted in the pre-assessment and the needs of the FIP, one of the initial and immediate tasks is to obtain UoA logbook and observer data. This data will be collected in coordination with the vessel owners and authorities. The data will be used to build a robust picture of the fishing mortality as well as species interactions and on which to base FIP activities related to attaining the MSC Standard. The tasks that aim at better data collection on ETP species interactions are not just relevant to FADs. Interactions with ETP species occur in free-school sets as well and in the absence of UoA data, these should then be incorporated into the FIP workplan. Should any additional data collection needs be identified then solutions to these (for example via EM) will be recommended and also subsequently added to the workplan.
Expected Completion Date	September 2020
Priority	High
Estimated Cost	Year 1: US$ 5,000
Responsible Parties	Fishery, FIP coordinator, Fisheries consultant
MSC PIs Addressed by the Action	All

Tasks	Responsible (lead)	Responsible (supporting role)	Starting date	Actual completion date	Evidence of completion / results
3a: Collect and provide catch, discard and interaction data relating to the Fishery UoA. The data should be sufficient to determine performance against all relevant PIs including ETP, FAD management and others such as P3 catch locations.	FIP co-ordinator	Fishery	January 2020		

Action Number and Name	**4 – Secondary species management**
Action Goal	Data available to demonstrate compliance with ETP PIs including shark finning ensuring that it is highly likely that ETP species are not negatively impacted.
Action Description	To achieve SG80 for secondary species PIs, including that shark finning must not be taking place, i.e. if sharks are retained and landed in the fishery, they must be landed with their fins naturally attached and there must be regulations in place governing the management of sharks, including full documentation of the destination of all shark bodies and body parts. Observer data, EMS footage, or port sampling information was not provided for this pre-assessment; therefore, no evidence was provided to be able to evaluate the impacts on secondary species including sharks.
Expected Completion Date	December 2024
Priority	High
Estimated Cost	Year 1: US$ 29,800 Year 2: US$ 4,800 Year 3: US$ 4,800 Year 4: US$ 4,800
Responsible Parties	Fishery, FIP coordinator, Fisheries consultant
MSC PIs Addressed by the Action	2.2.2, 2.3.1

Tasks	Responsible (lead)	Responsible (supporting role)	Starting date	Actual completion date	Evidence of completion / results
4a: UoA observer data with associated Gen 3 forms obtained over at least a 3-year period and analysed for shark finning incidents. Based on the findings of this analysis, a management strategy should be implemented by the UoA to prevent shark finning from taking place, as required (this may or may not include additional monitoring through EM or human observers).	FIP co-ordinator	Fishery, Coastal states' ministries (MCS), ports authorities	June 2020		
4b: Analyse, if necessary, the need for EM in the fleet to provide third-party coverage of fleet activities with regard to secondary species.	Fishery	FIP co-ordinator	June 2020		
4c: Development of a fleet-level generic bycatch reduction strategy to minimise bycatch levels, especially for associated sets. Strategy should include best-practice handling procedures.	FIP co-ordinator	Fishery	December 2020		
4d: Put in place additional management measures and data collection, if required.	Fishery,	FIP consultant/co-ordinator	June 2021		
4e: Review effectiveness of management strategy. A short consultancy project to be initiated to review the effectiveness of the management plan for mitigating impacts on ETP species (3a). This is to include the measures and implementation processes to assess implementation successes and barriers, including results of EMS analysis to provide feedback on best practice procedures. Alternatives measures to be put in place as required.	FIP co-ordinator	Fishery, potentially Coastal states' management authorities (MCS) and port authorities	June 2024		

Action Number and Name	**5 – FAD management**
Action Goal	The associated actions concerning FADs cover a number of PIs. These have been disseminated below: **ETP PIs** – The use of FADs in the fishery will not hinder the recovery of ETP species (such as silky sharks, turtles and other species) and indirect effects are highly likely not to create unacceptable impacts. Relevant information is collected to support the management of UoA impacts (including FADs) on ETP species, including information to develop a management strategy (which should aim not to hinder recovery of ETP species and regularly reviews and implements measures to minimise mortality of ETP species), assess its effectiveness and determine outcome status of ETP species. **Habitat PIs** - The use of FADs in the fishery will not cause serious or irreversible harm to habitat structure and function and there will be a management strategy in place with this objective. Information is adequate to determine the risk posed to the habitat by the UoA and the effectiveness of the strategy to manage impacts on the habitat. **Ecosystem PIs** – The use of FADs will not cause serious or irreversible harm to the key elements of the ecosystem structure and function. There will be management measures in place to meet this objective, and the information collected shall demonstrate adequate knowledge of the impacts of the UoA on the ecosystem.
Action Description	**ETP species PIs** - There are both direct and indirect effects associated with FADs. The behaviour of species such as silky sharks makes them more likely to be directly caught in purse seine operations due to their affinity for floating objects and secondly through FAD entanglement (for species like silky sharks and turtles) adding an unobserved mortality element to associated impacts. Additionally, with respect to indirect effects, tunas and silky sharks are more closely associated with FADs during daytime (Forget et al., 2015[3]), making them vulnerable to capture but little information is known about how ETP species' behaviours are affected by interactions with FADs. **Habitats PIs** - Whilst it is probable that the use of FADs is unlikely to reduce the structure and function of VME (coral reefs) and commonly encountered habitats as to cause serious or irreversible harm, the lack of information and understanding of the real nature of this issue and the accumulative effect of years of FAD deployment in the WCPO (granted not just from this fishery) means the more information should be gathered to provide higher degrees of certainty in order to produce a management strategy to achieve a habitat outcome PI score of SG80 (i.e. a strategy is in place that is designed to ensure the UoAs do not pose a risk of serious or irreversible harm to the habitats encountered by the fishery.

[3] Forget, F. G., M. Capello, J. D. Filmalter, R. Govinden, M. Soria, P. D. Cowley, and L. Dagorn. 2015. Behaviour and vulnerability of target and non-target species at drifting fish aggregating devices (FADs) in the tropical tuna purse seine fishery determined by acoustic telemetry. Canadian Journal of Fisheries and Aquatic Sciences 72:1398–1405.

	Ecosystem PIs- The effects of FADs used in the fishery on the migration patterns and feeding of tuna and other key predators (e.g. silky shark and oceanic whitetip shark) is a subject of concern. The impact of current FAD numbers on tuna populations and the broader ecosystem are poorly understood. Research (Haillier and Gaertner, 2008[4]) indicated that tunas associated with FADs eat less than those in free schools, the difference in growth rate and condition potentially being a consequence of altered feeding patterns. Significant changes in migratory direction and displacement rates were observed in the presence of drifting FADs, supporting the hypothesis that FADs act as a super-stimulus, misleading tunas to make inappropriate habitat selection. However, further studies are required to investigate the long-term effect of FADs on the entire life cycle of tunas.
Expected Completion Date	June 2024
Priority	High
Estimated Cost	Year 1: US$ 20,000 Year 2: US$ 11,000 Year 3: TBC dependent on previous years Year 4: TBC dependent on previous years
Responsible Parties	Fishery, FIP coordinator, Fisheries consultant
MSC PIs Addressed by the Action	2.3.1, 2.3.2, 2.3.3, 2.4.1, 2.4.2, 2.4.3, 2.5.1, 2.5.2, 2.5.3

[4] Haillier, J.P., Gaertner, D. 2008. Drifting fish aggregation devices could act as an ecological trap for tropical tuna species. Marine Ecology Progress Series. Vol: 353: 255-264.

Tasks	Responsible (lead)	Responsible (supporting role)	Starting date	Actual completion date	Evidence of completion / results
5a: Review current literature to understand the 'ecological trap hypothesis' of FADs on behaviour, feeding and migration of key elements of the ecosystem, including ETP sharks, indication of other potential impacts of FADs on key elements of the ecosystem to frame the problem and necessary research. This shall then be used to advise task 4b.	FIP co-ordinator	FIP co-ordinator, NGOs	January 2020		
5b: Define the approach to investigate the 'ecological trap hypothesis' of FADs on behaviour, feeding and migration of key elements of the ecosystem, including ETP species such as sharks, indication of other potential impacts of FADs on key elements of the ecosystem. The objective of this is to add to the information base on indirect effects of the UoAs on ETP species and main impacts of the UoA on these key ecosystem elements. This can then be used to update the preassessment and action plan.	FIP co-ordinator	FIP co-ordinator, NGOs	January 2020		
5c: The fishery formally adopts best practice non-entangling FADs. Taking into account the following points: I. Clarify latest ISSF recommendations on 'non-entangling FADs'. Note, the requirement on 'non-entangling FADs' in CMM 2018-01 in fact refers to the 'lower risk entanglement FADs' according to ISSF guidelines. To meet the MSC standard, it is likely the FIP will have to go further than this. II. Look at promoting the adoption of biodegradable materials (as per Task 4) to help reduce the severity of FAD beaching.	FIP co-ordinator	Fishery, NGOs	January 2020		

5d: Species identification training for skippers is needed to improve the accuracy of fishery-dependent recordings of non-target species interacting with the fishery and make sure best practice on board is happening. These species are normally not of commercial interest, so may have been previously overlooked. Training should cover the commonly encountered species (ETP and secondary species) and identification guides provided to each vessel.	FIP co-ordinator, fishery	NGOs	June 2020		
5e: ETP species recording needs to be improved to allow cross-checking with observer data and EMS analysis to build a more accurate picture of fishery-specific impacts and identify potential 'hot-spots' for ETP interactions. I. Design addition to daily catch reporting logbook (electronic or hard copy) to record. II. Using the format described in 1. above, record set-types, locations, numbers and fates of ETP species (to species level) caught in the fishery (by operations and entangled with FADs). This should include those species which are not broad onboard or when found entangled with a FAD prior to remove of the FAD from the water (see 4f Implement FAD management plan).	FIP co-ordinator, fishery	NGOs	July 2020		

5f: Define a fishery specific FAD management plan aimed at reducing the risk of derelict and impact of entangling FADs and to make sure best practice on board is happening. The plan should focus on a number of measures: I. Development and practical implementation of biodegradable FADs. II. Record the number of FADs deployed. III. Removal and recording (location, type of FAD, any entanglements of animals) of abandoned FADs when encountered, regardless of ownership. IV. Gathering more information of lost FADs, spatial extent and interactions with habitats and explore how these may be tracked. A research paper will be compiled gathering more information to allow identification of the main impacts of derelict FADs in this fishery. The focus will be around the issues as discussed in the pre-assessment . An output will include recommendations for mitigating the impacts. V. Avoiding high risk FAD deployment areas VI. Collaboration in a FAD Watch programme across the WCPO VII. Limiting FAD deployments	FIP co-ordinator, fishery	NGOs	June 2020		
5g: Implement investigation approach as outlined in 4b	FIP co-ordinator, fisheries research organisation	NGOs	June 2020		
5h: Align work with relevant e-NGOs to the fishery to test the difference in the impacts of biodegradable and traditional non-entangling FADs in selected locations.	Fishery/ FIP co-ordinator	NGOs	June 2020		
5i: Reach out to e-NGOs in other countries to determine the potential risk to corals from derelict FADs and entanglement of ETP species. This information will be included to the assessment, and possible additional actions shall be added at a later date.	Fishery/ FIP co-ordinator	NGOs	June 2020		

5j: Analyse fishery reporting on ETP species in conjunction with observer data to quantify direct effects of the fishery operations and FAD-use (entanglement). This analysis should be done annually to build an information base on the fishery.	FIP co-ordinator		July 2021		
5k: Improve FAD management strategies at the fishery level, where necessary to fill gaps through advocacy to necessary states. Further advocate for the implementation of sustainable FAD management strategies at the RFMO level.	Fishery, Flag States	FIP co-ordinator	January 2022		
5l: Implement a specific fishery FAD management plan and ensure sure best practice (covering points described in 4f).	Fishery	FIP co-ordinator, observer programme	December 2022		
5m: Verify use in the fishery of non-entangling FADs through an observer programme.	Fishery	FIP co-ordinator, observer programme	June 2023		
5n: Present a report that provides evidences that the collected information has been analysed with the identification of the main impacts of derelict FADs on coral reefs, and an understanding of the spatial extent and timing of the interactions (as per 4f).	Research group/ institute	FIP consultant/FIP co-ordinator	June 2023		
5o: Present a report on investigation as outlined in 4b. Report will cover: (i) the potential impact of the UoAs FADs on the behaviour, feeding and migration of key elements of the ecosystem (including ETP species); and (ii) any other main consequences of the UoAs FADs for the ecosystem that may be inferred (i.e. indirect effects).	Research group/ institute	FIP consultant/FIP co-ordinator	June 2023		
5p: The most recent Chinese FAD management plan dates from 2013. If necessary, the FIP shall advocate to the authorities to update this document to include the latest guidelines on FAD design as well as other FAD measures.	Research group/ institute	FIP consultant/FIP co-ordinator	June 2023		

Principle 3: Effective management

Action Number and Name	**6 – Collect evidence on the performance of Compliance and Enforcement of the fishery, develop policies where necessary and advocate for action by the authority**
Action Goal	Verify that the design and construction of any FAD to be deployed in or that drifts into, the WCPFC Convention Area shall comply with the non-entangling design currently specified in CMM 2018-01
Action Description	As of 1st January 2020, CCMs shall ensure that the design and construction of any FAD to be deployed in or that drifts into, the WCPFC Convention Area shall comply with the non-entangling design currently specified in CMM 2018-01. The purpose of which is to reduce the risk of entanglement of sharks, marine turtles or any other species. Failure to comply with this would raise compliance issues and would at least lead to a condition at full assessment. To ensure this is assessed during the FIP, PI 3.2.3, compliance and enforcement scored a precautionary 60 – 79 score (Pass with conditions). Since the vessels are flagged to China should the vessels catch on the High Seas then assessment scores revert to Chinese management. In this case there are issues mainly related to lack of data which will need to be resolved in order to improve these scores.
Expected Completion Date	January 2025
Priority	Medium
Estimated Cost	Year 1: US$ 3,000 Year 2: No associated costs Year 3: US$ 1,000 Year 4: No associated costs
Responsible Parties	National management bodies.
MSC PI Addressed by the Action	3.2.3

Tasks	Responsible (lead)	Responsible (supporting role)	Starting date	Actual completion date	Evidence of completion / results
6a: Investigate and evaluate compliance and enforcement of Chinese flagged purse seiners operating on the High Seas. Collect sufficient evidence for full compliance of these vessels with Principle 3. Identify gaps and if necessary, develop subsequent workplan tasks.	FIP co-ordinator	Fishery	January 2020		
6b: Verify that the design and construction of any FAD to be deployed in or that drifts into, the WCPFC Convention Area shall comply with the non-entangling and biodegradable design currently specified in CMM 2018-01.	FIP co-ordinator	Fishery	January 2020		
6c: If not, create and adopt a formal policy to ensure they are.	FIP co-ordinator	Fishery	January 2021		
6d: Work with the fishery to ensure all designs are compliant and adhere to the newly implemented policy. Advocate for action by the authority where necessary.	FIP co-ordinator	Fishery	June 2021		
6e: Annually monitor and evaluate the design and construction of new FADs.	FIP co-ordinator	Fishery	January 2021		
6f: Confirm there is no systematic non-compliance in Kiribati and on the High seas. Advocate for action by the authority where necessary.	FIP co-ordinator	Fishery, MFMRD compliance officers, Kiribati Police Maritime Unit	January 2021		

Additional Impacts

Some FIPs include objectives that go beyond the MSC PIs. Please provide additional detail below on additional impacts that FIP stakeholders are working to address.

Social impacts

As social issues become a larger issue within the fishery world, we view FIPs should take a holistic approach and include social elements. This additional impact can be seen below:

Addition Impact Title	Labour Rights
Status Summary	Currently labour conditions are unknown, an additional fact-finding operation will take place to better understand any possible issues and how we could resolve them.
Improvement Recommendation	Await results from the fact finding to better understand improvements needed. Implement work to ensure compliance such as grievance procedures in place etc.

Traceability

It is vital that the fishery can trace any fish or fish product back to the individual Unit of Certification (UoC) as per the MSC requirements. Often fisheries are not in position to do this and need an action to be prepared:

Addition Impact Title	Traceability
Status Summary	The MSC have specific requirements concerning traceability and the point(s) at which fish and fish products enter further Chains of Custody (CoC) in a fishery assessment (see Section 7.9 of the MSC Fisheries Certification Process v2.1). The fishery must be able to trace any fish or fish product back to the individual Unit of Certification (UoC). In the case of this fishery, UoCs will be separated not only by species, but also fishing gear/technique, i.e. FAD-associated or free-school. At full assessment, the fishery must have a robust traceability system in place which can demonstrate from which UoC catch originated. As a default, Chain of

	Custody certification is always required following the first change of ownership to any party not covered by the fishery certificate. In cases where the fishery traceability system in place is deemed not to be sufficient, CoC may be required at an earlier stage, i.e. at the vessel level.
Improvement Recommendation	Dependent on client requirements.

Appendix A – Scoring of the Kiribati PS Tuna Fishery

Table 3 - Principle 1 list of Scoring for the Kiribati Purse Seine Tuna Fishery

Component	PI	Performance Indicator	WCPO BET	WCPO SKJ	WCPO YFT
Outcome	1.1.1	Stock Status			
	1.1.2	Stock Rebuilding	N/A	N/A	N/A
Management	1.2.1	Harvest Strategy			
	1.2.2	HCR and Tools			
	1.2.3	Information and Monitoring			
	1.2.4	Assessment of Stock Status			

Key

Pass without conditions	
Pass with conditions	
Fail	

N/A – Not Applicable

Table 4 - Principle 2 list of Scoring for the Kiribati Purse Seine Tuna Fishery

Principle 2 – Minimising Environmental Impacts			FAD	Free-school
Primary Species	2.1.1	Outcome		
	2.1.2	Management		
	2.1.3	Information		
Secondary Species	2.2.1	Outcome		
	2.2.2	Management		
	2.2.3	Information		
ETP Species	2.3.1	Outcome		
	2.3.2	Management		
	2.3.3	Information		
Habitats	2.4.1	Outcome		
	2.4.2	Management		
	2.4.3	Information		
Ecosystem	2.5.1	Outcome		
	2.5.2	Management		
	2.5.3	Information		

Table 5 - Principle 3 list of Scoring for the Kiribati Purse Seine Tuna Fishery

Principle 3 – Effective Management					
			WCPFC	**PNA**	**Kiribati**
Governance and Policy	3.1.1	Legal and Customary Framework			
	3.1.2	Consultation, Roles & Responsibilities			
	3.1.3	Long Term Objectives			
Fishery Specific Management System	3.2.1	Fishery Specific Objectives			
	3.2.2	Decision Making Process			
	3.2.3	Compliance and Enforcement			
	3.2.4	Management Performance Evaluation			

Appendix B – FIP Implementation Budget by Priority

Table 6 - Table of Implementation Budget, by Action and Priority

Action	MSC PI Addressed by the Action	Priority	Total Budget* over full 5 years (USD)
3 – Data collection, review and analysis relating to the FIP vessels (UoA)	All	High	$5,000
4 – Secondary species management	2.2.2, 2.3.1	High	$44,200
5 – FAD management	2.3.1, 2.3.2, 2.3.3, 2.4.1, 2.4.2, 2.4.3, 2.5.1, 2.5.2, 2.5.3	High	$31,000
High Priority Total			**US$80,200**
1 – Promote the development of a well-managed harvest strategy for all three tuna species by the WCPFC	1.2.1	Medium	$130,000
2 – Promote the development of Harvest Control Rules (HCRs) and tools for bigeye and yellowfin tuna by the WCPFC	1.2.2	Medium	$35,000
6 – Compliance and Enforcement	3.2.3	Medium	$4,000
Medium Priority Total			**$169,000**
Total			**$249,200**

* Note – the budget is for implementation of actions and it is not intended that this is paid for solely by the fishery operators, but shared costings across the FIP participants. FIP coordination costs would be additional to the FIP Implementation Budget.