

Marine Stewardship Council (MSC) Public Comment Draft Report**Kochi and Miyazaki Offshore Pole and Line Albacore and Skipjack
fishery**

On Behalf of

Japan Offshore pole and Line Tuna Fishery Sustainability Council

Prepared by

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Glossary

Acronym	Meaning
ABC	Acceptable Biological Catch
ACAP	Agreement for the Conservation of Albatross and Petrels
ALBWG	Albacore Working Group
ALC	Automatic Location Communicator
B	Biomass
CAB	Conformity Assessment Body
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CCM	WCPFC Commission Members, Cooperating non-Members, and participating Territories
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CMM	Conservation and Management Measures
CMS	Compliance Monitoring Scheme
CPUE	Catch per Unit Effort
CU UK	Control Union UK
EEZ	Exclusive Economic Zone
ENSO	El Niño Southern Oscillation
EPO	Eastern Pacific Ocean
ETP	Endangered, Threatened and Protected
EU	European Union
F	Fishing mortality
FA	Fisheries Agency
FAD	Fish Aggregating Device
FAO	Food and Agriculture Organization of the United Nations
FC	Fisheries Cooperative
FCA	Fisheries Cooperative Association
FFA	Forum Fisheries Agency
FL	Fork Length
FRA	Fisheries Research Agency (Japan)

FSA	Fish Stock Agreement
h	steepness of the stock-recruit curve
HCR	Harvest Control Rule
HMS	Highly Migratory Species
IATTC	Inter-American Tropical Tuna Commission
IOTC	Indian Ocean Tuna Commission
IPI	Inseparable or Practicably Inseparable stocks
IPOA	International Plans of Action
IQ	Individual Quota
ISC	International Scientific Committee for Tuna and Tuna like Species in the N. Pacific Ocean
ISSF	International Sustainable Seafood Foundation
IUU	Illegal, Unreported and Unregulated (fishing)
JAMARC	Marine Fisheries Research and Development Center
JDWTFA	Japan Distant Water Tuna Fishery Association
JFSPSFA	Japan Far Seas Purse Seine Fishing Association
JOPFSC	Japan Offshore Pole-and-line Tuna Fishery Sustainability Council
JTFCA	Japan Tuna Fisheries Co-operative Association
KITAMAKI	Federation of North Pacific District Purse Seine Fisheries Co-Operative Association
KOFTFA	Kochi Offshore Skipjack and Tuna Fisheries Association
KSSA	Kochi Sustainable Skipjack Association
LCMLR	The Law of Conservation and Management of Marine Living Resources
LRP	Limit Reference Point
LTL	Low Trophic Level
M	Natural Mortality
MAFF	Ministry of Agriculture, Forestry and Fisheries
MARPOL	International Convention for the Prevention of Pollution from Ships
MCS	Monitoring, Control and Surveillance
MFCL	Multifan-CL
MOU	Memorandum of Understanding

MOW	Management Objectives Workshop
MPSTFA	Miyazaki Prefecture Skipjack and Tuna Fishermen's Association
MSC	Marine Stewardship Council
MSE	Management Strategy Evaluation
MSY	Maximum Sustainable Yield
NC	Northern Committee
NOTFA	National Offshore Tuna Fisheries Association of Japan
NP	North Pacific
NPAFC	North Pacific Anadromous Fish Commission
NRIFSF	National Research Institute of Far Seas Fisheries
PNA	Parties to the Nauru Agreement
PRI	Point of Recruitment Impairment
RFMO	Regional Fisheries Management Organisation
SB	Spawner biomass
SC	Scientific Committee
SIDS	Small Island Developing States
SPC	Secretariat to the Pacific Community
SPREP	Secretariat for the Pacific Regional Environment Programme
SSB	Spawning Stock Biomass
TAC	Total Allowable Catch
TAE	Total Allowable Effort
TCC	Technical and Compliance Committee
TRP	Target Reference Point
UoA	Unit of Assessment
UoC	Unit of Certification
UNCLOS	United Nations Convention on the Law of the Sea
VB	Von Bertalanffy
VDS	Vessel Day Scheme
WCPFC	Western Central Pacific Fisheries Commission

WCPO	Western Central Pacific Ocean
WWF	World Wide Fund (for Nature)

1 Executive Summary

This report presents the results of the assessment for the Japanese offshore pole and line albacore and skipjack tuna fishery by the Conformity Assessment Body (CAB) Control Union UK (CU UK, formerly CU Pesca), for the client MSC Japan, on behalf of the Japan Offshore Pole-and-line Tuna Fishery Sustainability Council (JOPFSC).

The JOPFSC was established for this full assessment. JOPFSC consists of 19 vessels (7 vessels from Kochi Katsuo Fisheries Cooperative (Kochi) and 12 vessels from Nango Fisheries Cooperative (Miyazaki)). There are also several vessels in Kochi and Miyazaki that have not joined the assessment.

The vessels fish skipjack tuna and North Pacific albacore tuna in the Western Central Pacific Ocean (WCPO), under the jurisdiction of the WCPFC (Western Central Pacific Fisheries Commission). The Unit of Certification (UoC) catch is all within the WCPFC Convention area. The target species are therefore subject to both national and regional fisheries management measures and policy.

For WCPO skipjack, the most recent stock assessment (2019) concludes that the stock biomass was above the Limit Reference Point (LRP) and fishing mortality below F_{MSY} with high probability. The projections for spawner depletion for skipjack to 2050, based on 2016-2018 average fishing levels suggest that biomass will stabilise well above the LRP – and therefore above the MSY level, but cannot regain the Target Reference Point (TRP) biomass at this level of fishing effort.

For North Pacific albacore, the 2017 stock assessment concludes that SB (measured as female spawner biomass) has fluctuated without trend since 2000 and is estimated to be higher than the limit reference point (LRP) agreed by WCPFC ($20\%SB_{F=0}$). The point estimate of SB was above the LRP for all the sensitivities examined, although the risk of $SB < LRP$ varied. The model estimates 1-SPR ('fishing intensity') as a proxy for F. Fishing intensity is estimated to be below the level which would result in SB_{MSY} .

The core regional management measure for skipjack is WCPFC CMM 2018-01, which provides for a series of management measures aimed at constraining effort on tropical tunas and is intended to be a 'bridging measure' while work continues towards a formal harvest strategy. For Northern albacore, in 2018, IATTC supplemented C-05-02 with C-18-03, which strengthens reporting requirements and requires review of the harvest strategy based on Management Strategy Evaluation (MSE). In December 2019 (WCPFC16), WCPFC replaced their management measure with CMM 2019-03, which includes the requirement for engagement with the IATTC to ensure that management remains coherent. The management objective set in 2005-03 and C-05-02 is that fishing mortality (F) should not increase beyond 'current levels' (i.e. levels which were current in 2005). CMM 2019-03 has a similar but updated objective: that effort should not increase above current levels (current in 2019) and in addition should not increase above 2002-4 levels, as previously. There is also a formal (if interim) harvest strategy agreed by WCPFC, but it is not implemented by any means other than the existing measures 2019-03 and C-05-02.

Both stocks are covered by CMM 2014-06 which commits WCPFC to putting in place a formal harvest strategy for its key stocks (the strategy for Northern albacore to be developed and recommended by the Northern Committee), with an associated workplan. Progress towards a harvest strategy has been slow, however, with the workplan having been revised three times already. For Northern Albacore, an interim management plan is in place. This does not fix a TRP but notes that this should be determined as part of an MSE included under the Committee's future work.

Key data sources on interactions with other species were logbooks and bait purchases. Based on the data provided, the only main primary species in this assessment, apart from the target species, is Japanese anchovy (*Engraulis japonicus*)

The following species are minor primary species in this assessment:

- Yellowfin tuna (*Thunnus albacares*)
- Bigeye tuna (*Thunnus obesus*)
- Pacific bluefin tuna (*Thunnus orientalis*)
- Pacific Sardine (Japanese pilchard), hereafter named “Japanese sardine” (*Sardinops melanostictus*, formally accepted as *S. sagax* (WORMS, 2020), however to maintain consistency with the Japanese stock assessment nomenclature, *S. melanostictus* will be used in this report).

The bait used in this fishery are Pacific Ocean Japanese anchovy (*Engraulis japonicus*), and the Pacific stock of the Japanese sardine (*Sardinops melanostictus*). The Japanese anchovy stock is below the PRI with a declining biomass trajectory. A recovery plan for the stock is not in place, and the fishery does not appear to have a defined strategy to manage bait use. The operational measure in place to ensure that the UoA does not hinder recovery and rebuilding is the scale of the fishery, which limits the amount of bait used. Japanese sardines are not considered likely to be below PRI.

There are no main secondary species in this fishery, though an array of species are caught and regarded as ‘minor’ secondary species (e.g. Longtail tuna *Thunnus tongol*, Amberjack *Seriola quinqueradiata*, Wahoo *Acanthocybium solandri* and Swordfish *Xiphias gladius*).

Due to the nature of the fishery, there is little to no interaction with endangered, threatened and protected (ETP) species like sharks, turtles, marine mammals, though more information is needed on the interaction with seabirds. The fishery, being strictly pelagic, also has no impact on (vulnerable marine) habitats.

In general, the key strengths of the fishery are:

1. Small spatial scale of the fishery in relation to both target species stock size and their range. The impact of the UoC is relatively small because of the size of the UoC (19 vessels, with a limited range) in comparison to the stocks (North and South Pacific) and other fisheries utilizing the resource.
2. The fishing method is highly selective, and there are limited impacts on non-target species as a result.
3. Impacts on commonly encountered habitats are negligible. FADs are not placed by the UoA, and anchored FADS (placed by other fisheries) are only occasionally used.
4. A large amount of information has been amassed by the management body, that is relevant to considering impacts of the UoA and ensuring sustainability.

Key weaknesses in the fishery are:

1. Lack of a formal harvest strategy (skipjack) and control rules (skipjack and albacore) for the target stocks.
2. One of the bait species used, Japanese anchovy (*Engraulis japonicus*), is in decline, with the stock status below PRI. The stock status is currently poor. Though Japanese anchovy are not themselves a ‘less resilient’ species, having a typical ‘small pelagic’ life history (short life span, early maturity and high productivity), resilience has been lowered due to

anthropogenic impact on the stock and they have been regarded as 'less resilient' for this reason (FCP v2.1, GSA3.4.2.2).

3. Lack of quantitative information about ETP interactions.

At this PCDR stage, the team provisionally scored the fishery as meeting the criteria for MSC certification with all Principles likely to achieve an overall aggregate score of 80. Conditions are raised for both Principle 1 stocks regarding PI 1.2.1 (Harvest strategy) and 1.2.2 (Harvest control rules & tools) and regarding PI 2.1.1 (Primary species outcome), PI 2.3.2 (ETP species management) and PI 2.3.3 (ETP species information). No conditions were identified for Principle 3. However, the team did issue a recommendation pertaining to both Principle 3 and Principle 2 (improve on the time series of ETP-interaction recordings through mandatory self-reporting (including an entry of '0' when no interaction with ETPs)).

To be completed at Public Certification Report

2 Report Details

2.1 Authorship and Peer Reviewers

The assessment team for this assessment consisted of Dr. Jo Gascoigne (P1), Dr. Johanna Pierre (P2), Yoko Tamura (P3) and Cora Seip-Markensteijn (traceability, Team Leader).

Dr. Jo Gascoigne (Principle 1) is a former research lecturer in marine biology at Bangor University, Wales and a shellfisheries and tuna fisheries expert, with over 25 years' experience working in the fisheries sector. In addition to numerous pre-assessments, Jo's experience with tuna fisheries includes the SZLC, HNSFC & CFA Cook Islands EEZ south Pacific albacore longline fishery, the Walker Seafood's Australian Eastern tuna and billfish tuna fishery, and the French Polynesia albacore and yellowfin longline fishery. She was also invited to participate in the Hong Kong Harmonisation meeting in 2016. On 20 May 2016 a variation request was granted by MSC, qualifying Dr Gascoigne as Principle 1 (P1) assessor for tuna fisheries. Dr Gascoigne is a fully qualified MSC Team Leader and has been involved as expert and lead auditor in over 15 MSC pre- and full assessments. She also completed the pre-assessment report for this fishery. Dr Gascoigne has recently completed the required Fishery Team Leader MSC training modules for the new V2.0 Fisheries Certification Requirements. In addition, she has also completed the fisheries traceability version 2.0 MSC online training module in 2015.

Dr. Johanna Pierre (Principle 2) has more than 15 years' experience working on commercial fishing and its impacts, in marine and freshwater environments. Her work includes fisheries management, regulation and monitoring, sustainability assessments, audits and evaluations of environmental performance. She also conducts research and works on management and policy that contributes to reducing the environmental effects of fishing. Johanna has worked for government, academia, non-profit organisations and industry. She has a Ph.D. in environmental biology and ecology (University of Alberta, Canada), and a B.Sc.(Hons) (University of Canterbury, New Zealand) and completed post-doctoral studies at the University of Tokyo (Japan). Johanna is a certified MSC fishery team member and Chain of Custody auditor, and meets the requirements as set out in table PC3 for: 3 years' or more experience in research into, policy analysis for, or management of, the impact of fisheries on aquatic ecosystems (including Bycatch, ETP, Habitats, Ecosystem). She is also a member of the MSC Peer Review College. Her experience covers MSC peer reviews and surveillance audits (P1, P2 and P3), fishery assessments (P2 and P3), and fishery pre-assessments (P1, P2, P3). Johanna has extensive experience living and working on fisheries and other fields of science in Canada, Asia and Australasia (including Japan, China, South Korea, Australia and New Zealand).

Ms Yoko Tamura (Principle 3) is a fisheries and marine environment consultant working on broad topics on coastal management issues in Japan and globally. Her expertise spans coastal resources management, sustainable fisheries and international collaboration on marine conservation, and she has significant current knowledge of the country, language, policy and local fishery context. Previously, she worked as a technical expert for Japan International Cooperation Agency on oversea cooperation projects, and NGOs such as Conservation International and Sustainable Fisheries Partnership. Ms Tamura holds a MA in Marine Affairs from the University of Washington and a BSc. in Marine Resource Management from the Tokyo University of Marine Science and Technology. Yoko's previous MSC experience includes a full assessment of the Kyoto Danish Seine Fishery Federation flathead flounder fishery. She has also participated in various pre-assessments and surveillance audits mostly for Japanese fisheries. Yoko is Japanese, and meets the requirement in table PC3 for: Current knowledge of the country, language and local fishery context.

Ms. Cora Seip-Markensteijn is **Team Leader** with overall responsibility for the assessment. Cora meets the Fishery Team Leader criteria in Table PC1. She has a Master's degree in Biology from Leiden University, and has passed the online fishery team leader training. Cora has also completed MSC traceability training and RBF training in the past 3 years. Previously, she worked for the Dutch Fish Product Board from 2007-2013 as Policy Officer, 'Nature and Spatial Planning'. Her work focused mainly on Natura 2000 procedures and shrimp and flatfish fisheries and included the Marine Framework Directive. She was also shellfish Policy Office and worked closely with the Dutch shellfish industry (mainly mussels, but also oysters, Ensis, and cockles). From 2013-2017 and 2020 onwards, Cora worked as an expert independent consultant to a broad cross-section of fishing organisations. Notable achievements include working on assessment of Dutch fisheries (both generic and specific) and their impacts, as well as working as an advisor with regards to spatial planning, and nature conservation laws. From 2017-2019, Cora was a Fisheries Assessment Manager for CU Pesca (now CU UK), and her experience covers MSC surveillance audits (P2 and P3), and fishery assessments (P2 and P3).

Ms. Beverley O'Kane (Traceability) joined CU Pesca (now CU UK) as a Fisheries Officer in late 2019. She has a strong background in the fisheries sector and marine sector. Prior joining CU she was involved in marine and environmental consultancy and seafood sustainability, conducting research on English inshore fisheries management and global tuna fisheries. She is experienced in assessing the sustainability of global fisheries using UK and U.S. standards and methodologies, including Seafish, Marine Conservation Society and Monterey Bay Aquarium. Her experience is focused on elasmobranch and shellfish species, particularly on stock status and management principles. She has lived and worked in the fisheries sector in Norway, Ireland and the U.S, including on a shellfish boat in Irish waters. In 2015, Bev completed an MSc in International Marine Environmental Consultancy from the Newcastle University, during which she completed modules on fisheries governance and management and conducted a thesis on the sustainability and management of a ray fishery. Beverley has completed the required Fishery Team member MSC training modules for the new V2.01 Fisheries Certification Requirements (Table PC1), along with the RBF (Table PC3.7) and Traceability training (Table PC3.6). Beverley is responsible for the traceability part of the assessment.

None of the team members have a Conflict of Interest in relation to the fishery under assessment.

Peer Reviewers:

The MSC Peer Review College compiled a shortlist of potential peer reviewers to undertake the peer review for this fishery. Three peer reviewers were selected from the following list (an additional peer reviewer is required due to this initial assessment being done remotely, as per the :

- Don Aldous
- Jiangfeng Zhu
- Shelley Clarke
- Tristan Southall

Mr Don Aldous has been involved in fisheries management issues in Canada, the US and the Pacific Islands since 1977. He has experience at all levels of fisheries management from Fishery Officer to Commissioner of a Regional Fisheries Management Organization. In Canada, he achieved a Senior Advisor position in matters dealing with foreign and domestic fisheries management.

Since leaving DFO in 1992, he has led teams of consultants preparing fisheries management plans for Fiji, Solomon Islands and Marshall Islands and has returned to conduct follow-up work in all three. On a regional scale, he has provided advice to Forum Fisheries Agency on issues related to fisheries management, development and MCS. Don is considered a P3 expert for Marine Stewardship Council (MSC) assessments and has been involved with MSC certifications in eastern Canada and eastern USA as a P3 expert, assessment team leader and peer reviewer. He has also conducted over 200 MSC Chain of Custody audits since 2006.

Dr Jiangfeng Zhu is a professor at Shanghai Ocean University in China with more than ten years of experiences in fish stock assessment and population dynamics, mostly for stocks associated with oceanic tuna fisheries (e.g., bigeye tuna, albacore, and sharks). He's been working as a longline observer on board for three month and thus familiar with data collection/sampling for tuna longline fishery. He is the main developer of China's longline observer and logbook data collection system.

Dr Zhu is familiar with common fisheries stock assessment methods, including production models, VPA-type models and statistical catch-at-age models (e.g. SS3 and ASAP). He developed an MSE model using SS3 as platform for the eastern Pacific Ocean bigeye tuna. With more than 50 peer reviewed publications in fishery biology/ecology and stock assessment, Dr Zhu is capable of independently evaluating the quality of research activities relating to stock assessment. Recently he is regularly reviewing manuscripts for international journals such as *Fisheries Research*.

Over the past 10 years Dr Zhu has been regularly attending the tuna RFMOs working party, scientific committee, and commission level meetings. Currently he is the Chair of the IOTC Working Party on Temperate Tunas. He is also the scientific adviser to the Bureau of Fisheries, Ministry of Agriculture and China Overseas Fisheries Association. His duty is to interpret to the government and industry on how scientific research contributes to management decision.

Dr Shelley Clarke is an international fisheries scientist based in Japan specializing in both science and policy, particularly for non-target species. Her focus also extends to studies of IUU fishing involving catch documentation and other trade and market analyses, as non-target species are often difficult to assess through standard fishery monitoring systems. From 2014-2019 Dr Clarke served as the Technical Coordinator-Sharks and Bycatch for FAO's ABNJ Tuna Project based at the Western Central Pacific Fisheries Commission (WCPFC) in Pohnpei, Micronesia and FAO Headquarters in Rome. Through this project Dr Clarke has produced five new shark stock assessments for the Pacific, led several bycatch mitigation joint analysis workshops, and published numerous papers on data standards and management issues for the WCPFC. In addition to her work on bycatch in tuna fisheries, Dr Clarke is recognized for her ground-breaking study of the Hong Kong shark fin trade undertaken as

part of her doctorate at Imperial College London and subsequent work in Russia, China and Japan on the nexus between markets and catches for salmon, whitefish and tuna. Dr Clarke has authored dozens of academic and international policy papers and has peer-reviewed manuscripts for over twenty journals. She served on the MSC's Stakeholder Council from 2003-2005 and Technical Advisory Board from 2005-2008, and was the P2 assessor for the Australia Northern Prawn Fishery in 2012-2013.

Mr Tristan Southall is an experienced fishery industry analyst, with broad experience of industry structures, fishing and fisheries infrastructure, and the legal and fisheries management dimensions of the Common Fisheries Policy. Tristan has participated in multiple MSC full assessments both as a team member and as team leader. He holds degrees in Marine Biology from Newcastle University and Marine Resource Development and Protection from Heriot-Watt University, both in the UK, and combines these strong academic credentials with extensive experience of real-world practical application. Mr Southall has a wide range of professional experience in the planning, management and evaluation of aquaculture, fisheries, marine industry and rural development projects, from both socio-economic and environmental perspectives. His consultancy expertise includes project management and evaluation, feasibility studies, economic appraisal, environmental and sustainability assessment, environmental economics, social impact studies, and coastal zone planning and management. In addition, Tristan has coordinated EU fisheries training and promotion activities – covering all aspects of sustainable fisheries management and control

2.2 Version details

Table 1. Fisheries programme documents versions

Document	Version number
MSC Fisheries Certification Process	Version 2.1
MSC Fisheries Standard	Version 2.01
MSC General Certification Requirements	Version 2.4.1
MSC Reporting Template	Version 1.1

3 Units of Assessment and Certification

3.1 Units of Assessment (UoA)

CU UK confirms that the fishery under assessment is within the scope of the MSC Fisheries Standard (7.4 of the MSC Fisheries Certification Process v2.1):

- The target species is not an amphibian, reptile, bird or mammal;
- The fishery does not use poisons or explosives;
- The fishery is not conducted under a controversial unilateral exemption to an international agreement;
- The client or client group does not include an entity that has been successfully prosecuted for a forced or child labour violation in the last 2 years;
- The fishery has in place a mechanism for resolving disputes, and disputes do not overwhelm the fishery;
- The fishery is not an enhanced fishery as per the MSC FCP 7.4.6; and
- The fishery is not an introduced species-based fishery as per the MSC FCP 7.4.7.

CU UK confirms that the client group has submitted the completed ‘Certificate Holder Forced and Child Labour Policies, Practices and Measures Template’ prior to the start of this assessment.

The proposed Unit of Assessment (UoA) is given in Table 2 and Table 3.

Table 2. Unit of Assessment 1 (UoA1)

Species	Skipjack tuna (<i>Katsuwonus pelamis</i>)
Geographical range	Western and Central Pacific Ocean (WCPO) high seas and Japanese EEZ
Method of capture	Pole and Line
Stock	WCPO skipjack
Management System/s	Western and Central Pacific Fisheries Commission (WCPFC), National Offshore Tuna Association of Japan and Japan Fisheries Agency.
Client group	Members of the Japan Offshore Pole-and-line Tuna Fishery Sustainability Council
Other eligible fishers	Kochi and Miyazaki prefectures-based members of the Kochi Katsuo Fisheries Cooperative and the Nango Fisheries Cooperative.

Table 3. Unit of Assessment 2 (UoA2)

Species	Albacore tuna (<i>Thunnus alalunga</i>)
Geographical range	Western and Central Pacific Ocean (WCPO) high seas and Japanese EEZ
Method of capture	Pole and Line
Stock	North Pacific albacore
Management System/s	Western and Central Pacific Fisheries Commission (WCPFC), the Inter-American Tropical Tuna Commission (IATTC), National Offshore Tuna Association of Japan and Japan Fisheries Agency.
Client group	Members of the Japan Offshore Pole-and-line Tuna Fishery Sustainability Council
Other eligible fishers	Kochi and Miyazaki prefectures-based members of the Kochi Katsuo Fisheries Cooperative and the Nango Fisheries Cooperative.

Note: The Japan Offshore Pole-and-line Tuna Fishery Sustainability Council (JOPFSC) was established in November 2019 for this full-assessment. JOPFSC consists of 19 vessels (7 vessels from Kochi Katsuo Fisheries Cooperative (FC) (Kochi) and 12 vessels from Nango Fisheries Cooperative (Miyazaki)), see Table 4. There are also several vessels in Kochi and Miyazaki which have not joined the assessment. All currently non-participating members of the cooperatives in Kochi and Miyazaki are included as 'other eligible fishers', with the caveat that they can't use the MSC certificate unless they have provided the CAB with catch and bait use data. Upon receiving these, the CAB can carry-out a gap-analysis to determine if the fishing practices are similar enough to be included in the certificate, or if a scope extension is needed.

Table 4. Vessels in this assessment

	FC	Vessel Name	Licence type	Tonnage
1	Kochi Katsuo FC	151 Myojin maru	Distant water tuna (B)	167
2	Kochi Katsuo FC	28 Otori maru	Distant water tuna (B)	138
3	Kochi Katsuo FC	26 Shinsei maru	Distant water tuna (B)	124
4	Kochi Katsuo FC	63 Saga Katsu maru	Distant water tuna (B)	122
5	Kochi Katsuo FC	Fukuyoshi maru	New near-water	116
6	Kochi Katsuo FC	8 Nissyo maru	New near-water	113
7	Kochi Katsuo FC	Eikichi maru	New near-water	113
8	Nango FC	81 Yoshi maru	Distant water tuna (B)	158
9	Nango FC	73 Shinkai maru	Distant water tuna (B)	157
10	Nango FC	8 Kiyo maru	Distant water tuna (B)	151
11	Nango FC	18 Seiryu maru	New near-water	119
12	Nango FC	5 Seiryu maru	New near-water	119
13	Nango FC	18 Kotoshiro maru	New near-water	118
14	Nango FC	15 Kotoshiro maru	New near-water	119
15	Nango FC	28 Ichi maru	New near-water	117
16	Nango FC	21 Atago maru	New near-water	119
17	Nango FC	8 Sandai maru	New near-water	119
18	Nango FC	Tatsuyoshi maru	New near-water	119
19	Nango FC	18 Kasuga maru	New near-water	19

3.2 Unit(s) of Certification (UoC)

The information discussed at the site visit has not led to any changes in the proposed UoAs. The UoC and other eligible fishers at the time of certification remain unchanged from the proposed UoA described in section 3.1.

To be completed at Public Certification Report stage

4 Assessment results overview

4.1 Determination, formal conclusion and agreement

To be drafted at Final Draft Report

To be completed at Public Certification Report

The report shall include a formal statement as to the certification determination recommendation reached by the assessment team on whether the fishery should be certified.

The report shall include a formal statement as to the certification action taken by the CAB's official decision-makers in response to the Determination recommendation.

Reference(s): FCP v2.1 Section 7.21

4.2 Principle level scores

Table 5. Principle level scores

Principle	Score	
	UoA1	UoA2
Principle 1 – Target Species	85.8	87.5
Principle 2 – Ecosystem Impacts	84.3	84.3
Principle 3 – Management System	82.5	82.5

4.3 Summary of conditions

Table 6. Summary of conditions

Condition number	Condition	Performance Indicator (PI)	Related to previous condition?
1	WCPO skipjack needs a harvest strategy that is responsive to the state of the stock, with the elements of the harvest strategy (monitoring, stock assessment, harvest control rules and management actions) working together to achieve stock management objectives.	1.2.1 (WCPO Skipjack UoA 1)	NA
2	WCPO Skipjack needs a harvest control rule that ensures that the exploitation rate is reduced as the PRI is approached and is expected to keep the stock fluctuating around the target level and robust to the main uncertainties. The tools used to implement the HCR should be effective in achieving the required exploitation levels.	1.2.2 (WCPO Skipjack UoA 1)	NA
3	NP Albacore needs a harvest control rule that ensures that the exploitation rate is reduced as the PRI is approached and is expected to keep the stock fluctuating around the target level and robust to the main uncertainties. The tools used to implement the HCR should be effective in achieving the required exploitation levels.	1.2.2 (NP Albacore UoA 2)	NA

Condition number	Condition	Performance Indicator (PI)	Related to previous condition?
4	<p>By the end of year 4, evidence shall be available that either regarding the bait source (Japanese anchovy):</p> <ul style="list-style-type: none"> • the stock of Japanese anchovy, as a primary main species, is highly likely to be above the point where recruitment would be impaired (PRI), or, • if below the PRI, there is evidence of stock recovery or a demonstrably effective strategy in place between all MSC UoAs which categorise this species as main, to ensure that they collectively do not hinder recovery and rebuilding. <p>Or that an alternative bait source has been found that is above PRI or, if below PRI, shows evidence of recovery, or a demonstrably effective strategy in place between all MSC UoAs which categorise the species as main, to ensure that they collectively do not hinder recovery and rebuilding.</p>	2.1.1 (UoA 1 and UoA 2)	NA
5	By the third surveillance audit, evidence shall be available of a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of ETP species and implementation of alternative measures as appropriate.	2.3.2 (UoA 1 and UoA 2)	NA
6	By the fourth surveillance audit, information shall be adequate to measure trends and support a strategy to manage impacts on ETP species.	2.3.3 (UoA 1 and UoA 2)	NA

4.4 Recommendations

One recommendation was issued by the team.:

Improve on the time series of ETP-interaction recordings through self-reporting (including an entry of '0' when no interaction with ETPs). In order to address the fact that the fishery was found not compliant with the data-entry rule (entering zero when no bycatch) and Kochi FC was generally not submitting page 2 (bycatch information) to the authorities (see PI 3.2.3), the client needs to discuss with the Fisheries Agency the FA's system for monitoring and enforcing the rules/regulation of logbook completion and improve on the reporting.

5 Traceability and eligibility

5.1 Eligibility date

The Eligibility Date has been set as the date of certification. Product caught by the Members of the Japan Offshore Pole-and-line Tuna Fishery Sustainability Council (Kochi and Miyazaki prefectures-based members of the Kochi Katsuo Fisheries Cooperative and the Nango Fisheries Cooperative participating in JOPFSC) after the date of certification will be eligible to enter further chains of custody.

5.2 Traceability within the fishery

After hauling, the fish are put on the deck, and are immediately placed in a tank with chilled brine water. The fish are not sorted. The fish are kept in the cold brine water till landing. There is no processing on board. The fish remain whole and are identifiable to species level.

The fish from different fishing areas and different fishing days are placed in separate holds on board. Thus are able to be traced back based on the logbook entries and the list kept by the fish master on board the vessel, detailing the hold, the (estimated) amount of catch, and the day of fishing.

Each catch is noted in the vessel's logbook and verified by the Cooperative upon landing. Fishers must fill out Fishery Catch Reports (comprised of 2 sheets – skipjack and tuna fishery daily report, and bycatch reporting form). All reports from a trip must be bundled and submitted to the Fisheries Agency (FA) within 10 days after a fishing trip. Catch total (weight by day and species), with average fish weights, trip- and fishing days, number of fishers, and total value of landing must be reported. The FA will then send these reports to the Fishery Research Agency (FRA) to analyse and produce a summary. The reported total catch is reflected in government statistics and submitted to the WCPFC.

All skipjack and albacore tuna must be landed at the wholesale market where the catch can be verified. At the end of each fishing trip, the vessel has to notify the port of landing (the Fishery Cooperative on site) that the vessel will be entering the fishing port. Generally, the vessel needs to do this about a day in advance (cooperatives may vary slightly in their practices, e.g. notification needs to be given on 7am of the day of landing for the Katsuura cooperative and the day before landing for Katsuura). Notification serves mainly to ensure sufficient personnel on site to carry out offloading, sorting and the auction. The vessel provides the cooperative with a list of the catch that is on board, which the cooperative in turn shares with potential buyers. Most of the catch is landed at Katsuura, Chiba prefecture and Kesennuma, Miyagi Prefecture (Katsuura and Kesennuma are well-known in Japan for landing skipjack), though there are several other possible points of landing for the vessel listed in table 4, which are listed in the table below.

Table 7. Landing point for the vessels in the UoAs

Prefecture	Port	都道府県	漁港
Iwate	Ofunato	岩手県	大船渡
Miyagi	Kesennuma	宮城県	気仙沼
Miyagi	Shiogama	宮城県	塩釜
Miyagi	Ishinomaki	宮城県	石巻

Fukushima	Nakaminato	福島県	那珂湊
Fukushima	Nakanosaku	福島県	中之作
Fukushima	Onahama	福島県	小名浜
Chiba	Choshi	千葉県	銚子
Chiba	Katsuura	千葉県	勝浦
Kanagawa	Misaki	神奈川県	三崎
Shizuoka	Omaezaki	静岡県	御前崎
Ehime	Fukaura	愛媛県	深浦
Nagasaki	Nagasaki	長崎県	長崎
Miyazaki	Nango	宮崎県	目井津（南郷）
Kagoshima	Kagoshima	鹿児島県	鹿児島
Kagoshima	Yamakawa	鹿児島県	山川

During the site visit interviews, the team asked for the differences between the landing sites. The different cooperatives operate using very similar methods on-site; differences largely are associated with the level of automation between cooperatives, whether ice is used and the timing of auctions. The two cooperatives at the main landing site Kesenuma and Katsura were interviewed, and a description of the practices of both cooperatives are given below, to give an example of the slight variations in practices. Overall, the team concluded that these cooperatives were representative of the landing practices at the other tuna cooperatives listed in Table 7 above.

After docking, the cooperative's task is to land the catch; the fishing crew only removes the fish from the hold, and may help to put the fish on the sorting machine, but the cooperative is responsible for the landing and sorting, and will take down the final total weight of the catch.

Before fish are landed, the cooperatives prepare the tanks and forms for data collection. The tanks are weighed when empty. The catch is sorted by species and size during landing at the port by employees from the Fishery Cooperative (FC). Products are transferred hand to hand via fishermen. At a public port with an auction market, the vessels offload the fish and place it on a conveyor belt, which transports it to where fish is separated into different tanks by size, species and catch date (or freshness) and whether the fish is injured/ damaged at the Kesenuma cooperative. The Kesenuma cooperative have automatic separation system via the conveyor belt. At the Katsuura cooperative, as the fish come off the conveyor belt, the cooperative collects data on vessel name, species name, size, weight, and catch location. Once the tank is full of fish, the forklift trucks weigh the tanks so that the cooperative knows the exact weight of fish in each tank. The weight is written on the label attached to the tank. The tanks are carried to the auction.

The fish are stored in water tanks separated by vessel/ species / size / dates while the auction happens. On the tank at the Katsuura cooperative, the following information is provided: vessel name, freshness (how long ago the fish was caught – which relates to the fishing ground, because the further away the ground is, the less fresh). In the Kesennuma cooperative, the orange labels state the vessel name, size and weight; the blue and white label shows the size of the fish. The species and freshness is also shown; Figure 1. Gear type is not provided, however, is known automatically known as vessel details are provided.



Figure 1 Kesennuma fish tanks, showing orange and blue and white label

In both cooperatives, the auction boxes do not show the location caught but these data are available. For example in the Kesennuma cooperative, the vessel landings of that day and the fishing ground is written on a blackboard (and only for internal use) but the information can be made available if needed.

After the auction, at the Katsuura cooperative, the fish is taken from the water tanks and auction staff produce a slip with size, weight, vessel name, species name, price, catch date, cooperative and the name of the owner. The sales notes at Kesennuma cooperative show the day, species, price, weight and landing port. The products are then boxed with ice and trucked to the processing facilities.

The cooperative keeps records of the originally reported weight, the weight that is landed, the size of fish, what has been sold and for what price and to whom. This is reported each month by the Cooperative to the Japanese information center (part of the Fisheries agency).

The length of time that cooperative records are retained for vary. The Katsuura cooperative retains its data for five years, and the Kesennuma cooperative, 10 years.

Ownership changes at processing of the sale. The auction does not take ownership of the product, instead, the cooperatives handle the product from point of landing to point of sale, which usually occurs at the auction, but fish can be sold directly to the buyer at some landing sites, with the cooperative taking care of the administrative side of the sale. The cooperatives do not store the fish, and only function as administrative and facilitating organisations. The auction only serves as an agent, taking care of sorting and administration on behalf of the vessel, and is covered by the fishery certificate. Sales are made through auction and the cooperative provides only the administrative assistance to the vessel (sales document, keeping of records) on behalf of the fishing company.

Dockside inspections do not occur on a regular basis. In Katsuura cooperative, there is no inspection by government but sometimes researchers come and check the size. When researchers come to the port, they exclusively collect data on biological indicators including size, weight, fishing ground, ask

fishermen about the fishing ground and oceanographic details. For the Kesennuma cooperative, the government occasionally go to observe activities (largely associated with health and hygiene regulations) at the port but do not inspect the activities. Government official visits occur around 2 – 3 times a year. Research Centre staff collect data every day on the on size, species and biological attributes of fish landed.

To be completed at Public Certification Report stage

Table 8. Traceability within the fishery

Factor	Description
Will the fishery use gears that are not part of the Unit of Certification (UoC)? If Yes, please describe: If this may occur on the same trip, on the same vessels, or during the same season; How any risks are mitigated.	No. All vessels in this assessment are registered only as a pole and line vessel with the FFA and fitted with VMS monitoring systems for compliance and monitoring. Fish caught from these vessels are boxed and labelled B-1 for pole and line.
Will vessels in the UoC also fish outside the UoC geographic area? If Yes, please describe: If this may occur on the same trip; How any risks are mitigated.	The fishery can apply for licences from e.g. the Marshall Islands, FSM and Kiribati. In case fishing were to happen in these EEZs, the catch would not be covered by this assessment, and needs to be kept separately from MSC-catch and classified as non-MSC. The cooperative is able to trace the fish back to the fishing area based on when the catch was placed in the hold. The fish master on board of the vessel keeps track of this, combined with the logbook. The fishery normally only fishes within the EEZ, as the fishery is mainly a coastal fishery. Vessels incidentally fish just outside the EEZ on the high seas (this is included in the UoAs). Should this happen, the fishers report that they have fished outside the EEZ and the area where they have fished. The catch from the EEZ and from the high seas is kept separately on board in different holds and can be traced back through the details kept by the fish master. Fishers are not currently required to submit information to the auction stating that fish was caught outside the EEZ but e.g. if the supermarket requires further details on the fishing area, then the cooperative can list this with the details.
Do the fishery client members ever handle certified and non-certified products during any of the activities covered by the fishery certificate? This refers to both at-sea activities and on-land activities. Transport Storage Processing Landing Auction If Yes, please describe how any risks are mitigated.	Once the fish is caught and brought onto the deck each fish is carried into a fish storage tank, where it is put into the tank with brine water. Each tank holds about 15 t of fish although each tank has a different capacity. There is no at sea processing, other than chilling of the catch. The fish is kept in the cold brine water till landing. At landing, staff at the auction sort the fish via a conveyor system by size, species and freshness (which provides a proxy for the location caught – see above). At the Katsuura cooperative, the vessel reports the fishing ground where the fish was caught, at the time of landing. The sorted fish are put into the auction's box with signed paperwork attached to show the origin vessel, species, size etc. An auction is held at the location of landing. Ownership changes at sale, after the auction. The market produces a purchase slip and keeps the trade record at the market, which is later reported to FA (this will e.g. be used for market statistics). A copy of the invoice is kept at both sides. It is anticipated that the fishery certificate will cease at the point of change of

Factor	Description
	ownership and from that point on MSC chain of custody certification will be required.
Does transhipment occur within the fishery? If Yes, please describe: If transhipment takes place at-sea, in port, or both; If the transhipment vessel may handle product from outside the UoC; How any risks are mitigated.	No transhipment occurs within this fishery so the risk is seen as minimal.
Are there any other risks of mixing or substitution between certified and non-certified fish? If Yes, please describe how any risks are mitigated.	No other risks have been identified. Product is landed directly, and chain of custody will be required from the first change of ownership. Risk of mixing of certified and non-certified product is therefore minimal.

In summary, the catch is landed into the auctions, whereby the action does not buy the fish and instead acts as an only function as administrative and facilitating organisations and ownership changes at point of sale, to the buyer.

5.3 Eligibility to enter further chains of custody

Further chain of custody certification will be required for certified product at the first point of sale (either directly at the point of landing or through the auction).

Western Central Pacific Ocean Skipjack and North Pacific Albacore caught by the vessels in Table 4 within the Japanese EEZ, and WCPO high seas is eligible to enter further chains of custody. However, any trips which include EEZs other than the Japanese EEZ are classed as non-MSC certified and will not be eligible to enter further chains of custody. The client needs to inform the CAB if fishing licences for other areas are obtained and detail how the catch will be kept separate on board and at landing.

5.4 Eligibility of Inseparable or Practically Inseparable (IPI) stock(s) to enter further chains of custody

There are no IPI stocks in this fishery.

6 Scoring

6.1 Summary of PI Level Scores

Table 9. Performance Indicator scores

Princi- ple	Component	Wt	Performance Indicator (PI)	Wt	Score	
					UoA1	UoA2
One	Outcome	0.33	1.1.1 Stock status	0.5	100	100
			1.1.2 Stock rebuilding	0.5	N/A	N/A
	Management	0.67	1.2.1 Harvest strategy	0.25	70	80
			1.2.2 Harvest control rules & tools	0.25	60	60
			1.2.3 Information & monitoring	0.25	90	90
			1.2.4 Assessment of stock status	0.25	95	95
Two	Primary species	0.2	2.1.1 Outcome	0.33	75	75
			2.1.2 Management strategy	0.33	80	80
			2.1.3 Information/Monitoring	0.33	95	95
	Secondary species	0.2	2.2.1 Outcome	0.33	80	80
			2.2.2 Management strategy	0.33	80	80
			2.2.3 Information/Monitoring	0.33	90	90
	ETP species	0.2	2.3.1 Outcome	0.33	80	80
			2.3.2 Management strategy	0.33	75	75
			2.3.3 Information strategy	0.33	70	70
	Habitats	0.2	2.4.1 Outcome	0.33	100	100
			2.4.2 Management strategy	0.33	95	95
			2.4.3 Information	0.33	80	80
Three	Governance and policy	0.5	3.1.1 Legal &/or customary framework	0.33	85	85
			3.1.2 Consultation, roles & responsibilities	0.33	80	80
			3.1.3 Long term objectives	0.33	90	90
	Fishery specific management system	0.5	3.2.1 Fishery specific objectives	0.25	80	80
			3.2.2 Decision making processes	0.25	80	80
			3.2.3 Compliance & enforcement	0.25	80	80
			3.2.4 Monitoring & management performance evaluation	0.25	80	80

6.2 Fishery overview

6.2.1 The Client fishery

The fishery targets skipjack tuna (*Katsuwonus pelamis*) and albacore tuna (*Thunnus alalunga*) using the pole and line gear method. This fishery operates in Western and Central Pacific Ocean (WCPO) high seas and Japanese EEZ.

After a MSC pre-assessment for the National Offshore Tuna Fisheries Association of Japan (NOTFA) was conducted (by CU Pesca, now CU UK), the Japan Offshore Pole-and-line Tuna Fishery Sustainability Council (JOPFSC) was established in November 2019 for this full-assessment. NOTFA (known as Kinkatsukyo, Kinkatsu in short) has a total of 46 vessels, whereas JOPFSC consists of 19 vessels (7 vessels from Kochi Katsuo Fisheries Cooperative (Kochi) and 12 vessels from Nango Fisheries Cooperative (Miyazaki)), see also Table 4. NOTFA approved the use of the data provided for the pre-assessment in this assessment.

The UoA consist of 7 vessels with a “distant water tuna (B)” licence and 12 vessels with a “new near-water” licence. The two groups are separated depending on vessel size – whether the vessel is larger than 120 t or not. Most (18) of the vessels are between 119 t to 167 t and can be regarded as “middle size pole and line vessels” (one vessel is only 19 t and can be called “small size”). Vessels in the “large pole and line” category are much larger, at around 500 t, and have freezers on board, which the vessels in this assessment do not have. Since they only carry fresh tuna, trip lengths are limited, and typically around one week, and none of the vessels fish too far out at sea, because all landed skipjack and albacore are sold fresh (fish caught are only cooled in briny ice water).

Although vessels larger than 120 t but without freezers have a “distant water tuna” licence, they have the same interest and trip-length as “new near-water” vessels. See section 6.7.9 for more details on the licences in this fishery.

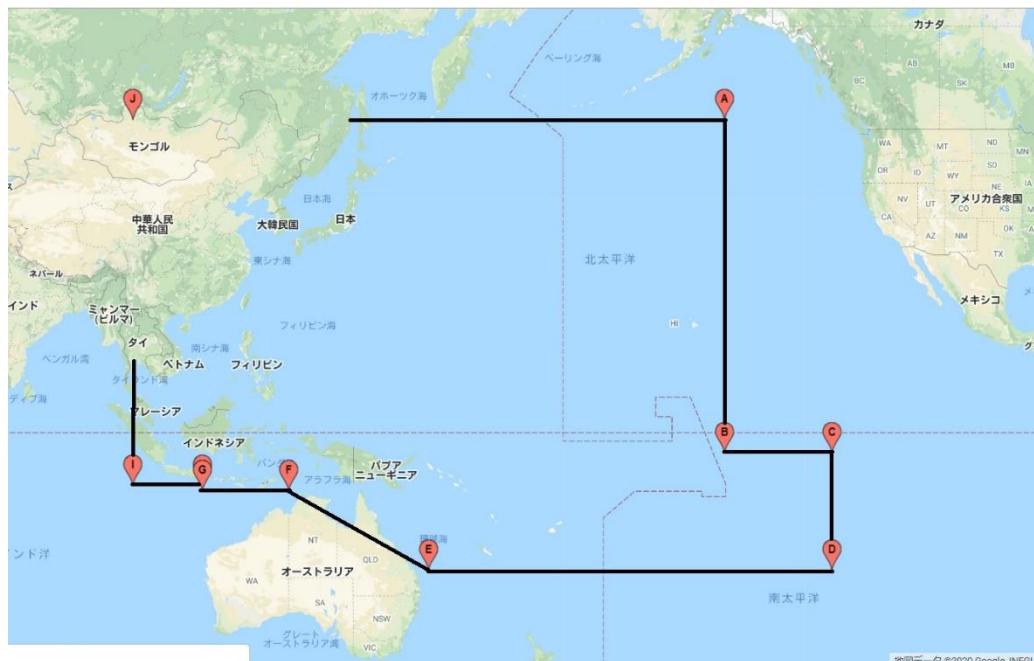


Figure 2. Designated operation area for New Near-water licence vessels. The fishery takes place in Japanese EEZ and high seas under WCPFC management (source: JOPFSC)

Japan is a member of both the Western Central Pacific Fisheries Commission (WCPFC) and the Inter-American Tropical Tuna Commission (IATTC) and is required to adhere to all Conservation Management Measures (CMMs) and Resolutions and Recommendations set by the Regional Fisheries Management Organisations (RFMOs).

6.2.2 Gear and operation of the fishery

All members use same the type of gear: pole and line, with barbless hooks (see Figure 3). Artificial lures are used but hooks are not baited. There are various sizes of barbless hooks. Fishers change hooks and poles depending on the species they target. The pole length is up to 4 m (Figure 4).



Figure 3. Barbless hooks with lures (source: JOPFSC)



Figure 4. Fiberglass poles (source: JOPFSC)

Fishing operations start at dawn and continue until sunset. Fishing time depends on the number of fish available in the school, and can take anywhere from 5 minutes to several hours.



Figure 5. Pole and line fishing in operation (source: JOPFSC)

Once a school of tuna has been found, water will be sprayed to obscure the vessel, and live bait is used to chum the area. Japanese anchovy (*Engraulis japonicus*) and Japanese sardine (*Sardinops melanostictus*), bought in Japan and carried live in tanks, are used as bait. Fishing takes place typically until the target skipjack or albacore tunas have moved on. The vessels move around searching for good fishing spots, chasing schools of fish.

The fish is immediately placed in a tank with chilled brine water, without being sorted. There is no processing on board.

6.2.3 Fishing areas and seasons

The fishing season starts in January and changes location around the Japanese EEZ and adjacent high seas throughout the year (see Figure 6). Trip durations vary depending on where the vessels go, but the maximum time to reach the fishing ground is three days, usually it takes a day or two. All fish caught are kept fresh (not frozen) and sold as Sashimi. The fishery does not fish in foreign EEZs, and does not deploy Fish Aggregating Devices (FADs), although occasionally they fish around anchored FADs installed by local people in Japan's nearshore area (Okinawa, Ogasawara) with the agreement of local fishers.

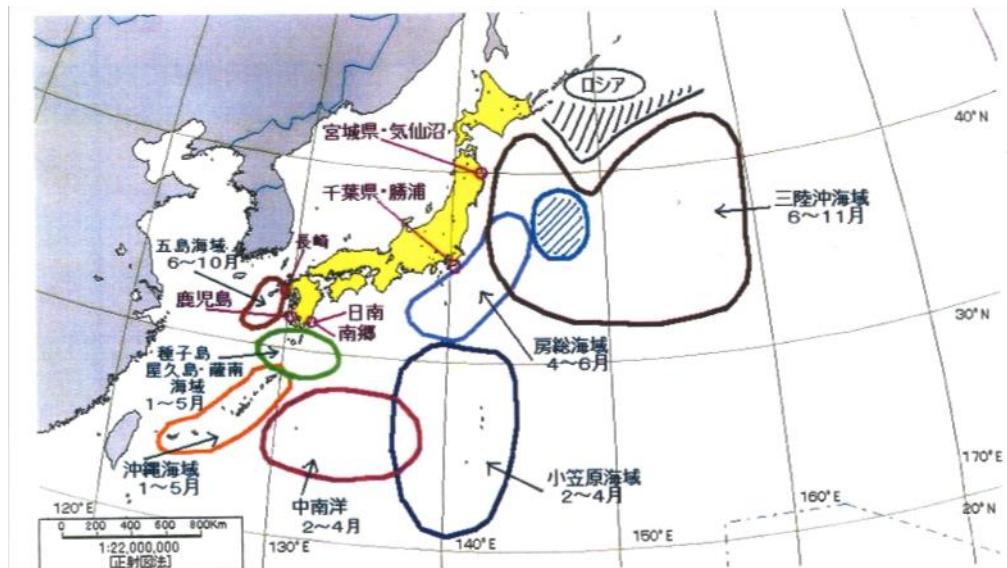


Figure 6. Skipjack fishery around Japan throughout the year. January-May around Okinawa (orange) and around Tanegashima, Yakushima in the Satsuma sea (green); February-April in the Central South Sea (red); February-April Ogasawara Sea (dark blue); April-June Boso Sea (light blue); June-November Sanriku Oki Sea (black); June-October in the Goto sea between Korea and China. (source: JOPFSC)

Fishing grounds change with the season. From January to February, pole and line vessels travel to the Northern Marianas. It takes around three to four days to get to these fishing grounds. From February to April, fishing grounds are formed in the coastal waters of Ogasawara located approximately 1,000 km south of Tokyo. At this time, big skipjack are caught. Peak fishing times are April and May. The major fishing areas are waters around Chiba Prefecture and Izu Islands. Between June and October, the skipjack move northwards, i.e. Sanriku Oki and Hokkaido Oki, and the fishery follows them. The vessels do not operate in November and December.

18 vessels operate under an offshore licence, with a capacity of over 80 t (see Table 4). There are no set limits for the fishing areas for these vessels as defined by the offshore licence (except entrance to other EEZs, which is subject to separated agreements or licences). Usually the amount of fuel a vessel can take on board limits the length of a fishing trip.

6.2.4 Total Allowable Catch (TAC) and Catch Data

The fishery is not managed via a TAC. Information on the fishery and total landings of the target species is given in Table 10 and Table 11 (information derived from the WCPFC Tuna yearbook, and JOPFSC). Note that for all NOTFA members combined, the information of catches is available through 2013 (see Table 20), but information for the vessels included in the JOPFSC is limited due to the recent creation of this entity following the pre-assessment, as discussed above.

Table 10. TAC and Catch Data Skipjack

Total landings from the stock	2019	2,045,970 t live weight
UoA/UoC share of total landings	2019	0.57 %
Japanese pole and line landing from the stock	2019	58,529 t live weight
Total green weight catch by UoC	2019	11,675 t live weight
	2018	11,094 t live weight

Table 11. TAC and Catch Data NP Albacore

Total landings from the stock	2019	119,100 t live weight
UoA/UoC share of total landings	2019	2.4 %
Japanese pole and line landings from the stock	2019	17,795 t live weight
Total green weight catch by UoC	2019	2,833 t live weight
	2018	6,385 t live weight

6.3 Principle 1 - Skipjack

6.3.1 Skipjack biology and stock definition

Except where otherwise noted, this section is taken from McKechnie et al. 2016 and Vincent et al. 2019 and references therein.

Growth and reproduction: Skipjack (*Katsuwonus pelamis*) are the smallest and fastest-growing of the main commercial tuna species, generally not exceeding 20kg. The longest period at liberty for a tagged skipjack is ~4.5 years. Maturity is reached at 40-50cm (which may be aged ~1 year, depending on the area). Spawning seems to be related to food supplies rather than a particular season. In the Pacific, it appears that growth varies spatially, being quicker close to the equator than in peripheral areas, although the stock assessment assumes a single Von Bertalanffy (VB) growth curve across all regions.

Distribution and movement: Skipjack are found in tropical and subtropical waters in all oceans. In the Pacific, warm currents extend skipjack distribution seasonally to about 40°N and S off the coasts of Japan and Australia, but greatest abundance remains in equatorial waters, roughly corresponding to surface waters >20°C. Skipjack movement can be inferred from tagging, and seems to be highly variable, most likely driven by oceanographic conditions and processes. In some years since 2012 there appears to have been a significant eastward shift in the centre of biomass towards the eastern equatorial region, perhaps due to strong El Niño Southern Oscillation (ENSO) -conditions. According to Aoki et al. (2017), skipjack are likely to spawn in tropical areas, with a proportion of juveniles migrating through subtropical regions to the temperate extremes of the distribution in search of good feeding areas.

Stock: Skipjack in the WCPO are considered to comprise a single stock for assessment and management purposes. It is likely that skipjack in the far east and far west Pacific have little exchange, but there is likely to be mixing in the central Pacific and there is certainly extensive movement over the nominal WCPO/EPO boundary at 150°W. Nevertheless, the tagging data suggest that approximating the stock to the WCPFC Convention Area is a reasonable assumption (McKechnie et al. 2016) (Figure 7).

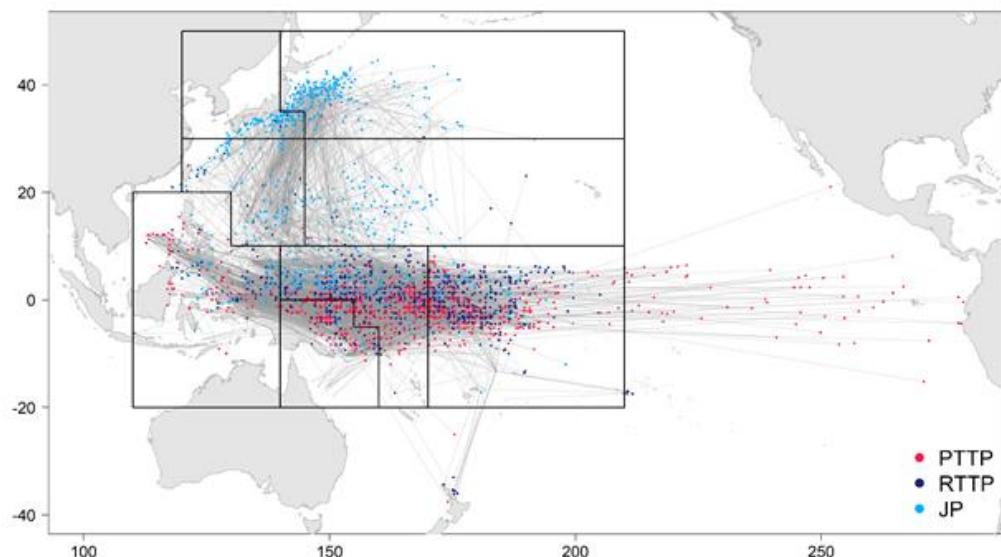


Figure 7. Skipjack tag and release points from three different tagging programmes, showing those releases with recaptures >1,000 nm away (Vincent et al. 2019).

Key LTL: Skipjack is not a key Low Trophic Level (LTL) species according to the MSC definition.

6.3.2 Skipjack stock status

The most recent stock assessment was conducted in 2019 (Vincent et al. 2019). It concludes that the stock biomass has declined since the mid-2000s, while fishing mortality has increased on both juveniles and adults. The model was run with two different regional structures (8 regions vs 5 regions) and the 8 region structure was found to provide a more optimistic picture of stock status, however both model structures estimated that the stock biomass was above the Limit Reference Point (LRP) and fishing mortality below F_{MSY} with high probability. SC15 agreed to use the 8-region model for management advice since they considered that it represents skipjack spatial dynamics better. Biomass depletion was estimated at 44 % of $B_{F=0}$ (median, 8 regions), suggesting that the biomass is below the agreed interim Target Reference Point (TRP) of 50 % $B_{F=0}$ with approximately 85 % probability (considering only variance within the model) (WCPFC 2019a).

Based on the 8-region model, stock status is described in a 54-model uncertainty grid (Table 12), reflecting the substantive sensitivity runs undertaken in the stock assessment (see under stock assessment below). The Majuro plot for the 8-region model is shown in Figure 8.

Table 12. Skipjack: Summary of stock status in relation to reference points across the structural uncertainty grid for the 8-region model; F_{recent} = average fishing mortality 2014-17; SB_{recent} = average spawner potential 2015-18; SB_{latest} = spawner potential 2018 (Source: Table SKJ-02 in SC15 report; WCPFC 2019a)

Ratio	Median estimate	10 %ile	90 %ile
F_{recent}/F_{MSY}	0.447	0.343	0.600
$SB_{recent}/SB_{F=0}$	0.440	0.372	0.530
SB_{recent}/SB_{MSY}	2.579	1.892	3.613
$SB_{latest}/SB_{F=0}$	0.415	0.360	0.487
SB_{latest}/SB_{MSY}	2.382	1.779	3.356
$SB_{MSY}/SB_{F=0}$	0.176	0.131	0.225

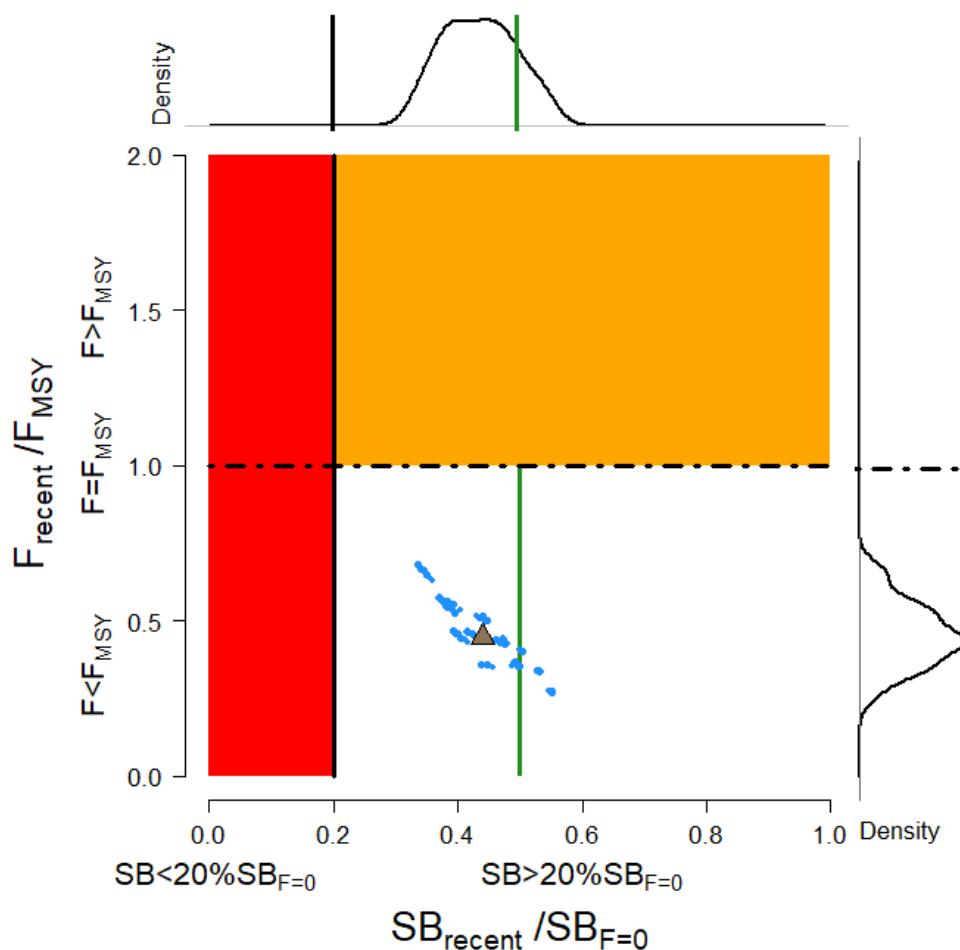


Figure 8. Majuro plot for recent skipjack spawning potential (2015-18) for each of the models in the structural uncertainty grid. Blue dots show the results of each model run and the triangle shows the median of all runs. Red area is below the LRP; green line shows the interim TRP, orange area is F above F_{MSY} . The distribution of model results in terms of F and SB are shown at the top and right-hand side (Source: Figure SKJ-09 in SC15 report; WCPFC 2019a).

6.3.3 Skipjack stock status projections

Vincent et al. (2019) provides projections for spawner depletion for skipjack to 2050, based on 2016-2018 average fishing levels. The projections suggest that biomass will stabilise well above the LRP – and therefore above the MSY level since SB_{MSY} is estimated to be below the LRP (see Table 12 above), but cannot regain the TRP biomass at this level of fishing effort (Figure 9).

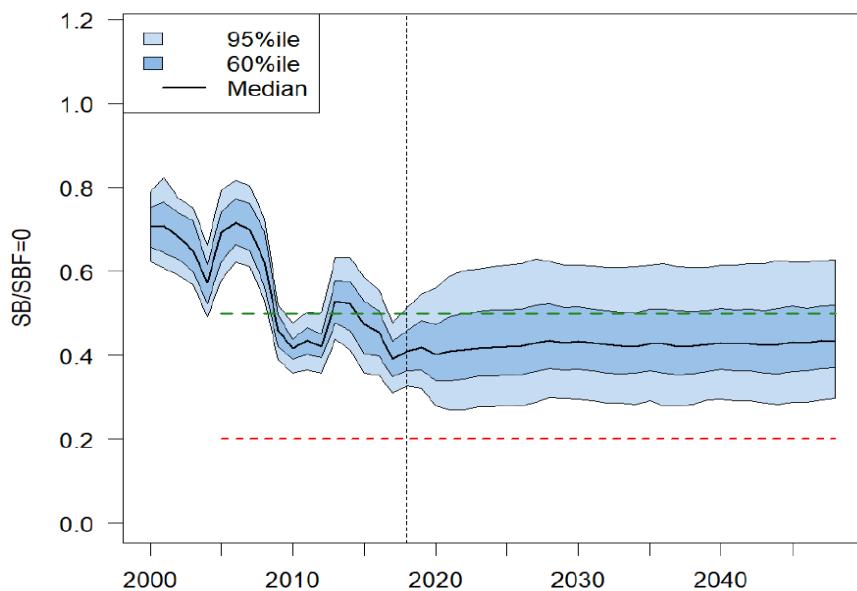


Figure 9. Skipjack: Projections of spawner biomass relative to SBF=0 to 2050, assuming average fishing levels 2016-18. Green dashed line = TRP, red dashed line = LRP (Source: Figure A9 in Vincent et al. 2019).

6.3.4 Skipjack information available for stock assessment

The stock assessment report (Vincent et al. 2019) provides a full description of the data sources used, from which the summary in this section is taken unless otherwise indicated.

Fisheries: The stock assessment defines 36 ‘fisheries’ according to fishing gear and method (purse seine (associated vs. unassociated), pole-and-line, longline and various miscellaneous small-scale fisheries in Indonesia and the Philippines), as well as by region and by nationality for Philippines, Indonesia, Vietnam and ‘distant water’.

The information provided from each fishery is summarised in the graphic below (Figure 10; from Vincent et al. 2019). Recent and historical catch data are available from nearly all the fisheries. Standardised Catch per Unit Effort (CPUE) is mainly evaluated from pole-and-line fisheries, which a concern for the assessment since the proportion of catch taken by these fisheries is shrinking and their catch may no longer be large enough for robust statistical standardisation in some areas. Size data are available generally as weight for the longline fisheries and length (from port sampling) for the other gear types. There is no information available about data collection from the UoA at present.

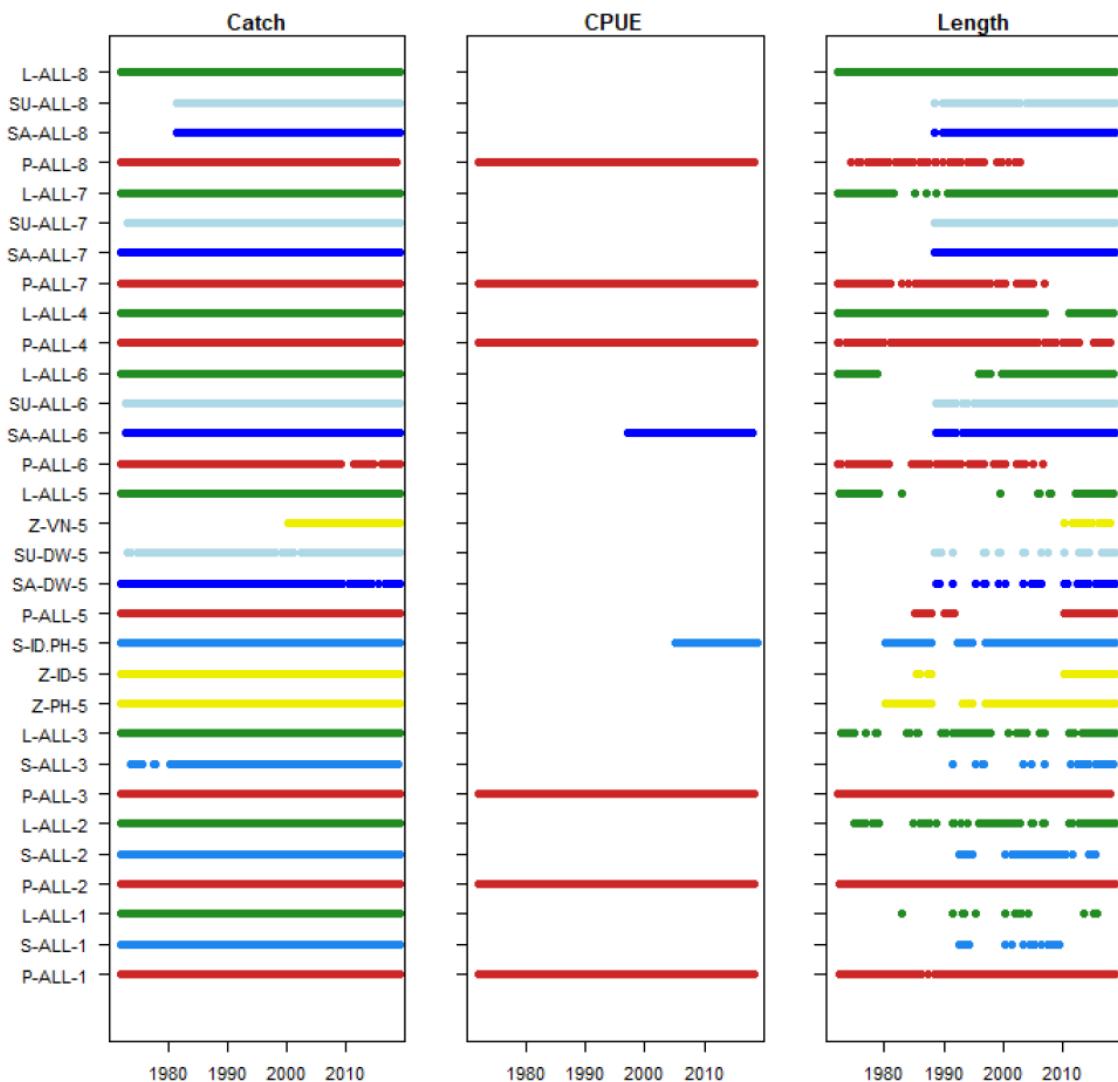


Figure 10. Skipjack: Catch, standardised CPUE and length-frequency data availability by fishery (as per definitions in stock assessment) and year, 1970-date; red=pole-and-line, blue=purse seine, green=longline, yellow=misc (Source: Figure 5 in Vincent et al. 2019).

Catch: Data were compiled by quarter for each of the fisheries. Catch was by weight, except for longline catches (minor) which were by number of fish. Discards were assumed to be minimal and not included in the stock assessment. Purse seine catch was divided by species according to proportions estimated from observer data, except for Japanese purse seine logsheets, for which reporting of catch by species was considered to be reliable.

Effort and CPUE: The main change with regards to effort data in this assessment was to switch from reporting purse seine effort by fishing day, to number of sets. This avoids problems of effort creep arising from vessels spending fewer days searching due to improvements in technology (acoustic Fish Aggregating Devices - FADs etc.). The key data sets for the assessment were standardised CPUE time series from Japanese pole-and-line fisheries. Where pole-and-line effort was not sufficient for standardisation (regions 5 and 6), purse seine catch/effort was standardised instead. (It is questionable the extent to which conventional purse seine catch/effort data is representative of stock biomass trends, but progress is being made elsewhere in using data from acoustic FADs to provide a standardised biomass index.)

Size data: Purse seine size data is derived mainly from a time series of port sampling in Pago Pago (Samoa), and is corrected for sampling bias using a standard procedure (used in all Secretariat to the Pacific Community (SPC) tuna stock assessments). Longline catch is small, but the fishery tends to take the largest size class which otherwise do not appear in the data (and hence the model does not know about). They are included based on data collected by Japanese research vessels. Pole-and-line size data comes mainly from observers, and mainly from Japanese vessels.

Other fisheries: Data, including size sampling, from domestic fisheries in Indonesia, Philippines and Vietnam has improved significantly in recent years as a result of several collaborative projects. This allowed the three fisheries to be treated separately in terms of their selectivity for the first time, instead of amalgamated (see fisheries labelled PH, ID and VN in Figure 10 above).

Tagging data: Tagging data were available from three Pacific-wide tagging projects (1977-80, 1989-92 and 2006-ongoing), as well as regular Japanese research cruises starting in 1989. These programmes provided a total of 329,811 useable releases and 56,092 useable returns. These data are used to inform model spatial structure, spatial size distribution and elements of skipjack biology (natural mortality and growth by sex).

6.3.5 Skipjack stock assessment

The most recent stock assessment for WCPO skipjack is described in Vincent et al. (2019), from which the summary here is taken. The assessment uses data from 1972 to 2018, in quarterly timesteps. As with the assessments for all the main WCPFC stocks, the assessment model is run in Multifan-CL (MFCL), which provides a Bayesian framework. MFCL requires that 'fisheries' are defined with as near as possible constant selectivity and catchability. The details of how these fisheries are defined are given above. For each fishery, the assessment uses catch data, effort data (in the form of standardised CPUE time series; see above). The model also uses tagging data.

The 2019 stock assessment (Vincent et al. 2019) introduced a number of changes from the 2016 assessment (McKechnie et al. 2016), including three additional years of data, additional Japanese tagging data from the 1990s, technical changes to the analysis of tagging data, a review of the growth model and maturity schedule, downweighting of size-composition data and the new 8-region spatial structure.

SPC in recent years have generated a grid of models to explore the interactions among selected axes of uncertainty. The grid contains all combinations of two or more parameter settings or assumptions for each uncertainty axis. The axes are generally selected from the one-off sensitivities with the aim of providing an approximate understanding of variability in model estimates due to assumptions in model structure, not accounted for by statistical uncertainty estimated in a single model run, or over a set of one-off sensitivities. The 2019 assessment provided two separate grids, for the 8-region model (new) and the 5-region model (old), from which the SC selected the 8-region model. The structural uncertainty grid for this model was constructed from 4 axes: steepness (3 settings), growth functions (3 setting), length composition weighting (three settings) and tag mixing periods (two settings), resulting in a grid of 54 models.

6.3.6 Skipjack management: WCPFC

The discussion in this report refers to various WCPFC tropical tuna Conservation and Management Measures (CMMs) which were in force at different times, and it is useful to summarise these briefly, for clarity (Table 13).

Table 13. Summary of various tropical tuna measures in force at WCPFC since 2014

CMM	Summary	Years in force
2013-01	First year of 4-year measure aimed in particular at reducing F on bigeye; additional measures are phased in each year	2014
2014-01	Second year of 4-year measure	2015
2015-01	Third year of 4-year measure	2016
2016-01	Fourth year of 4-year measure	2017
2017-01	'Bridging measure' while work towards a formal harvest strategy is ongoing. Some relaxation of measures relative to 2016-01.	2018
2018-01	Further bridging measure. Essentially the same as 2017-01 as regards tropical tuna stock management.	Current

A limit reference point (LRP) has been agreed for WCPO skipjack of 20 % SB_{current, F=0}, where 'current' is defined as the most recent 10-year period for which data are available for the stock assessment. An interim target reference point (TRP) is defined as 50 % SB_{current, F=0} on the same basis (CMM 2015-06).

The current CMM for tropical tuna stocks in the WCPFC zone is CMM 2018-01 (replacing CMM 2017-01 on 3 February 2019). As noted above, these CMMs are intended to provide 'bridging measures' while work continues towards a formal harvest strategy. CMM 2018-01 runs to February 2021, unless replaced before.

The objective of the harvest strategy for skipjack is the TRP (CMM 2018-01, paragraph 13):

"The spawning biomass of skipjack tuna is to be maintained on average at a level consistent with the interim target reference point of 50 % of the spawning biomass in the absence of fishing, adopted in accordance with CMM 2015-06."

CMM 2018-01 provides for a series of management measures aimed at constraining effort on tropical tunas, focusing particularly on the purse seine fishery which accounts for >80 % of the catch of skipjack, as well as ~60 % of the catch of yellowfin and ~40 % of the catch of bigeye (yellowfin and bigeye: 2014-16; WCPFC Tuna Fishery Yearbook; skipjack: 2018; Vincent et al. 2019).

Measures for the purse seine fishery are as follows:

- A three-month ban on deploying, maintaining or setting on FADs during July-September, including the high seas and EEZs, in the area 20°N-20°S; with some exemptions for PNA vessels operating under the Vessel Day Scheme (VDS) (see below). Also a further two-month ban on FAD setting in the high seas in April-May or November-December; to be decided by the WCPFC Commission Members, Cooperating non-Members, and participating Territories (CCM); note there are some exceptions as detailed in the CMM.
- A maximum of 350 instrumented FADs to be in use, per vessel, at any one time.
- Purse seine catch or effort limits to be set for each relevant EEZ (see Table 14; remaining countries have till the end of 2018 to set limits).
- Non-SIDS (except Philippines) to set high-seas effort limits for their flag vessels for the area 20°N-20°S (see Table 14). The CMM also notes (para. 27): *CCMs shall ensure that the effectiveness of these effort limits for the purse seine fishery are not undermined by a transfer of effort in days fished into areas within the Convention Area south of 20°S. In order not to undermine the effectiveness of these effort limits, CCMs shall not transfer fishing effort in days fished in the purse seine fishery to areas within the Convention Area north of 20°N.*

- Any overshoot of catch or effort limits to be deducted from the following year.

Table 14. Purse seine EEZ effort or catch limits by coastal state, and purse seine high seas effort limits by flag state, under CMM 2018-01 (Tables 1 and 2 in CMM 2018-01). Note: PNA and Tokelau manage their effort together through the VDS.

State (or group of states)	Purse seine effort limit in EEZ (vessel days), or EEZ catch limit (tonnes); by coastal state	High seas purse seine effort limit (days); by flag state
PNA	44,033 days (see further details below)	
Tokelau	1,000 days	
Cook Islands	1,250 days	
Fiji	300 days	
Niue	200 days	
Samoa	150 days	
Tonga	250 days	
Vanuatu	200 days	
Australia	30,000 t skipjack, 600 t of yellowfin and bigeye	
French Polynesia	0 (purse seine ban in FP EEZ)	
Indonesia	not yet decided	
Japan	1,500 days	121 days
Korea	not yet decided	207 days
New Zealand	40,000t skipjack; not specified for other species	160 days
New Caledonia	20,000t skipjack; not specified for other species	
Philippines	not yet decided	
Taiwan	not yet decided	95 days
USA	558 days	1270 days
Wallis and Futuna	not yet decided	
China		26 days
EU		403 days

Other measures in CMM 2018-01 are as follows:

- Longline bigeye catch limits, (not relevant for skipjack where longline catch is negligible).
- A requirement to use only non-entangling FADs, by 1 January 2020 (introduced in CMM 2018-01 for the first time).
- Capacity of freezer purse seiners >24m operating between 20°N and 20°S is limited to the level set out in 2013-01 (and subsequent iterations), except SIDS and Indonesia; likewise freezer longliners and freshfish longliners targeting bigeye (with additional exemption for countries with a domestic quota system).
- Any replacement of purse seine vessels should not increase overall capacity.
- Other fisheries (i.e. not purse seine or longline) are limited to the catch level of 2004 or the average catch 2001-4, except for those taking <2,000 t who may take up to this level.

6.3.7 Skipjack management: PNA

PNA (the Parties to the Nauru Agreement) is a grouping of the Republic of the Marshall Islands (RMI), Federated States of Micronesia (FSM), Republic of Kiribati, Nauru, Palau, Papua New Guinea, Solomon Islands and Tuvalu (Tokelau is also a participant). They operate between them a Vessel Day Scheme (VDS) for purse seine vessels; i.e. to fish in any of these EEZs, purse seine vessels must buy vessel days from PNA.

The objective of the purse seine VDS (from a stock management perspective) is to constrain purse seine effort to 2010 levels in the EEZs of PNA VDS participants, following the requirements of CMM 2016-01 and its previous iterations. The total number of days under the VDS across all the EEZs for 2017-18 is 45,590, and for 2019-20 45,033. The number of days is calculated as follows: 44,033 days are taken as baseline (2010) effort for PNA countries (from SPC); a percentage multiplier is added based on how the days are sold across different vessel length classes (for 2017-18 this increases the number of days by 1.3 % relative to the baseline, for 2019-20 it is set to zero); the same calculation is carried out separately for Tokelau based on a baseline of 1,000 days – these are summed together to give a Total Allowable Effort (TAE) (PNA 2016; see also CMM 2018-01).

A vessel day varies according to the size of the vessel. For vessels <50m LOA one day counts as 0.5 VDS days; conversely a vessel >80m LOA must buy 1.5 VDS days per day fishing. This reportedly acts as a built-in disincentive to effort creep, to the extent that there are no vessels >80m left in the fishery. Effort creep is evaluated annually by PNA and SPC (e.g. Muller et al. 2018).

Effort is allocated between countries based on a pre-agreed key but can be traded if necessary. Fishing companies apply at the beginning of the year for the number of days they think they will require from each country and pay accordingly. They may also buy more days during the year as required, as long as they remain available (so far, days have reportedly not been limiting since price is more limiting).

In 2016, the Palau Arrangement established a similar VDS for longline vessels in PNA waters (PNA 2016b) which started in 2019. The scheme allows a total of 165,132 longline days across PNA members, which is reportedly not limiting to the fishery.

6.3.8 Skipjack management: progress towards a formal harvest strategy at WCPFC

CMM 2014-06 commits WCPFC to putting in place a formal harvest strategy for its key stocks (WCPO skipjack, yellowfin and bigeye, and South Pacific albacore), with an associated workplan. The workplan was extensively discussed and revised at WCPFC16 (December 2019) and deadlines for all stocks were pushed back (WCPFC 2020; Attachment H). The deadline for adopting a formal HCR (now termed ‘management procedure’) for skipjack has been moved from 2020 back to 2022, allowing for a review of the interim TRP in 2020.

6.3.9 Skipjack management: Japan

The provisions of CMM 2018-01 paragraph 51 (‘other commercial fisheries’) apply to the Japanese pole and line fishery; i.e. that total catch must be limited to a maximum of the level in 2004 or the average of 2001-4. The relevant figures are given in Table 15; this is easily being achieved by the Japanese pole and line fleet.

Other than that, any Japanese management provisions are not particularly relevant to the management of the skipjack stock as a whole, because Japanese-flagged vessels only take ~11 % of the total skipjack catch in the WCPFC Convention Area (2014-16 figures taken from WCPFC Tuna Fishery Yearbook¹). There are, however, various management measures in place for skipjack at local level (agreed under NOTFA and implemented by the cooperatives) which are discussed further under Principle 3 (Section 6.7.7).

¹ <https://wcpfc.int/statistical-bulletins>

Table 15. Landings of skipjack by Japanese flagged pole and line vessels (from WCPFC Tuna Fishery Yearbook 2019)

Year	Japanese pole and line skipjack landings (t)
2018	67,349
2017	43,428
2016	70,198
2015	71,403
2014	67,227
2004	108,100
average 2001-4	108,500

6.3.10 Principle 1 Performance Indicator scores and rationales: Skipjack

PI 1.1.1 – Stock status

PI 1.1.1		The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing		
Scoring Issue		SG 60	SG 80	SG 100
a	Stock status relative to recruitment impairment			
	Guide post	It is likely that the stock is above the point where recruitment would be impaired (PRI).	It is highly likely that the stock is above the PRI.	There is a high degree of certainty that the stock is above the PRI.
	Met?	Y	Y	Y

Rationale

The PRI for this stock is not known, although WCPFC has adopted 20 % $SB_{F=0}$ as a limit reference point (LRP) for the stock, where $SB_{F=0}$ is calculated as the average over the period 2006–2015. B_{MSY} (see 1.1.1b below) is analytically determined in the stock assessment to be below B_{lim} (18 % $SB_{F=0}$).

The guidance in GSA2.2.3.1 states: *In the case where either B_{MSY} or the PRI are analytically determined, those values should be used as the reference points for measuring stock status unless additional precaution is sought. ... In the case where B_{MSY} is analytically determined to be lower than 40 %B0 (as in some highly productive stocks), and there is no analytical determination of the PRI, the default PRI should be 20 %B0 unless $B_{MSY}<27\%B0$, in which case the default PRI should be 75 % B_{MSY} .*

Since B_{MSY} is analytically determined while the PRI is not, but B_{MSY} is <27 %B0, then following guidance, scoring of 1.1.1a should be based on 75 % B_{MSY} as a proxy for the PRI - unless 'additional precaution is sought'. Skipjack is known to be a highly productive stock so there is no particular reason for extra precaution. It is therefore scored based on 75 % B_{MSY} =13.5 %B0 rather than on B_{lim} .

The stock assessment concludes that the stock is above B_{lim} level with ~100 % probability. This is true for both uncertainty grids – i.e. the 8-region structure adopted by the Scientific Committee, and the previous 5-region structure. Since B_{lim} is above the above-estimated proxy for the PRI, this must also be true for the PRI. This means that there is a high degree of certainty (defined quantitatively as 95 % or greater) that the stock is above the PRI; SG60, SG80 and 100 are met.

b	Stock status in relation to achievement of Maximum Sustainable Yield (MSY)
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	Guide post	The stock is at or fluctuating around a level consistent with MSY.	There is a high degree of certainty that the stock has been fluctuating around a level consistent with MSY or has been above this level over recent years.
	Met?	Y	Y

Rationale

B_{MSY} is estimated in the stock assessment at 18 % $B_{F=0}$. As noted above, the stock assessment estimates that the stock is above this level with ~100 % probability.

We can also consider F relative to F_{MSY} (see GSA2.2.4). It is clear from Figure 8 that the most recent estimate of F from the stock assessment is below F_{MSY} with high probability (~100 % according to the stock assessment). The figure below shows the history of catch relative to MSY. Catch has never reached the MSY level (Figure 11), suggesting the F has also never attained or exceeded F_{MSY} . According to MSC guidance (GSA2.2.4): *A 100 score is justified if F is highly likely to have been below F_{MSY} for at least two generation times (or for at least four years, if greater); therefore, since F is estimated to have been below F_{MSY} for the entire time series, SG80 and 100 are met.*

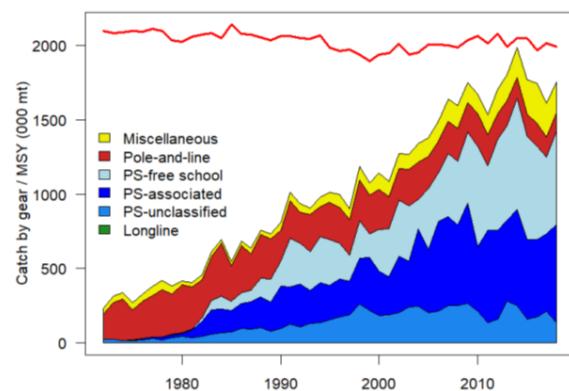


Figure 11. Skipjack: Trends in catch by gear and estimates of MSY catch level (red line). Figure 69 in Vincent et al. 2019.

References

Vincent M.T., Pilling G.M. and Hampton J. 2019. Stock assessment of skipjack tuna in the Western and Central Pacific Ocean. Report to the 15th Regular Session of the WCPFC Scientific Committee, Pohnpei, FSM, 12-20 August 2019. WCPFC-SC15-2019/SA-WP-05-Rev2.

WCPFC 2019a. 15th Regular Session of the WCPFC Scientific Committee, Pohnpei, FSM, 12-20 August 2019: Summary Report.

Stock status relative to reference points

	Type of reference point	Value of reference point	Current stock status relative to reference point
Reference point used in scoring stock relative to PRI (Sl _a)	MSC proxy for PRI	75 % B_{MSY} = 13.5 % $B_{F=0}$	Median estimate from 8-region grid: 44 % $B_{F=0}$
Reference point used in scoring stock relative to MSY (Sl _b)	MSY target	B_{MSY} , F_{MSY}	Median estimate from 8-region grid: 0.44 F_{MSY}

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥ 80
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	100
Condition number (if relevant)	-

PI 1.2.1 – Harvest strategy

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
Scoring Issue		SG 60	SG 80	SG 100
a Harvest strategy design				
Guide post	The harvest strategy is expected to achieve stock management objectives reflected in PI 1.1.1 SG80.	The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving stock management objectives reflected in PI 1.1.1 SG80.	The harvest strategy is responsive to the state of the stock and is designed to achieve stock management objectives reflected in PI 1.1.1 SG80.	
Met?	Y	N		N

Rationale

Definitions: MSC defines a harvest strategy as ‘the combination of monitoring, stock assessment, harvest control rules and management actions, which may include an MP or an MP (implicit) and be tested by MSE’ (MSC – MSCI Vocabulary v1.1).

WCPFC harvest strategy: The stated objective of the WCPFC harvest strategy as defined in CMM 2018-01 is to maintain biomass at the level of the interim TRP (50 % $B_{F=0}$). This target level is well above the MSY level. It is not currently being achieved (see 1.1.1), however the MSC PIs specify that the harvest strategy should work to achieve the objectives set out in PI 1.1.1 SG80 (i.e. the MSY level), rather than other objectives set by the management body.

CMM 2014-06 commits WCPFC to developing a formal harvest strategy for skipjack and the other key stocks. Skipjack is ahead of the other stocks in having an interim TRP agreed; the other key milestone is to agree a Harvest Control Rule (HCR; management procedure) – this deadline was pushed back from 2020 to 2022 at WCPFC16 (see harvest strategy workplan; Attachment H in the WCPFC16 report; WCPFC 2020). For the moment, the elements of the WCPFC harvest strategy are the following:

- Data collection on the stock and fishery (considered in detail in PI 1.2.3 below)
- Stock assessment process (considered in detail in PI 1.2.4 below)
- Limit reference point (20 % $SB_{F=0}$) and interim target reference point (50 % $SB_{F=0}$)
- ‘Available’ HCR (see 1.2.2), with management tools set out in CMM 2018-01
- Monitoring of implementation of CMM 2018-01 via data gathering and Part 1 and 2 reports to the Commission.

The key elements of the management strategy are reviewed annually during the Commission meeting.

PNA harvest strategy: The PNA purse seine VDS aims to manage the tropical purse seine fishery targeting skipjack to a level where effort does not exceed 2010 levels. This is done via a TAE and associated allocation of vessel days by EEZ of member countries.

Overall scoring: The most recent stock assessment suggests that the stock status and fishing mortality is on the right side of MSY reference points (see 1.1.1). In 2019, SPC evaluated the effect of CMM 2018-01 with projections to 2045 (Pilling et al. 2019). They used 'status quo' (2013-15), optimistic and pessimistic scenarios², but for skipjack all resulted in little change in SB or F, and in all cases the risk of $SB < LRP$ or $F > F_{MSY}$ was negligible; i.e. even under the pessimistic scenario, the stock status as scored in 1.1.1 is not likely to change. Status quo projections presented in the new stock assessment also predict that biomass will be maintained above the LRP with high probability (~5 % for the 5-region model and <5 % for the 8-region model accepted by the SC). Median biomass stabilises at ~40 % $SB_{F=0}$ for the 8-region model (a bit less for the 5-region model), which is well above the MSY level according to the stock assessment. SG60 is met.

SG80 requires that management is responsive to the state of the stock. In 2017, the working group charged with developing the Tropical Tuna CMM asked SPC to evaluate the likely consequences of a large set of different management options for yellowfin, bigeye and skipjack stocks. A series of options were evaluated based on the probability of future (2045) biomass and fishing mortality being the wrong side of reference points ($SB < LRP$; $F > F_{MSY}$), with levels of risk defined in a 'traffic light' scale (green: <5 %, orange: 5-20 %, red: >20 %). For skipjack, none of the options resulted in a risk of >5 % of $SB < LRP$ or $F > F_{MSY}$. None of the options correspond directly to CMM 2018-01, but the options with higher risk were less precautionary than 2017-01 or 2018-01 which include FAD closures (SPC 2017).

It is also relevant to consider the history of changes to the harvest strategy in relation to perceptions of stock status, to evaluate whether there has been a response to changes in this perception. What is relevant here is not the status of skipjack, since it has always been good, but rather the status of bigeye, since this has varied over time, and since the harvest strategy considers all three tropical species together. Measures to reduce F on bigeye took some time to be agreed, but once introduced, the harvest strategy progressively tightened over the period 2014-2017, with measures only relaxed slightly (in 2017-01, agreed in December 2017) when the perception of stock status was revised and improved in the 2017 assessment.

On this basis, the team concluded that the harvest strategy is responsive to the state of the stock.

SG80 also requires that the elements of the management strategy work together to achieve management objectives. The elements of the current harvest strategy are: i) monitoring / stock assessment; ii) evaluation of management options; iii) management actions put in place by WCPFC and iv) management actions put in place by PNA. The evaluation of management options is informed by the stock assessment (which is only possible because of monitoring and data collection); WCPFC decision-making is

² Actually, for skipjack both the optimistic and pessimistic scenarios were more pessimistic than the *status quo*, since both assume an increase in purse seine effort relative to 2013-15 (*status quo*); the optimistic scenario assumes a reduction in longline effort which has a significant impact for yellowfin and bigeye but not skipjack since the longline catch is negligible. But this makes no difference to the analysis here.

informed by the evaluation of different options. It is also clear that PNA and WCPFC work together; the PNA VDS is incorporated into CMM 2018-01 (see Table 1 of the CMM). On this basis, it can be argued that the elements of the harvest strategy work together.

This SI, however, has been subject to a harmonisation process between CABs with fisheries on this or related stocks. There was no agreement under this process as to scoring, and in these circumstances, MSC require that all CABs default to the lower score. The argument for saying that SG80 is not met, is that the HCR is only 'available' (see PI 1.2.2) and on this basis one of the elements of the harvest strategy is missing (or at least, not formally in place), hence by definition the elements cannot work together. It is also worth noting, as a peer reviewer points out, that the deadline for adopting a formal HCR has been pushed back by WCPFC several times. Under this scoring, SG80 is not met.

b Harvest strategy evaluation				
Guide post	The harvest strategy is likely to work based on prior experience or plausible argument.	The harvest strategy may not have been fully tested but evidence exists that it is achieving its objectives.		The performance of the harvest strategy has been fully evaluated and evidence exists to show that it is achieving its objectives including being clearly able to maintain stocks at target levels.
Met?	Y	Y		N

Rationale

Definition: 'Testing' at the 80 level in SI1.2.1b can include the use of experience from analogous fisheries, empirical testing (for example practical experience of performance or evidence of past performance) and simulation testing (for instance using computer-intensive modelling such as Management Strategy Evaluation (MSE)) (GSA2.4.1).

The objective of the harvest strategy, as agreed by WCPFC, is to maintain the biomass at 50 %SB_{F=0} (the interim TRP). However, as noted above, this is not the objective used for MSC scoring. To be consistent with 1.1.1b and 1.2.1a, we evaluate the objective of the harvest strategy in terms of MSY reference points (i.e. F<F_{MSY}) – which is also a stated objective, according to SPC (2017).

Testing of the harvest strategy, via evaluation of management scenarios, is described above (see SPC 2017). The stock assessment provides evidence that it is achieving the objective of maintaining F below F_{MSY} (and SB above SB_{MSY}), and projections suggest it will continue to achieve them. SG60 and SG80 are met.

While projections suggest that the harvest strategy will continue to maintain the stock at appropriate levels, management measures are for the present adjusted annually on an *ad hoc* basis. Hence these projections do not map on to the actual management, and hence the harvest strategy cannot be fully evaluated. SG100 is not met.

c Harvest strategy monitoring	

	Guide post	Monitoring is in place that is expected to determine whether the harvest strategy is working.
	Met?	Yes

Rationale

Extensive monitoring is in place at the stock level; details given in Section 6.3.4. Guidepost is met.

d	Harvest strategy review		
	Guide post	The harvest strategy is periodically reviewed and improved as necessary.	
	Met?	No	

Rationale

The key component of the harvest strategy – i.e. the tropical tuna management measures, are reviewed and adjusted each year, with input from stock assessments (in years when available), compilations of fishery indicators and long- and short-term projections under the status quo and under different management scenarios. At the same time, there is a process underway which aims to arrive at a formal harvest strategy (under CMM 2014-06 and associated workplans), including Management Strategy Evaluation (MSE). However, since there is not a formal harvest strategy in place as yet, SG100 is not met.

e	Shark finning			
	Guide post	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark finning is not taking place.
	Met?	NA	NA	NA

Rationale

Target species is not a shark.

f Review of alternative measures			
Guide post	There has been a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock and they are implemented as appropriate.	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock, and they are implemented, as appropriate.
Met?	NA	NA	NA

Rationale

According to the MSC Fisheries Standard SA3.1.6, the term ‘unwanted catch’ shall be interpreted by assessment teams as the part of the catch that a fisher did not intend to catch but could not avoid, and did not want or chose not to use. This scoring issue need not be scored if there are no unwanted catches of primary species. This fishery targets skipjack specifically, and there are no requirements such as minimum or maximum landing sizes or quotas which could lead to any of this catch being unwanted. Based on the fact that this is a pole-and-line fishery, it is not thought likely that there is any unwanted catch of skipjack, and this was confirmed at the site visit.

References

Pilling G. Williams P. and Hampton J. 2019. Evaluation of CMM 2018-01 for tropical tuna. WCPFC-SC15-2019/MI-WP-11

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Vincent M.T., Pilling G.M. and Hampton J. 2019. Stock assessment of skipjack tuna in the Western and Central Pacific Ocean. Report to the 15th Regular Session of the WCPFC Scientific Committee, Pohnpei, FSM, 12-20 August 2019. WCPFC-SC15-2019/SA-WP-05-Rev2.

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WCPFC 2020. 16th Regular Session of the Commission, Port Moresby, Papua New Guinea, 5–11 December 2019. Draft Summary Report as at 18 February 2020.

CMMs 2018-01, 2017-01, 2014-06, 2013-01, 2014-01, 2015-01, 2016-01

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	60-79
Information gap indicator	More information sought about unwanted catch

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	70
Condition number (if relevant)	1

PI 1.2.2 – Harvest control rules and tools

PI 1.2.2		There are well defined and effective harvest control rules (HCRs) in place		
Scoring Issue		SG 60	SG 80	SG 100
a HCRs design and application				
Guide post	Generally understood HCRs are in place or available that are expected to reduce the exploitation rate as the point of recruitment impairment (PRI) is approached.	Well defined HCRs are in place that ensure that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY, or for key LTL species a level consistent with ecosystem needs.	The HCRs are expected to keep the stock fluctuating at or above a target level consistent with MSY, or another more appropriate level taking into account the ecological role of the stock, most of the time.	
Met?	Y	N		N

Rationale

MSC requirements:

SA2.5.2 *In scoring issue (a) at the SG60 level, teams shall accept ‘available’ HCRs (instead of HCRs that are ‘in place’) in cases where:*

- a. *Stock biomass has not previously been reduced below the MSY level or has been maintained at that level for a recent period of time that is at least longer than 2 generation times of the species, and is not predicted to be reduced below B_{MSY} within the next 5 years; or*
- b. *In UoAs where B_{MSY} estimates are not available, the stock has been maintained to date by the measures in use at levels that have not declined significantly over time, nor shown any evidence of recruitment impairment.*

SA2.5.3 *Teams shall recognise ‘available’ HCRs as ‘expected to reduce the exploitation rate as the point of recruitment impairment is approached’ only in cases where:*

- a. *HCRs are effectively used in some other UoAs, that are under the control of the same management body and of a similar size and scale as the UoA; or*
- b. *An agreement or framework is in place that requires the management body to adopt HCRs before the stock declines below B_{MSY} .*

Stock biomass has been above the estimated MSY level throughout the time series, and since the probabilities that $SB < SB_{MSY}$ and $F > F_{MSY}$ are negligible, it is not likely that the stock biomass will fall below this level in the next five years (see PI 1.1.1, 1.2.1a); status quo projections from the stock assessment suggest the current strategy can maintain $B > B_{MSY}$ indefinitely (see Figure 9). WCPFC have an agreed, legally binding framework in place to establish formal harvest strategies and control rules for their main stocks, including WCPO skipjack (see CMM 2014-06 and associated workplans; Section 6.3.8). The requirements of SA2.5.2-3 are therefore met for a HCR to be ‘available’. SG60 is met.

Since the harvest strategy is not ‘in place’, **SG80 is not met**.

b HCRs robustness to uncertainty			
	Guide post	The HCRs are likely to be robust to the main uncertainties.	The HCRs take account of a wide range of uncertainties including the ecological role of the stock, and there is evidence that the HCRs are robust to the main uncertainties.
Met?		N	N

Rationale

Since a HCR is ‘available’ rather than ‘in place’, it cannot be argued to be robust to the main uncertainties. SG80 is not met.

c HCRs evaluation			
	Guide post	Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.	Evidence clearly shows that the tools in use are effective in achieving the exploitation levels required under the HCRs.
Met?	Y	N	N

Rationale

Under SA2.5.5, in order to conclude that ‘available’ HCRs are ‘effective’ (SG60), MSC requires evidence of i) the use of effective HCRs in other stocks or fisheries under the same management body; or ii) a formal agreement or framework with trigger levels which will require the development of a well-defined HCR. It also requires consideration of current exploitation rates in relation to biological reference points and the agreed trigger level (guidance for SA2.5.6: ‘evidence that current F is equal to or less than F_{MSY} should usually be taken as evidence that the HCR is effective’).

Taking this last point first, it is clear that $F < F_{MSY}$ (see PI 1.1.1). A formal agreement for the development of a well-defined HCR is provided by CMM 2014-06, with a framework provided by the associated workplan. A trigger level is provided by the agreed limit reference point (20 %SB $F=0$). The recent assessment and a range of projections (see 1.2.1a) provide evidence that the tools in use are sufficiently effective at controlling exploitation rates.

Overall, therefore, under the MSC requirements and guidance for ‘available’ HCRs, SG60 is met. SG80 is not met because the HCR itself is only ‘available’.

References

- Pilling G. Williams P. and Hampton J. 2019. Evaluation of CMM 2018-01 for tropical tuna. WCPFC-SC15-2019/MI-WP-11
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- Vincent M.T., Pilling G.M. and Hampton J. 2019. Stock assessment of skipjack tuna in the Western and Central Pacific Ocean. Report to the 15th Regular Session of the WCPFC Scientific Committee, Pohnpei, FSM, 12-20 August 2019. WCPFC-SC15-2019/SA-WP-05-Rev2.
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- WCPFC 2020. 16th Regular Session of the Commission, Port Moresby, Papua New Guinea, 5–11 December 2019. Draft Summary Report as at 18 February 2020.
- CMMs 2018-01, 2017-01, 2014-06, 2013-01, 2014-01, 2015-01, 2016-01

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	60-79
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	60
Condition number (if relevant)	2

PI 1.2.3 – Information and monitoring

PI 1.2.3		Relevant information is collected to support the harvest strategy		
Scoring Issue		SG 60	SG 80	SG 100
a	Range of information			
	Guide post	Some relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy.	Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data are available to support the harvest strategy.	A comprehensive range of information (on stock structure, stock productivity, fleet composition, stock abundance, UoA removals and other information such as environmental information), including some that may not be directly related to the current harvest strategy, is available.
Met?	Y		Y	Y

Rationale

The following information is available, and is used as part of the harvest strategy – notably to inform the stock assessment model:

- A time series of total catch from 1970;
- Operational catch and effort data from the majority of fleets;
- Length sampling from observers and port sampling;
- Various studies to inform the attribution of purse seine catch to species, including avoiding sampling bias;
- Information on the biology of skipjack, including a growth curve from otoliths;
- A large data set of tag releases/returns;
- Information for standardising CPUE time series, including spatial and environmental information.

There is therefore data available on all the items listed in SG100. The stock assessment model is highly sophisticated and is designed to make use of as much of the available data as possible, so most of it is used in some way – e.g. in CPUE standardisation, or to inform the model regional structure, or to derive the underlying population model.

There is also, however, data that may not be used regularly in a formal way, such as information on the spatial distribution and variability of productivity, ENSO status etc. (see citations in Vincent et al. 2019 and McKechnie et al. 2016).

For SG100, MSC requirements state the following:

- SA2.6.3 Teams shall interpret “a comprehensive range of information” and “all information” at the SG100 level to include information provided by a strategic research plan.
- SA2.6.3.1 This information shall go beyond the immediate short-term management needs to create a strategic body of research relevant to the long-term UoA-specific management system.

As far as we are aware, there is not a formal ‘strategic research plan’ which is currently agreed by the WCPFC Scientific Committee. SPC presented a draft research plan to SC16 in August 2020 (SPC-OFP 2020), but noting that because of meeting constraints (electronic meeting) they were not asking for it to be approved formally until 2021 (assuming an in-person meeting is possible by then). However, at the same meeting there was extensive information and research updates presented, which go well beyond the requirements of addressing immediate gaps in stock assessments, towards what can be argued to be a strategic, long-term approach to improving information on the stock and fishery, despite the absence (as far as we know) of a document called Skipjack Strategic Research Plan. These include reports on: improving and making use of data from canneries (SC16-ST-IP-03), improving sampling of purse seine catch composition (SC16-ST-IP-05, SC16-RP-P35b-02), improving weight and length sampling and data (SC16-ST-IP-06), evaluating catch weights from purse seine transshipment (SC16-ST-IP-10), analysis of tag seeding and reporting rates (SC16-SA-IP-04), tagger and condition factors impacting tagging data (SC16-SA-IP-05), tag mixing (SC16-SA-IP-10), genetics and the tuna tissue bank (SC16-SA-IP-14), preliminary close kin mark-recapture analysis (SC16-SA-IP-15), population connectivity between E. Australia and the wider WCPO (SC16-SA-IP-16) and work to improve data from Indonesia, the Philippines and Vietnam (SC16-RP-WPEA-01). (Note that this from a year when there was no formal skipjack stock assessment, so skipjack was not a specific focus of the meeting.)

From this the team concluded that there is a strategic approach to research going further than addressing data gaps of immediate concern for management (e.g. the tuna tissue bank, tests of new stock assessment approaches, ongoing research on stock structure, age-and-growth, tagging and improving data from the fishery). SG60, SG80 and 100 are met.

b Monitoring				
Guide post	Stock abundance and UoA removals are monitored and at least one indicator is available and monitored with sufficient frequency to support the harvest control rule.	Stock abundance and UoA removals are regularly monitored at a level of accuracy and coverage consistent with the harvest control rule, and one or more indicators are available and monitored with sufficient frequency to support the harvest control rule.	All information required by the harvest control rule is monitored with high frequency and a high degree of certainty, and there is a good understanding of inherent uncertainties in the information [data] and the robustness of assessment and management to this uncertainty.	
Met?	Y	Y	N	

Rationale

As noted in Sla, stock abundance and removals are monitored at a level of accuracy and coverage that is sufficient to support the current harvest strategy. The information allows stock status to be evaluated and management decisions (past and future) to be evaluated as to their potential impact on the stock. CPUE abundance indices are derived from pole-and-line and purse seine fisheries to drive the assessment model, alongside a range of other data described above. Data come all the significant fisheries on the stock (and some non-significant such as longline fisheries) and cover the entire spatial distribution of the stock. Most of the purse seine vessels are required to have an observer on board at all times; and unloaded at port or at sea is also monitored and catch sampled. There has been extensive consideration of how best to measure purse seine effort, and the role and impact of effort creep. For a short-lived species such as skipjack it is important that the most recent data are used in the assessment, but at times there are delays in the provision of data to SPC; however the 2019 stock assessment uses catch/effort data to 2018, which is impressive. SG60 and SG80 are met.

An important and increasing problem in terms of the data available for the assessment is that the pole-and-line fishery, which provides the key abundance indices used in the assessment at present, is contracting, to the point where for some assessment regions standardisation will not be possible. Work is ongoing on a purse seine CPUE abundance index, although measuring effort in purse seine fisheries is difficult. In other RFMOs there has been encouraging progress in the use of an index derived from operational FAD data provided by the EU purse seine companies; however, such information is not (as far as we know) available to SPC for the moment. SG100 is not met.

c	Comprehensiveness of information	
Guide		There is good information on all other fishery removals from the stock.
post		
Met?	Yes	

Rationale

WCPFC and SPC work hard to quantify all sources of removals and include them in the stock assessment. Small-scale (but extensive) fisheries in Indonesia, the Philippines and Vietnam have in the past been a particular problem, and there has been ongoing work for quite a few years to quantify the catch (and where possible effort) from these fisheries. According to the stock assessment report, there has been gradual improvement in the data from Indonesia, the Philippines and Vietnam over the last few years, and catch data are included in the most recent stock assessment. SG80 is met.

References

Vincent M.T., Pilling G.M. and Hampton J. 2019. Stock assessment of skipjack tuna in the Western and Central Pacific Ocean. Report to the 15th Regular Session of the WCPFC Scientific Committee, Pohnpei, FSM, 12-20 August 2019. WCPFC-SC15-2019/SA-WP-05-Rev2 and references therein

McKechnie S., Hampton J., Pilling G.M. and Davies N. 2016. Stock assessment of skipjack tuna in the western and central Pacific Ocean. Report to the 12th Regular Session of the WCPFC Scientific Committee, Bali, Indonesia, 3-11 August 2016. WCPFC-SC12-2016/SA-WP-04 and references therein

Indonesia, Philippines and Vietnam and the Secretariat 2018. Update on the WPEA project. WCPFC15-2018-34, 26 November 2018.

Muller, B., Pilling, G., PNAO, 2018. Updating Indicators of Effort Creep in the WCPO Purse Seine Fishery. SPC-OFP; The PNA Office.

Peatman, T., Smith, N., Park, T., Caillot, S., 2017. Better purse seine catch composition estimates: recent progress and future workplan for Project 60. Scientific Committee, 13th Regular Session, Rarotonga, Cook Islands, 9-17 August 2017. WCPFC-SC13-2017/ST-WP-02.

SPC 2019. Estimates of annual catches in the WCPFC statistical area. WCPFC-SC15-2019/ST IP-1

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	90
Condition number (if relevant)	-

PI 1.2.4 – Assessment of stock status

PI 1.2.4		There is an adequate assessment of the stock status		
Scoring Issue		SG 60	SG 80	SG 100
a	Appropriateness of assessment to stock under consideration			
	Guide post	The assessment is appropriate for the stock and for the harvest control rule.		The assessment takes into account the major features relevant to the biology of the species and the nature of the UoA.
	Met?	Y		Y

Rationale

The assessment is conducted using an integrated assessment model Multifan-CL (MFCL) that is able to combine a range of datasets and to model several components, including (i) the dynamics of the fish population (growth, natural mortality, maturity and fecundity, recruitment); (ii) the fishery dynamics; (iii) the dynamics of tagged fish; (iv) the observation models for the data. The model partitions the population into 8 spatial regions (with the previous 5-region structure also run alongside for comparison) and 16 quarterly age-classes and defines ‘fisheries’ to consist of relatively homogeneous fishing units that have selectivity and catchability characteristics that do not vary greatly over time and space, although in the case of catchability some allowance can be made for time series variation. SPC have considerable experience in the development and application of MFCL. SG80 and SG100 are met.

b		Assessment approach		
Guide post	The assessment estimates stock status relative to generic reference points appropriate to the species category.	The assessment estimates stock status relative to reference points that are appropriate to the stock and can be estimated.		
Met?	Y	Y		

Rationale

MFCL can estimate a range of reference points based on yield/spawner per recruit and stock-recruit relationships. As an integrated statistical method it can use the available data in as raw a form as appropriate in a single analysis. This allows for consistency in assumptions and permits the uncertainty associated with both data sources to be propagated to final model outputs such as reference points and projections; therefore, SG60 and SG80 are met.

c		Uncertainty in the assessment		
Guide post	The assessment identifies major sources of uncertainty.	The assessment takes uncertainty into account.	The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a probabilistic way.	
Met?	Y	Y	Y	

Rationale

The main way that the assessment takes into account uncertainty is via a range of sensitivity runs which examine a range of structural uncertainties in the model, although uncertainty within each model is also evaluated. Typically, the assessors run a wide range of uncertainties (in this case as proposed by the assessment preparation workshop) but in their final analysis present a subset which they feel characterise the main uncertainties in the model. These uncertainty runs provide the structural uncertainty grid. In this case, the grid included 54 different models settings (as described in Section 6.3.5), and SPC also provided two grids corresponding to two approaches to spatial structure. This allows quantitative statements about probability of achieving management objectives to be made. SG60, SG80 and SG100 are met.

d		Evaluation of assessment	
Guide post			The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.
Met?			Yes

Rationale

Alternative hypotheses in terms of model input parameter values or estimation methods, or model structure, are explored based on sensitivities, as described above. The model is testing via a range of analyses such as retrospective and jack knife analyses, which evaluate systematic bias and indicate the extent to which the model is driven by a particular data set or a particular year of data. The transition from the 2016 to the 2019 diagnostic model is described in the stock assessment report and shows the new or changed inputs and how they have been carefully evaluated at each stage. Alternative hypotheses are also explored externally; for example, Tremblay-Boyer et al. (2017) considers the use of geo-statistics as a new method of standardising CPUE; opportunities for improving the input data or developing new sources of input data (e.g. purse seine CPUE indices) are considered by the SC each year. SG100 is met.

e	Peer review of assessment		
Guide post		The assessment of stock status is subject to peer review.	The assessment has been internally and externally peer reviewed.
Met?		Yes	No

Rationale

Although neither the 2019 nor the 2016 assessments have been externally peer reviewed, the assessment has benefited from developments that addressed the recommendations made by the independent review of the 2011 bigeye assessment. Participants in the pre-assessment workshop reviewed the main input data sets and provided recommendations regarding the range of assessment model options and sensitivities to be included within the stock assessment, which provide the main direction for the assessment. The SC also review the assessment and may ask for changes (not in this case, although they did conclude that the 8-region structure was most appropriate). Therefore, although the current assessment has not been externally peer reviewed it is regularly subject to internal scrutiny by SPC and the scientific committee of the WCPFC, during which scientists from a number of contracting parties are able to review the assessment.

Therefore, the SG80 level is met but not the SG100 level which requires evidence of a formal external review and an appropriate response by SPC and WCPFC.

References

Vincent M.T., Pilling G.M. and Hampton J. 2019. Stock assessment of skipjack tuna in the Western and Central Pacific Ocean. Report to the 15th Regular Session of the WCPFC Scientific Committee, Pohnpei, FSM, 12-20 August 2019. WCPFC-SC15-2019/SA-WP-05-Rev2

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Tremblay-Boyer, L., McKechnie, S., Pilling, G.M., Hampton, J., 2017. Exploratory geo-statistical analyses for Pacific-wide operational longline CPUE data for WCPO tuna assessments. Scientific Committee, 13th Regular Session, Rarotonga, Cook Islands, 9-17 August 2017. WCPFC-SC13-2017/SA-WP-03.

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WCPFC 2019a. 15th Regular Session of the WCPFC Scientific Committee, Pohnpei, FSM, 12-20 August 2019: Summary Report.

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	95
Condition number (if relevant)	-

6.4 Principle 1 - albacore

6.4.1 Albacore biology and stock definition

This section is taken from Tremblay-Boyer et al. 2018, ALBWG 2020 and references therein, except where otherwise indicated.

Growth and reproduction: Mature albacore (*Thunnus alalunga*), above a minimum fork length (FL) of about 80-90 cm, spawn in tropical and sub-tropical waters. Males grow to larger sizes than females, and after sexual maturity their growth rates vary. The length-at-age of both sexes also varies with longitude, with both growth rates and maximum sizes increasing toward the east and reaching a maximum at about 160°W. There is therefore a possibility of regional differences in growth rates. Instantaneous natural mortality rate is believed to be between 0.2 and 0.5 per year, with significant numbers of fish reaching ten years or more. Currently, the longest period at liberty for a recaptured tagged albacore in the north Pacific is 15 years.

Distribution and movement: Albacore appear to gradually disperse north- and southward from the central Pacific but may migrate seasonally between tropical and sub-tropical waters. These seasonal migrations have been inferred from monthly trends in longline catch rates in sub-equatorial waters. These suggest that north-south movements tend to correspond with the seasonal shift in the 23-28°C sea surface temperature isotherm location.

Stock: There are two stocks of albacore tuna in the Pacific Ocean, i.e. the north and south Pacific stocks. The discreteness of these stocks is supported by fishery data as there are lower catch rates in equatorial regions, tagging data where there are no south Pacific Ocean recoveries of fish tagged in the north Pacific Ocean, ecological data as albacore larvae are rare in samples from equatorial waters and genetic data showing differentiation between north and south Pacific albacore. A recent study looking at genetic variability of albacore across the north Pacific concluded that it is best seen as a single, well-mixed stock, with small amounts of admixture from the south Pacific (work in prep. cited in ALBWG 2020).

Key LTL: Albacore is not a key Low Trophic Level (LTL) species according to the MSC definition.

6.4.2 Albacore stock status

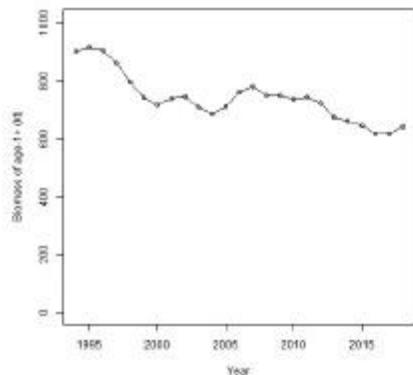
Information in this section is summarised from Albacore Working Group (ALBWG 2020) except where otherwise indicated.

Stock assessments for North Pacific (NP) albacore are carried out by the International Scientific Committee for Tuna and Tuna like Species in the N. Pacific Ocean (ISC), who periodically convene an Albacore Working Group (ALBWG) for stock assessments. ISC reports to the Northern Committee of WCPFC as well as to IATTC. The NP albacore stock was last assessed in July 2020 (ALBWG 2020) using data from 1996-2018. Trends in biomass and recruitment derived from the assessment are shown in Figure 12. Estimates of stock status in relation to various reference points are given in Figure 13. The Kobe plot is shown in Figure 14.

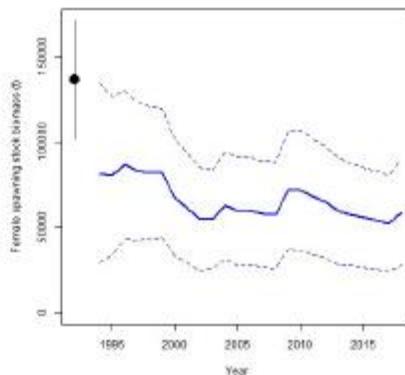
The assessment estimates that total biomass (B) and female spawner biomass (SB; female throughout) have fluctuated more or less without trend since ~2000. Recruitment was estimated to be the lowest in the time series in 2014 and 2015, and since terminal recruitments are always highly uncertain, it is not clear whether recruitment has since improved. For the base case model, SB₂₀₁₈ was estimated to

be 2.3^*LRP ($20\% \text{SB}_{F=0}$), i.e. $46\% \text{SB}_{F=0}$ (1.63^*LRP and 2.63^*LRP for the main sensitivities), while fishing intensity ($1-\text{SPR}$ – a proxy for F) was estimated to be ~ 0.5 ; below F_{MSY} and $F_{0.1}$.

A.



B.



C.

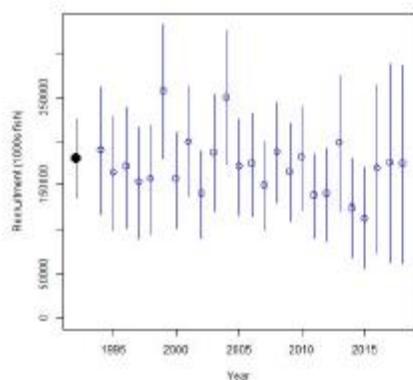


Figure 12. NP albacore: Maximum likelihood estimates of (A) total age-1+ biomass (open circles); (B) female spawning biomass (SB) (solid blue line), and (C) age-0 recruitment (open circles). Dashed lines (B) and vertical bars (C) indicate 95 % confidence intervals of the female SB and recruitment estimates respectively. The closed black circle and error bars in (B) are the maximum likelihood estimate and 95 % confidence intervals of SB_0 (ALBWG 2020).

Quantity	Base Case	Growth CV = 0.06 for L_{inf}	Update of 2017 base case model to 2020 data
MSY (t) ^A	102,236	84,385	113,522
SSB _{MSY} (t) ^B	19,535	16,404	21,431
SSB ₀ (t) ^B	136,833	113,331	152,301
SSB ₂₀₁₈ (t) ^B	58,858	34,872	77,077
SSB ₂₀₁₈ /20%SSB _{current, F=0} ^B	2.30	1.63	2.63
F ₂₀₁₅₋₂₀₁₇	0.50	0.64	0.43
F ₂₀₁₅₋₂₀₁₇ /F _{MSY}	0.60	0.77	0.52
F ₂₀₁₅₋₂₀₁₇ /F _{0.1}	0.57	0.75	0.49
F ₂₀₁₅₋₂₀₁₇ /F _{10%}	0.55	0.71	0.48
F ₂₀₁₅₋₂₀₁₇ /F _{20%}	0.62	0.80	0.54
F ₂₀₁₅₋₂₀₁₇ /F _{30%}	0.71	0.91	0.62
F ₂₀₁₅₋₂₀₁₇ /F _{40%}	0.83	1.06	0.72
F ₂₀₁₅₋₂₀₁₇ /F _{50%}	1.00	1.27	0.86

A – MSY includes male and female juvenile and adult fish

B – Spawning stock biomass (SSB) in this assessment refers to mature female biomass only.

Figure 13. NP albacore: Estimates of stock status in relation to reference points for the base case assessment and important sensitivity analyses. The Fs in this table are not instantaneous fishing mortality, but indicators of fishing intensity (1-SPR; SPR is the equilibrium SB per recruit that would result from the current year's pattern and intensity of fishing mortality). 'Current' fishing intensity is the average 2015-2017 ($F_{2015-2017}$), while SSB_{current,F=0} is the estimate of unfished female biomass based on observed recruitment in the model, in the terminal year of the assessment (2018). (source: ALBWG 2020).

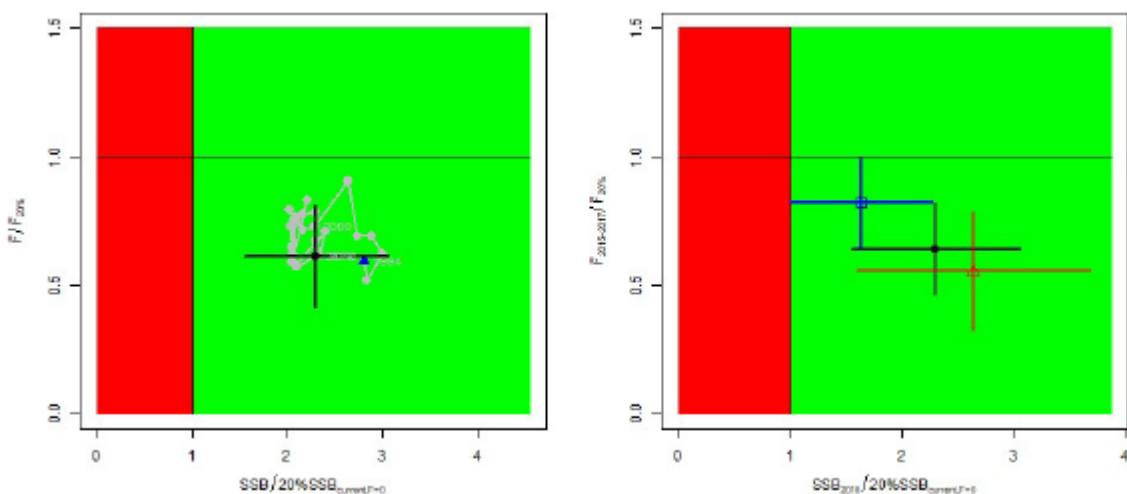


Figure 14. NP albacore: Kobe plots showing stock status relative to the 20 % biomass-based limit reference point, and equivalent fishing intensity (1-SPR₂₀ %) over the base case modelling period (1994-2018). Left: Blue triangle indicates the start year (1994) and black circle with 95 % confidence intervals indicates the terminal

year (2018). Right: Stock status and 95 % confidence intervals in the terminal year (2018) of the base case model (black; closed circle) and important sensitivity runs update of 2017 base case model (red triangle), and CV = 0.06 for L_{inf} in the growth model (blue square). ALBWG 2020.

6.4.3 Albacore stock status projections

Two ten-year projections were made (ALBWG 2020) with constant F at the 2015-17 level and constant catch for the average 2013-17 (Figure 15). Two main sources of uncertainty were considered in the projections, namely i) uncertainty in the total biomass estimates and 2) uncertainty in the future recruitment. Projections started in 2015 and continued for ten years through 2025. The projections show that the current fishing intensity ($F_{2012-2014}$) is expected to reduce female SB, with a 0.2 and <0.01 and probability of being below the LRP by 2020 and 2025, respectively. In contrast a constant catch strategy increases the probability that SB will be below the LRP to about 3.5 % / 30 % in 2020 / 2025. The constant catch scenario, however, is inconsistent with current management approaches for NP albacore adopted by the IATTC and the WCPFC (see below).

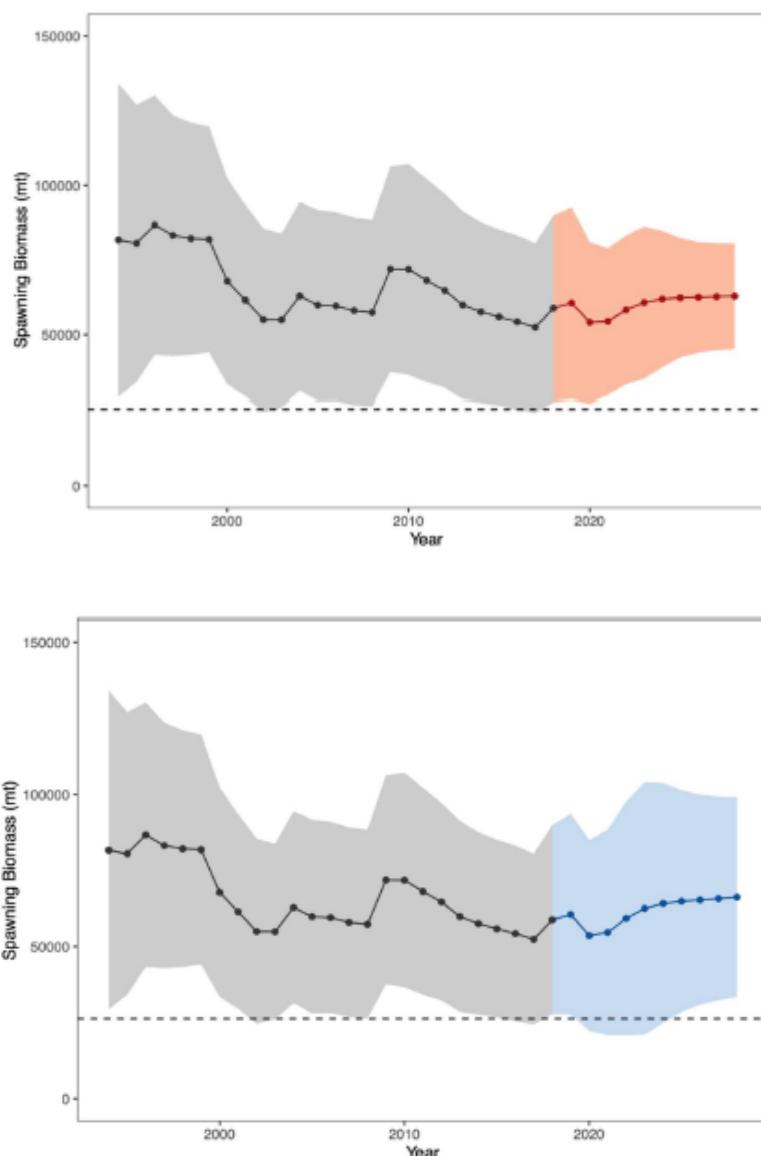


Figure 15. NP albacore: Historical and SB trajectory and projections under different scenarios. Black line and shaded area is trajectory and CIs to 2018; red/blue line and shaded area is projected trajectory and CIs 2019-

2028. Dashed line is LRP (2018 estimate). Top: Scenario of constant fishing intensity ($F_{2015-17}$). Bottom: Scenario of constant catch (average 2013-17; 69,354 t). ALBWG 2020.

6.4.4 Albacore information available for stock assessment

Information in this section comes from ALBWG (2020) and references therein.

The model inputs comprise three types of data: catch by fishery (as defined by Stock Synthesis), length-frequency data and abundance indices (standardised CPUE time series). The model also requires biological information about albacore – age and growth, natural mortality at age etc. Input data came from longline fisheries from Japan, USA, Taiwan, Korea, China and Vanuatu, the Japanese pole-and-line fisheries and other surface fisheries from the USA, Canada and Mexico.

Seven abundance indices were available from Japanese and Taiwanese longline and Japanese pole-and-line fisheries. (Stock Synthesis requires fisheries to be broken down into elements with constant selectivity (as far as possible), so a single fishery may result in several input ‘fisheries’ by area and season – this assessment also took advantage of this to use differences in selectivity between the same fishery in different areas as a proxy for movement of fish between areas.) The assessment finally decided to use just one index, based on the Japanese longline fishery, which the group concluded was informative on adult population trends. A second Japanese longline index was added as a sensitivity run.

Length data were available from 22 of the 35 fisheries used in the model, coming mainly from either port sampling, observers or measurements by the crew. Sex composition data were also available from Japanese research longline vessels, and Japanese and American scientists are working on a method of analysis of tissue samples by PCR which would (among other things) provide sex data – the ALBWG expressed the hope that this could be used to gather more information about catch sex ratio by fishery in the future.

In terms of biology, the model used the maximum observed age (15 years) to determine the age classes in the model (the last being 15+). It used sex-specific growth curves, based on studies of albacore age and growth which shows that it is sex-specific; these studies were also used to set the CVs for the VB growth parameters, since it was found in the preliminary model that the CV around L_{∞} was highly influential – this also informed several sensitivity analyses (see below). Unusually, there are also data available (a meta-analysis and a study of tagging data) to inform estimates of natural mortality, which also formed part of the sensitivity analyses. Histological data were used to inform rates of maturity by size/age as well as spawning seasons and areas.

Tagging is a problem for albacore, and the lack of tagging data is a problem in defining the spatial structure of the model and movement between areas. Instead, as noted above, selectivity patterns for fisheries were used as a proxy for spatial structure, which helps to compensate for potential biases caused by the lack of explicit spatial structure in the assessment model.

6.4.5 Albacore stock assessment

Information in this section is summarised from ALBWG (2020) except where otherwise indicated.

The North Pacific albacore stock was most recently assessed in 2020 using the integrated stock assessment model Stock Synthesis 3 (SS3); to develop a length-based, age-, and sex-structured model. The assessment was spatially structured into five regions, covering the whole north Pacific, although movement of fish between regions was not explicitly modelled (Figure 16). Sex-specific growth curves from the 2014 and 2017 assessment were used because of evidence of sexually dimorphic growth,

with adult males attaining a larger size-at-age than females after maturity (Figure 17). All fisheries were assumed to have dome-shaped length selectivity, and age-based selectivity was also estimated for surface fisheries. Maximum likelihood estimates of model parameters, outputs and uncertainties were used to evaluate stock status. As a check, the base-case model was modified into a deterministic age-structured population model, to see if the time series of catch and abundance indices were consistent with the model population trends. The group also used other analysis methods such as inspection of residuals and retrospective analysis to evaluate the robustness of model conclusions.

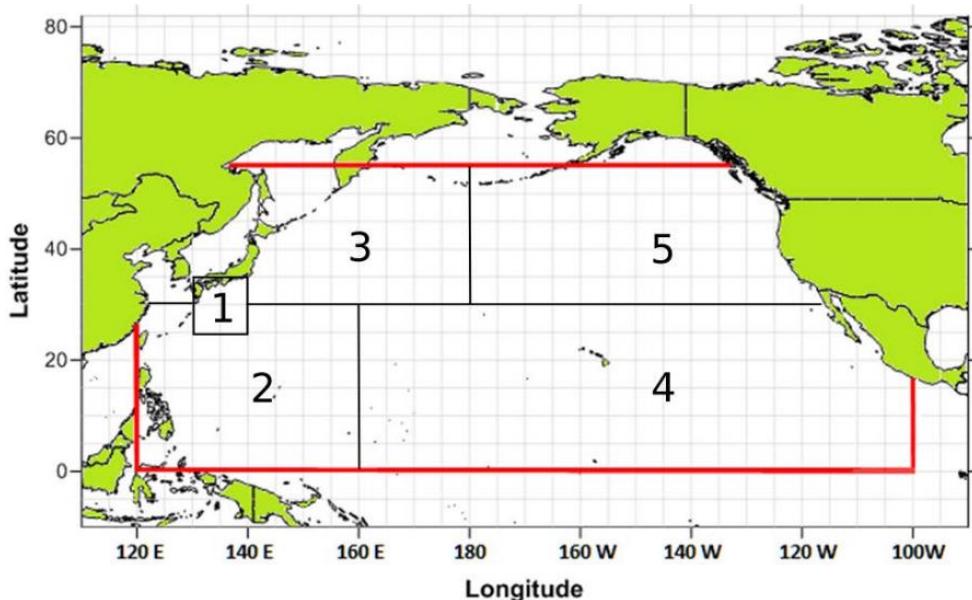


Figure 16. NP albacore stock region as used in the 2017 stock assessment. Fishery definitions were based on five fishing areas (black boxes and numbers) defined from cluster analyses of size composition data. ALBWG 2017.

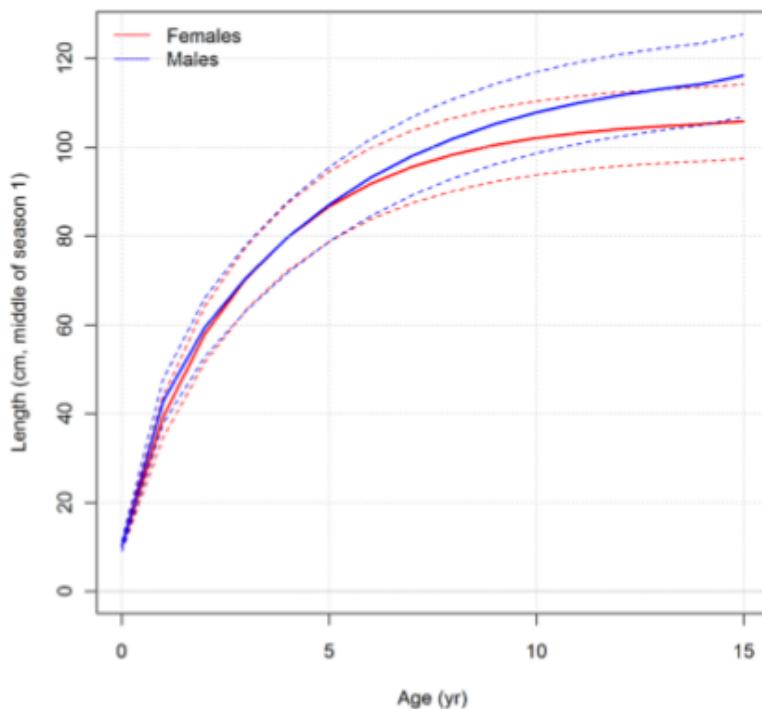


Figure 17. NP albacore: Sex-specific growth as used in the 2017 assessment. Dashed lines indicate 95 % confidence intervals. ALBWG 2017

There were three major changes to the base case model compared to the previous assessment in 2017:

- It was previously noted that the size composition data for the Japanese pole-and-line fisheries was highly variable, and it was unclear whether this was a function of the underlying nature of the catch, vs. insufficient sample sizes, so in previous assessments the model fit to these data was poor. Analysis since 2017 has shown that sampling is adequate, and the group concluded that the variability is a function of the fishery targeting different age classes in different locations / seasons. For the 2020 assessment, these fisheries were subdivided seasonally to reflect these variations, and selectivity was also allowed to vary annually where size data were available, resulting in a substantially improved fit to these data.
- Likewise Japanese longline fisheries were subdivided seasonally to reflect underlying patterns assumed to reflect seasonal migrations, resulting in improved fit to size-composition data.
- Improvements were made to the way that size composition data were scaled to the input sample size.

A number of sensitivity runs were performed to examine the effects of plausible alternative model assumptions on the assessment results, and to aid in the identification of the major axes of uncertainty in the assessment.

- natural mortality (significant impact on model output)
- steepness (low impact)
- growth model (CV of Linf) (significant impact)
- historical catch estimates of three fisheries (low impact)
- fitting abundance index from 1994 instead of 1996 (low impact)
- fit to additional indices (low impact)
- weighting of size composition data (medium impact)
- asymptotic selectivity for the US longline fishery (low impact)
- estimating initial conditions external to the model (failed to converge)
- model start year 1966 (poor fits; none of the outputs satisfactory)
- comparison with updated 2017 model (some differences but 2020 model considered to be more plausible)

6.4.6 Albacore management: current

Management of NP albacore is shared jointly between WCPFC and IATTC, which until recently had a harmonised management measure in place (WCPFC: CMM 2005-03; IATTC: Resolution C-05-02). In 2018, IATTC supplemented C-05-02 with C-18-03 which strengthens reporting requirements and requires review of the harvest strategy based on MSE. In December 2019 (WCPFC16), WCPFC replaced their management measure with CMM 2019-03, which includes the requirement for engagement with IATTC to ensure that management remains coherent. The management objective set in 2005-03 and

C-05-02 is that F should not increase beyond ‘current levels’ (i.e. levels which were current in 2005). CMM 2019-03 has a similar but updated objective: that effort should not increase above current levels (current in 2019) and in addition should not increase above 2002-4 levels, as previously.

The most recent estimate of fishing intensity (F proxy) is roughly at the same level as in 2002-4 (Figure 18) so in practice the objective of WCPFC’s new CMM 2019-03 is unchanged from the previous measure. This also means that implementation of the requirement to not exceed 2002-4 levels fishing pressure means that effort cannot increase and catch needs to decrease from current levels (as per stock projections – see Section 6.4.3 and Figure 15 above). Nevertheless, the figures suggest that recent catch is significantly lower than the reference period for CMM 2005-03 (2002-4), and has declined in the last 5 years (Table 16).

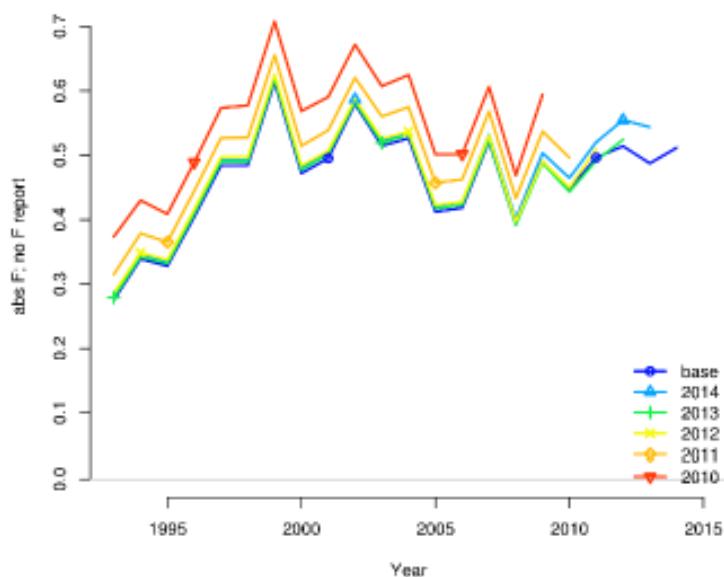


Figure 18. NP albacore: Fishing intensity (1-SPR; proxy for F) for NP albacore as estimated by stock assessment model (base case in dark blue and retrospective analyses in other colours) (Figure 5.8 in ISC 2017).

Table 16. NP albacore: Landings of albacore from the North Pacific, from the WCPFC Tuna Fishery Yearbook (tonnes live weight)

Year	Total NPA landings (t)
2002	105285
2003	94536
2004	93787
average 2002-04	97869
2014	80538
2015	71809
2016	58204
2017	59994

2018	56715
average 2016-18	58304
average 2014-18	70184

In 2017, the WCPFC Northern Committee passed an ‘interim harvest strategy’ for NP albacore (see WCPFC (2018b), Attachment H); this was endorsed by the WCPFC plenary (WCPFC 2018b, paragraph 206). This incorporates the LRP of 20 %SB_{F=0}. It does not fix a TRP but notes that this should be determined as part of a MSE included under the Committee’s future work. (ISC held a series of MSE workshops covering NP albacore from 2015 to 2019. The reports from these workshops do not appear to be publicly available.) According to NC15 (WCPFC 2019b), the Albacore Working Group is switching back to a regular stock assessment for most of 2020 (corona virus permitting) but hopes to complete the second round of the MSE by late 2020 or early 2021.

The agreed interim harvest strategy incorporates a management objective and a decision rule relating to the LRP, as follows:

- Management objective (para. 1): *The management objective for the North Pacific albacore fishery is to maintain the biomass, with reasonable variability, around its current level in order to allow recent exploitation levels to continue and with a low risk of breaching the limit reference point.*
- Decision rule (para. 3): *In the event that, based on information from ISC, the spawning stock size decreases below the LRP at any time, NC will, at its next regular session or intersessionally if warranted, adopt a reasonable timeline, but no longer than 10 years, for rebuilding the spawning stock to at least the LRP and recommend a CMM that can be expected to achieve such rebuilding within that timeline.*

It is worth noting that the decision rule contradicts the management objective, in that the objective is to maintain the stock at a level which has a low risk of breaching the LRP, while the decision rule does not require any action until the stock has actually breached the LRP. It likewise contradicts a statement in the same section of the Northern Committee report, i.e. ‘NC recommends a management strategy for the stock that ensures that the risk of the biomass decreasing below the LRP is low’ (WCPFC 2017, p. 50), as well as WCPFC’s decision (WCPFC 2016) that harvest strategies should ensure that the risk of falling below the LRP is not higher than 20 %.

6.4.7 Albacore management: progress towards a formal harvest strategy

CMM 2014-06, committing WCPFC to the development of formal harvest strategies and harvest control rules, applies to NP albacore as well as skipjack and the other tropical stocks. The work to develop the harvest strategy has, however, been delegated to the Northern Committee and NP albacore does not feature in the associated WCPFC harvest strategy workplan. The Northern Committee have, like WCPFC, agreed a harvest strategy workplan for NP albacore (see WCPFC 2017; Attachment I). The workplan originally planned that the MSE work (to establish a TRP and ‘other elements of harvest strategies’) should end in 2020 but as already noted, it is now planned that the second stage be completed in 2020-21 (it is not clear how many stages are foreseen). In the meantime, the Northern Committee continues to review both the requirements and the implementation of CMM 2005-03 and recommend changes where necessary. The US is providing funding to support the MSE process for NP albacore, with an expert based at IATTC (Tony Beeching, WCPFC, pers. comm.).

The ISC Albacore Working Group has now been tasked with developing a management strategy evaluation (MSE) for NP albacore. Work towards establishing reference points and harvest control rules is underway through the Management Objectives Workshop (MOW) process, and the Northern Committee (WCPFC 2018b; WCPFC 2019b). A series of MSE workshops have been held in 2015-19, as already noted.

6.4.8 NP Albacore management – Japan

Japan is the largest contributor to catches of NP albacore, accounting for 66 % of the catch in 2017 and 60 % in 2018 (WCPFC Tuna Fishery Yearbook). Japan has set limits on the number of licences available for vessels to fish NP albacore.

Numbers of nearshore fishing licensed vessels in Japan has been rapidly declining in general. In NOTFA, numbers of member vessels have been almost halved for nearshore licensed skipjack fisheries.

Japan seeks to ensure that fishing effort should not increase above current levels. Licences must be renewed every five years, and a total number of licences is agreed by the Fisheries Agency for each vessel size (tonnage) category and fishing area, prior to the renewal process. Vessels have to reapply for licences, and the total fishing capacity of licenced vessels is taken into account in setting the licence limit (i.e. higher capacity for some licensees has to be compensated by fewer licences overall). Licences were last renewed at the end of 2017, resulting in a total of 41 licences for pole and line vessels and 253 licences for longline, which totals 294 licenses, as compared 47 pole and line vessels and 304 longline vessels, total of 351 at the last licencing round in 2012.

Table 17 Japan's total number of nearshore skipjack & tuna fishery licensed by JFA

Licensed vessel numbers	Nearshore (Pole and line)	Nearshore (longline)	Total
2017- 2022 (current)	41	253	294
2012 - 2017	47	304	351

Table 18 Number of skipjack-targeting (also catching albacore) fishing vessels belonging to NOTFA, comparing 2001-2004 to recent years

Licence category	2001	2002	2004	2016	2017	2018
Small-scale	14	11	12	28	30	32
Nearshore	83	82	71	38	37	32
Distant water	16	16	15	15	15	15
Total	113	109	98	81	82	79

As noted above for skipjack, there are some management measures put in place on a voluntary basis by NOTFA to support sustainable management of their target stocks (see more details under Principle 3). These measures mainly focus on skipjack, because this is the main target of the pole-and-line fishery, and because meaningful measures for albacore need to include the longline fleet, which fishery belongs to different organisations.

6.4.9 Principle 1 Performance Indicator scores and rationales: Albacore

PI 1.1.1 – Stock status

PI 1.1.1		The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing		
Scoring Issue		SG 60	SG 80	SG 100
a	Stock status relative to recruitment impairment			
	Guide post	It is likely that the stock is above the point where recruitment would be impaired (PRI).	It is highly likely that the stock is above the PRI.	There is a high degree of certainty that the stock is above the PRI.
	Met?	Y	Y	Y

Rationale

In this context, ‘highly likely’ is defined by MSC as an 80 % probability, and a ‘high degree of certainty’ as a 95 % probability.

1. MSC guidance for defining the PRI:

The guidance in GSA2.2.3.1 states: *In the case where either B_{MSY} or the PRI are analytically determined, those values should be used as the reference points for measuring stock status unless additional precaution is sought. ... In the case where B_{MSY} is analytically determined to be lower than 40 % B_0 (as in some highly productive stocks), and there is no analytical determination of the PRI, the default PRI should be 20 % B_0 unless $B_{MSY} < 27\%B_0$, in which case the default PRI should be 75 % B_{MSY} .*

2. Defining the PRI in this case:

There are three possible options for defining a ‘PRI’ for this stock: i) agreed limit reference point (LRP) of 20 % $SB_{F=0}$ adopted by WCPFC; ii) ‘analytical determination’ based on the steepness of the stock-recruit curve (h) or iii) MSC defaults based on B_0 and B_{MSY} .

The MSC guidance suggests that unless an analytical determination of the PRI exists, it should be based on B_0 and B_{MSY} , so using the LRP is not appropriate. Attempts have been made to estimate h directly, which could be considered an ‘analytical determination’ of the PRI, as per the guidance. Estimates of h were in the range 0.84-0.95; the stock assessment assumes $h=0.9$ on this basis. This means that at 20 % SB_0 (or 20 % $SB_{F=0}$ – the LRP), mean recruitment would be reduced to 90 % of the level at unfished biomass; a reduction that would most likely not be detectable. B_{MSY} (see 1.1.1b below) is also analytically determined in the stock assessment. It is estimated to be below B_{lim} (15.2 % $SB_{F=0}$; 76 % B_{lim}).

MSC provides no guidance around the point at which a proportional reduction in recruitment is considered to constitute ‘impaired’, so any such decision by the CAB is subjective, not analytic. On this basis, we take the estimate of B_{MSY} to be a more objective basis for defining the PRI, following MSC’s guidance GSA2.2.3.1 stated above.

Since B_{MSY} is analytically determined to be <27 % B_0 , then following this guidance, scoring of 1.1.1a should be based on 75 % B_{MSY} as a proxy for the PRI - unless 'additional precaution is sought'. Albacore is known to be a highly productive stock so there is no particular reason for extra precaution. Sla is therefore scored based on 75 % B_{MSY} =11.4 % B_0 (57 % B_{lim}).

3. Stock status in relation to the PRI proxy

The most recent stock assessment by the Albacore Working Group of ISC was in 2020. The assessment estimated SB (base case model) to be ~2.3 times above the LRP which corresponds to ~4 times higher than the PRI proxy (57% B_{lim} or 75% B_{MSY}). Projections at constant fishing intensity from the base case model suggest a high degree of certainty that the SSB will not fall below the LRP in 2020 and 2025 (Figure 15). Estimates of relative SB taking into account a wider range of uncertainties including the most significant one-off sensitivities (see Figure 14; right) show all point estimates of SB above the LRP, with 5 % CIs not overlapping the LRP; since the LRP is higher than the PRI proxy, this would also apply to the PRI proxy. This suggests a 'high degree of certainty' (MSC quantitative definition given above) that the stock is above the PRI. SG60, SG80 and SG100 are met.

Stock status in relation to achievement of Maximum Sustainable Yield (MSY)			
b	Guide post	The stock is at or fluctuating around a level consistent with MSY.	There is a high degree of certainty that the stock has been fluctuating around a level consistent with MSY or has been above this level over recent years.
	Met?	Y	Y

Rationale

The stock assessment estimates SB_{MSY} to be ~15 % $SB_{2015,F=0}$.

The Albacore Working Group sets out the results from three different model scenarios in the report: the base case and the two key one-off sensitivities; i.e. an alternative CV for Linf in the growth model, and the updated 2017 model. For the base case model, SB_{2015} is estimated to be 46 % $SB_{F=0}$, for the alternative growth model 33 % $SB_{F=0}$ and for the 2017 model, 53 % $SB_{F=0}$; i.e. all estimates are above the estimate of B_{MSY} .

On this basis, there is a high degree of certainty that SB is above a level consistent with MSY, as analytically determined by the stock assessment. SG80 and SG100 are met.

References

ALBWG 2017. Stock assessment of albacore tuna in the North Pacific Ocean in 2017. Report of the Albacore Working Group (ALBWG) to the 13th Regular Session of the WCPFC Scientific Committee, Rarotonga, Cook Islands 9 – 17 August 2017. WCPFC-SC13-2017/ SA-WP-09 Rev 2 (15 August 2017).

ALBWG, 2020. Stock assessment of albacore tuna in the North Pacific Ocean in 2020. Report of the Albacore Working Group (ALBWG) to the 20th Meeting of the International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean Held Virtually July 15-20, 2020. WCPFC-NC16-2020/IP-03ISC (July 2020)

Stock status relative to reference points

	Type of reference point	Value of reference point	Current stock status relative to reference point
Reference point used in scoring stock relative to PRI (Sla)	PRI proxy	75 % B_{MSY} which is 11.4 % $SB_{F=0}$	4.1 x proxy PRI (base model); 2.9 x proxy PRI (alternative growth model); 4.65 x PRI proxy (2017 model) equivalent to 46 % (33-53 %) $SB_{F=0}$
Reference point used in scoring stock relative to MSY (Slb)	Depletion / MSY	B_{MSY} which is 15 % $SB_{F=0}$	3.0 B_{MSY} (base); 2.1 B_{MSY} (growth); 3.6 B_{MSY} (2017)

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥ 80
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	100
Condition number (if relevant)	-

PI 1.2.1 – Harvest strategy

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
Scoring Issue		SG 60	SG 80	SG 100
a Harvest strategy design				
Guide post	The harvest strategy is expected to achieve stock management objectives reflected in PI 1.1.1 SG80.	The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving stock management objectives reflected in PI 1.1.1 SG80.	The harvest strategy is responsive to the state of the stock and is designed to achieve stock management objectives reflected in PI 1.1.1 SG80.	
Met?	Y	Y		N

Rationale

1. MSC definition of a harvest strategy

MSC defines a harvest strategy as ‘the combination of monitoring, stock assessment, harvest control rules and management actions, which may include an MP or an MP (implicit) and be tested by MSE’ (MSC – MSCI Vocabulary v1.1). The intention is that these elements (monitoring, stock assessment, harvest control rules and management actions) should work together effectively to ensure overall performance, measured in terms of achieving outcomes (i.e. meeting objectives).

2. Harvest strategies for NPA

The NP albacore harvest strategy is in two parts: i) the interim harvest strategy as proposed by the NC and accepted by WCPFC in 2017 and ii) CMM 2019-03 / Resolution C-05-02 (supplemented by C-18-03).

The interim harvest strategy includes a decision rule which only applies to stock rebuilding, and does not specify any tools. It can therefore be considered more of a statement of intent than a genuinely useful method for stock management (it is called ‘interim’ and MSE work towards a full harvest strategy is ongoing; see http://isc.fra.go.jp/working_groups/index.html). On this basis, it is more pertinent here to score this PI against the harvest strategy set out in CMM 2019-03 / C-05-02.

Japan takes more than half the catch of NP albacore, so the Japanese harvest strategy is also relevant.

3. Strategy objectives

Both the interim harvest strategy and CMM 2019-03 / C-05-02 have essentially the same management objective, which is to maintain the stock at 'current' levels ('current' being a different time period depending on the document; i.e. 2018 (presumably) for CMM 2019-03, 2015 for the interim harvest strategy and 2002-4 for 2005-03/C-05-02, but in all cases this results in similar levels of SB and F (ISC 2017) (see also 1.1.1). This level is perceived to have a low risk of the biomass declining below the LRP (see Figure 14, Figure 15 and Figure 16).

4. Elements of the strategy

The elements of the NP albacore harvest strategy are the following:

- Limit reference point (20 %SB_{F=0})
- Management target: status quo; avoiding LRP with high probability (see PI 1.1.1)
- Data collection on the stock and fishery (considered in detail in PI 1.2.3 below)
- Stock assessment process (considered in detail in PI 1.2.4 below)
- 'Available' HCR (see 1.2.2); so far management tools have not been required
- Monitoring of implementation of CMM 2019-03/C-05-02 via data gathering and reporting to WCPFC / IATTC.

The Japanese harvest strategy (by which means it implements 2005-03 (and successor) /C-05-02) is to ensure that fishing capacity for NP albacore does not increase. Licences are re-attributed every five years, to a limit in total licences and fishing capacity. In practice, demand for licences has declined over the last 15 years, meaning that this limit has not been a problem to enforce.

5. Review of the harvest strategy

This management strategy is reviewed annually during the Northern Committee meeting (e.g. see WCPFC 2019b). NC15 (2019) reviewed CMM 2005-03 in detail and made recommendations to WCPFC as to the changes required in CMM 2019-03.

6. Scoring

The harvest strategy is clearly expected to achieve stock management objectives; SG60 is met. SG80 requires that the harvest strategy be responsive to the status of the stock. The stock status has varied very little over the stock assessment time series (see PI 1.1.1) making this difficult to judge (no response has been required). The conclusions of the MSC harmonisation workshop in 2016 in relation to this PI were that since there is a regular review of 2005-03 (now 2019-03) / C-05-02 by the Northern Committee in relation to the most recent stock assessment and status quo projections, the framework is available to respond to the stock status, and the various elements of the harvest strategy (i.e. monitoring, stock assessment, management targets) work together to ensure that this happens. On this basis, it was agreed that SG80 is met in relation to the regional harvest strategy. Since the harvest strategy has not changed in its essentials since then, this analysis still applies.

The harvest strategy is not designed to achieve stock management objectives, in as much as the stock management objectives themselves are rather ad hoc. SG100 is not met.

b		Harvest strategy evaluation		
Guide post	The harvest strategy is likely to work based on prior experience or plausible argument.	The harvest strategy may not have been fully tested but evidence exists that it is achieving its objectives.		The performance of the harvest strategy has been fully evaluated and evidence exists to show that it is achieving its objectives including being clearly able to maintain stocks at target levels.
Met?	Y	Y		N

Rationale

Fishing mortality is below F_{MSY} and the stock is above SB_{MSY} (P1.1.1a) and the stock is highly likely to be above the PRI (P1.1.1b), SG60 and SG80 level is met. As the harvest strategy is informal (or interim) and has not been fully evaluated, SG100 is not met.

c		Harvest strategy monitoring		
Guide post	Monitoring is in place that is expected to determine whether the harvest strategy is working.			
Met?	Yes			

Rationale

Catch and effort is reported for all fleets exploiting north Pacific albacore. In particular ISC member countries (Canada, China, Chinese Taipei, Japan, Korea, and USA; representing almost all the NP albacore fishery) are required to report annually as follows: Category I: total annual catch by species and total annual effort (active vessels by fishery); Category II: operational catch-effort (summary of logbook data); and Category III: biological data, (size composition, length or weight frequencies, sex information). ISC provides data to IATTC and WCPFC (through SPC) on an annual basis. All north Pacific albacore catch and size composition data from ISC member countries as well as non-member countries were compiled for the stock assessment. Thirteen relative abundance indices (standardised catch-per-unit-effort) were available from Japan, USA and Taiwan. Monitoring is in place that is expected to determine whether the harvest strategy is working; SG60 is met.

d	Harvest strategy review		
	Guide post		The harvest strategy is periodically reviewed and improved as necessary.
	Met?		Yes

Rationale

Although MSE is underway for the stock with some result due in late 2020 or early 2021 (NB this schedule pre-covid), the formal harvest strategy for north Pacific albacore tuna is interim and is not really applied in any practical way. However, the overall implicit harvest strategy (i.e. 2005-03 replaced by 2019-03, and C-05-02) is reviewed and improved as necessary, since both IATTC and WCPFC review the advice of their scientific bodies and their management measures during their annual meetings. The most recent NC meeting (NC15) reviewed and approved a draft of CMM 2019-03 and proposed modest changes regarding reporting to better align IATTC and WCPFC requirements. SG100 is met.

e	Shark finning		
	Guide post	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.
	Met?	NA	NA

Rationale

Target species is not a shark.

f	Review of alternative measures		
	Guide post	There has been a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock and they are implemented as appropriate.
	Met?	NA	NA

Rationale

According to the MSC Fisheries Standard SA3.1.6, the term 'unwanted catch' shall be interpreted by assessment teams as the part of the catch that a fisher did not intend to catch but could not avoid, and did not want or chose not to use. This scoring issue need not be scored if there are no unwanted catches of primary species (FCP v2.01 GSA3.5.3). Based on information obtained during the remote site visit, it is concluded that discarding of target species in this fishery is negligible - NA.

References

ALBWG, 2020. Stock assessment of albacore tuna in the North Pacific Ocean in 2020. Report of the Albacore Working Group (ALBWG) to the 20th Meeting of the International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean Held Virtually July 15-20, 2020. WCPFC-NC16-2020/IP-03ISC (July 2020)

ISC 2017. Report of the 17th meeting of the International Scientific Committee for tuna and tuna-like species in the North Pacific Ocean, 12-17 July 2017, Vancouver, British Columbia, Canada.

WCPFC 2018b. Fourteenth Regular Session of the Commission, Manila, Philippines, 3-7 December 2017: Summary Report, issued 16 March 2018.

WCPFC 2019b. Summary Report: Northern Committee, 15th regular session, Portland, Oregon, USA, 3-6 September 2019. <https://www.wcpfc.int/meeting-folders/northern-committee>

WCPFC 2020. 16th Regular Session of the Commission, Port Moresby, Papua New Guinea, 5–11 December 2019. Draft Summary Report as at 18 February 2020

WCPFC CMMS 2005-03, 2019-03; IATTC Resolution C-05-02

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	60-79
Information gap indicator	More information sought

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	80
Condition number (if relevant)	-

PI 1.2.2 – Harvest control rules and tools

PI 1.2.2		There are well defined and effective harvest control rules (HCRs) in place		
Scoring Issue		SG 60	SG 80	SG 100
a		HCRs design and application		
Guide post	Generally understood HCRs are in place or available that are expected to reduce the exploitation rate as the point of recruitment impairment (PRI) is approached.	Well defined HCRs are in place that ensure that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY, or for key LTL species a level consistent with ecosystem needs.	The HCRs are expected to keep the stock fluctuating at or above a target level consistent with MSY, or another more appropriate level taking into account the ecological role of the stock, most of the time.	
Met?	Y	N		N

Rationale

Under SA2.5.2 In scoring issue (a) at the SG60 level, teams shall accept ‘available’ HCRs (instead of HCRs that are ‘in place’) in cases where:

- a. Stock biomass has not previously been reduced below the MSY level or has been maintained at that level for a recent period of time that is at least longer than 2 generation times of the species, and is not predicted to be reduced below B_{MSY} within the next 5 years; or
- b. In UoAs where B_{MSY} estimates are not available, the stock has been maintained to date by the measures in use at levels that have not declined significantly over time, nor shown any evidence of recruitment impairment.

Under SA2.5.3 Teams shall recognise ‘available’ HCRs as ‘expected to reduce the exploitation rate as the point of recruitment impairment is approached’ only in cases where:

- a. HCRs are effectively used in some other UoAs, that are under the control of the same management body and of a similar size and scale as the UoA; or
- b. An agreement or framework is in place that requires the management body to adopt HCRs before the stock declines below B_{MSY} .

According to the most recent stock assessment (2017), NP albacore stock biomass has not previously been reduced below the LRP, nor below SB_{MSY} as estimated by the stock assessment (which is below the LRP), nor below 2xLRP, which is used in PI 1.1.1 as a more precautionary proxy for SB_{MSY} , except for one of the two key sensitivity runs (which,

however, the Albacore Working Group do not consider plausible). Status quo projections based on constant effort and constant catch with the base case model suggest that the SB will be maintained above the LRP with high probability.

WCPFC have an agreed, legally-binding framework in place to establish formal harvest strategies and control rules for their main stocks, including NP albacore (CMM 2014-06; see Section 6.4.7). SA2.5.3b is therefore met. On this basis, a HCR can be considered to be ‘available’ for this stock. SG60 is met. Since the harvest strategy is not ‘in place’, SG80 is not met.

b	HCRs robustness to uncertainty		
Guide post		The HCRs are likely to be robust to the main uncertainties.	The HCRs take account of a wide range of uncertainties including the ecological role of the stock, and there is evidence that the HCRs are robust to the main uncertainties.
Met?		N	N

Rationale

The ISC’s Albacore Working Group is in the process of developing a MSE for NP albacore, but for now, the HCR (management procedure) is still under development and neither SG80 nor SG100 are met.

c	HCRs evaluation			
Guide post	There is some evidence that tools used or available to implement HCRs are appropriate and effective in controlling exploitation.	Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.	Evidence clearly shows that the tools in use are effective in achieving the exploitation levels required under the HCRs.	
Met?	Y	N	N	

Rationale

SA2.5.6 requires that as part of the evidence that tools are working, ‘...teams should include current levels of exploitation in the UoA, as measured by fishing mortality rate where available’. Associated guidance (GSA2.5.2-7) notes that current F being ‘equal to or less than F_{MSY} should be taken as evidence that the HCR is effective.’

Under SA2.5.5, in order to conclude that ‘available’ HCRs are ‘effective’ (SG60), MSC requires evidence of i) the use of effective HCRs in other stocks or fisheries under the same management body; or ii) a formal agreement or framework with trigger levels which will require the development of a well-defined HCR. It also requires consideration of

current exploitation rates in relation to biological reference points and the agreed trigger level (guidance for SA2.5.6: '*evidence that current F is equal to or less than F_{MSY} should usually be taken as evidence that the HCR is effective*').

Taking this last point first, the SS3 base case model in the 2017 stock assessment estimates F/F_{MSY} as 0.60 (0.77 and 0.52 for the key sensitivities), and F is estimated to never have reached F_{MSY}. A formal agreement for the development of a well-defined HCR is provided by CMM 2014-06, with a framework provided by the Northern Committee workplan. A trigger level is provided by the agreed limit reference point (20 %SB_{F=0}), as formalised in the interim harvest strategy. Projections suggest that the management objective (status quo effort) is appropriate and is being met.

Overall, therefore, under the MSC requirements and guidance for 'available' HCRs, SG60 is met. SG80 is not met because the HCR itself is only 'available'.

References

ALBWG, 2020. Stock assessment of albacore tuna in the North Pacific Ocean in 2020. Report of the Albacore Working Group (ALBWG) to the 20th Meeting of the International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean Held Virtually July 15-20, 2020. WCPFC-NC16-2020/IP-03ISC (July 2020)

ISC 2017. Report of the 17th meeting of the International Scientific Committee for tuna and tuna-lime species in the North Pacific Ocean, 12-17 July 2017, Vancouver, British Columbia, Canada.

WCPFC 2018b. Fourteenth Regular Session of the Commission, Manila, Philippines, 3-7 December 2017: Summary Report, issued 16 March 2018.

WCPFC 2019b. Summary Report: Northern Committee, 15th regular session, Portland, Oregon, USA, 3-6 September 2019. <https://www.wcpfc.int/meeting-folders/northern-committee>

WCPFC 2020. 16th Regular Session of the Commission, Port Moresby, Papua New Guinea, 5–11 December 2019. Draft Summary Report as at 18 February 2020

WCPFC CMMS 2005-03, 2019-03; IATTC Resolution C-05-02

http://isc.fra.go.jp/working_groups/index.html

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	60-79
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	60
Condition number (if relevant)	Condition 3

PI 1.2.3 – Information and monitoring

PI 1.2.3		Relevant information is collected to support the harvest strategy		
Scoring Issue	SG 60	SG 80	SG 100	
a	Range of information			
Guide post	Some relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy.	Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data are available to support the harvest strategy.	A comprehensive range of information (on stock structure, stock productivity, fleet composition, stock abundance, UoA removals and other information such as environmental information), including some that may not be directly related to the current harvest strategy, is available.	
Met?	Y	Y	Y	

Rationale

The north Pacific albacore stock was monitored through the assessment work of the North Pacific Albacore Workshop from 1975-2004. Since 2004 this function has been assumed by the ISC Albacore Working Group. The ALBWG coordinates biological research needs and disseminates research results and statistics to cooperating scientists and the management bodies.

Stock structure: The spatial distribution and seasonal migration patterns of NP albacore is fairly well understood, as is the stock structure (see Section 6.4.1). The hypothesis of two discreet stocks in the Pacific is well supported by genetic data, fishery data, tagging data and ecological data.

Stock productivity: There is sufficient knowledge of the life-history parameters for NP albacore to conduct robust assessments and develop appropriate biological reference points. Biological samples are routinely collected on an annual basis from a range of albacore fisheries in the Pacific (in particular from Japan and the USA). Reliable data are available to estimate sex-specific growth rates, maturity ogive and fecundity. Length-weight relationships are established by the ALBWG to convert population numbers to biomass. In the 2017 and 2020 stock assessments, natural mortality was defined as an age-specific M schedule, estimated based on several analyses.

Fleet composition: Detailed fleet information for NP albacore tuna fisheries is available to IATTC and WCPFC (e.g. see WCPFC Tuna Fishery Yearbook). Information on fishing areas and catch size composition (for fleet selectivity) are available to allow fishing effort to be allocated to ‘fisheries’ within SS3.

Stock abundance: 7 abundance indices were available to ALBWG for the 2020 stock assessment, although only one was finally fit in the base case model (another was used in a sensitivity analysis).

Fishery removals: Catch and effort is reported for all fleets exploiting north Pacific albacore. In particular ISC member countries (Canada, China, Chinese Taipei, Japan, Korea, and USA; representing most of the NP albacore fishery) are required to report annually as follows: Category I: total annual catch by species and total annual effort (active vessels by fishery); Category II: operational catch-effort (summary of logbook data); and Category III: biological data, (size composition, length or weight frequencies, sex information). ISC provides data to IATTC and WCPFC (through SPC) on an annual basis. All north Pacific albacore catch and size composition data from ISC member countries as well as non-member countries were compiled for the stock assessment.

Other data: As reported above (under 'stock structure') there has been work on albacore ecology, e.g. using archival tagging to evaluate habitat and environmental influences, larval data to infer spawner areas etc.

This comprises a comprehensive range of information; SG60, SG80 and SG100 are met.

b		Monitoring		
Guide post	Stock abundance and UoA removals are monitored and at least one indicator is available and monitored with sufficient frequency to support the harvest control rule.	Stock abundance and UoA removals are regularly monitored at a level of accuracy and coverage consistent with the harvest control rule, and one or more indicators are available and monitored with sufficient frequency to support the harvest control rule.	All information required by the harvest control rule is monitored with high frequency and a high degree of certainty, and there is a good understanding of inherent uncertainties in the information [data] and the robustness of assessment and management to this uncertainty.	
Met?	Y	Y	N	

Rationale

Standardised abundance indices (as described above) are regularly monitored by the ALBWG at each stock assessment. Systems are in place for recording catch and effort for all fishing entities fishing on north Pacific albacore, as described above. UoA removals are monitored through logbooks and port sampling. SG60 and SG80 are met. Because there remain some sources of uncertainty (e.g. lack of sex-specific size data, with the growth model a major source of uncertainty in the stock assessment), the fishery does not meet SG100.

c		Comprehensiveness of information

Guide post	There is good information on all other fishery removals from the stock.
Met?	Yes

Rationale

There is adequate information on all commercial fishery removals from the stock. Other fishery removals such as recreational fishery by the US are reported in the catch tables in the annual ISC Plenary report. SG 80 is met.

References

ALBWG 2017. Stock assessment of albacore tuna in the North Pacific Ocean in 2017. Report of the Albacore Working Group (ALBWG) to the 13th Regular Session of the WCPFC Scientific Committee, Rarotonga, Cook Islands 9 – 17 August 2017. WCPFC-SC13-2017/ SA-WP-09 Rev 2 (15 August 2017).

ALBWG, 2020. Stock assessment of albacore tuna in the North Pacific Ocean in 2020. Report of the Albacore Working Group (ALBWG) to the 20th Meeting of the International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean Held Virtually July 15-20, 2020. WCPFC-NC16-2020/IP-03ISC (July 2020)

ISC 2017. Report of the 17th meeting of the International Scientific Committee for tuna and tuna-like species in the North Pacific Ocean, 12-17 July 2017, Vancouver, British Columbia, Canada.

Ochi D., Ijima H. and Kiyofuji H. 2017. Abundance indices of albacore caught by Japanese longline vessels in the North Pacific during 1976-2015. ISC/17/ALBWG/01. Work. Doc. Submitt. to ISC Albacore Work. Gr. Meet. 11-19 April 2017, Southwest Fish. Sci. Center, La Jolla, California, USA.

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	90
Condition number (if relevant)	-

PI 1.2.4 – Assessment of stock status

PI 1.2.4		There is an adequate assessment of the stock status		
Scoring Issue		SG 60	SG 80	SG 100
a	Appropriateness of assessment to stock under consideration			
	Guide post	The assessment is appropriate for the stock and for the harvest control rule.		The assessment takes into account the major features relevant to the biology of the species and the nature of the UoA.
	Met?	Y		Y

Rationale

The assessment for albacore tuna is carried out with the Stock synthesis (SS) model developed by Richard Methot of the US National Marine Fisheries Service. SS is a statistical age-structured population modelling framework that has been applied in a wide variety of fish assessments globally. The method has generally been accepted as rigorous. The 2020 stock assessment model (ALBWG 2020) is a sex-specific, age-structured, fully integrated, statistical model.

The base-case model represents the collective conclusion of the ALBWG as to the most plausible set of hypotheses. The specification of the base case model for north Pacific albacore followed several steps. First, the spatial and temporal extent of fisheries in the assessment was defined based on analyses of the biology and historical fishing operations of albacore fisheries. Second, the data sources and inputs for these fisheries in the model, including total catch, indices of relative abundance, and size compositions were identified, collated and reviewed for completeness, trends, and outliers or unusual behaviour. Third, important biological parameters (e.g., growth, stock-recruitment relationship) were obtained from previous studies after review by the ALBWG and included in the model as fixed parameters, or estimated within the assessment model. Sensitivity analyses were conducted to evaluate impact on model results from changes in data series, life history parameter assumptions (growth, natural mortality), selectivity parameters, and alternative weightings of composition data.

Since this model and process takes into account the biology of the species as well as the nature of the fisheries, in a detailed way in both cases, SG80 and SG100 are met.

b		Assessment approach	
Guide post	The assessment estimates stock status relative to generic reference points appropriate to the species category.	The assessment estimates stock status relative to reference points that are appropriate to the stock and can be estimated.	

	Met?	Y	Y
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Rationale

The 2020 assessment estimates NP albacore stock status relative to a range of reference points: see Figure 13. SG60 and SG80 are met.

c		Uncertainty in the assessment		
Guide post	The assessment identifies major sources of uncertainty.	The assessment takes uncertainty into account.	The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a probabilistic way.	
Met?	Y	Y	Y	

Rationale

The ALBWG used model diagnostics to assess issues with model convergence, model structure, parameter mis-specification and data conflicts. Diagnostic tools included model convergence tests, profiles of estimated recruitment at unfished equilibrium, residual analysis and retrospective analysis as well as the development of an age-structured population model from the base case model.

To explore uncertainty, the ALBWG conducted sensitivity analysis to evaluate changes in data series, growth curve parameters, natural mortality, stock recruitment steepness, selectivity parameters and weighting of size composition data among other things (see summary in Section 6.4.4). The trajectories of SB and 95 % CIs in relation to the LRP (see 1.1.1) show that the stock status is expressed in a probabilistic way in relation to reference points. In addition, stochastic future projections of the north Pacific albacore stock were made with probabilities expressed as CIs. The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a probabilistic way. SG60, SG80 and SG100 are met.

d		Evaluation of assessment	
Guide post		The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.	
Met?		Yes	

Rationale

As noted above, the ALBWG conducted extensive sensitivity analyses to evaluate alternative assumptions on the assessment results. These included sensitivity to biological assumptions (growth, CV of L_{inf} , M, h) and sensitivity to data inputs (alternative CPUE indices, size composition weighting). Also, an age-structured production model (ASPM) diagnostic indicated that the ASPM had similar scale and production trends to the base case SS3 model.

Retrospective analyses were conducted to identify systemic inconsistencies in population estimates given increasing or decreasing data periods (Albacore Working Group, 2020). Retrospective analyses did not reveal any important pattern in the estimates of spawning biomass and fishing intensity (1-SPR) with the successive elimination of terminal year data. Thus, the assessment has been tested using a systematic exploration of the interactions among different sets of assumptions. This confirms that alternative hypothesis and assessment approaches have been rigorously explored. SG100 is met.

Peer review of assessment			
e	Guide post	The assessment of stock status is subject to peer review.	The assessment has been internally and externally peer reviewed.
	Met?	Y	N

Rationale

The albacore assessments are internally reviewed by the ALBWG. The results are reviewed by the ISC Plenary, the WCPFC Scientific Committee, and the staff of the IATTC. Therefore SG80 is met. The ISC had three independent reviewers from the Center of Independent Experts (University of Miami) conduct reviews of the ALBWG 2011 albacore stock assessment (Chen et al. 2011a,b). However, the assessment model has changed significantly since then, so the team considered that this external review no longer applies – SG100 is not met.

References

ALBWG 2017. Stock assessment of albacore tuna in the North Pacific Ocean in 2017. Report of the Albacore Working Group (ALBWG) to the 13th Regular Session of the WCPFC Scientific Committee, Rarotonga, Cook Islands 9 – 17 August 2017. WCPFC-SC13-2017/ SA-WP-09 Rev 2 (15 August 2017).

ALBWG, 2020. Stock assessment of albacore tuna in the North Pacific Ocean in 2020. Report of the Albacore Working Group (ALBWG) to the 20th Meeting of the International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean Held Virtually July 15-20, 2020. WCPFC-NC16-2020/IP-03ISC (July 2020)

Chen D.G. 2011a. CIE Review Report for Albacore Tuna Assessment. ISC/12/PLENARY/INFO /14

Chen Y. 2011b. CIE Independent Peer Review Report on Stock Assessment of albacore tuna, *Thunnus alalunga*, in the North Pacific Ocean. ISC/12/PLENARY/INFO /15.

ISC, 2020b. Report of the 20th meeting of the International Scientific Committee for tuna and tuna-like species in the north Pacific Ocean. Plenary Session 15-20 July 2020 (virtual meeting). http://isc.fra.go.jp/reports/isc/isc20_reports.html

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	95
Condition number (if relevant)	-

6.5 Principle 1 CAB wide variation request

On 14 January 2019 MSC accepted a variation request submitted by all fisheries CABs for all Regional Fisheries Management Organisation (RFMO)-managed highly migratory stocks in the MSC programme.

For the Kochi and Miyazaki pole and line fishery, the acceptance of this variation request means that the timelines for the Principle 1 conditions on WCPO skipjack and NP Albacore will be aligned with all other fisheries on the same stock. It should be noted, however, that since the acceptance of the VR, workplans within WCPFC have been amended, and deadlines changed (e.g. the deadline for adopting a formal HCR for skipjack has been moved from 2020 back to 2022). Discussions between CABs and MSC are ongoing to determine how to deal with these changes. Further detail on the variation request and the MSC's acceptance of it can be found in Appendix 10.

6.6 Principle 2

6.6.1 Designation of species under Principle 2

Primary species (MSC Component 2.1) are defined as follows:

- Species in the catch that are not covered under P1;
- Species that are within scope of the MSC program, i.e. no amphibians, reptiles, birds or mammals;
- Species where management tools and measures are in place, intended to achieve stock management objectives reflected in either limit (LRP) or target reference points (TRP). Primary species can therefore also be referred to as ‘managed species’.

Secondary species (MSC Component 2.2) are defined as follows:

- Species in the catch that are not covered under P1;
- Species that are not managed in accordance with limit or target reference points, i.e. do not meet the primary species criteria;
- Species that are out of scope of the programme, but where the definition of ETP species is not applicable (see below)

ETP (Endangered, Threatened or Protected) species (MSC Component 2.3) are assigned as follows:

- Species that are recognised by national ETP legislation
- Species listed in binding international agreements (e.g. CITES, Convention on Migratory Species (CMS), ACAP, etc.)
- Species classified as ‘out-of-scope’ (amphibians, reptiles, birds and mammals) that are listed in the IUCN Redlist as vulnerable (VU), endangered (EN) or critically endangered (CE).

Both primary and secondary species are defined as ‘**main**’ if they meet the following criteria:

- The catch comprises 5 % or more by weight of the total catch of all species by the UoC;
- The species is classified as ‘Less resilient’ and comprises 2 % or more by weight of the total catch of all species by the UoC. Less resilient is defined here as having low to medium productivity, or species for which resilience has been lowered due to anthropogenic or natural changes to its life-history
- The species is out of scope but is not considered an ETP species (secondary species only)
- Exceptions to the rule may apply in the case of exceptionally large catches of bycatch species

6.6.2 Catch information for primary and secondary species

Three datasets were used to characterize the catch of primary and secondary species in the UoA. Using these datasets, a list of catch species was compiled and main and minor species were identified. Datasets were:

- Offshore and pelagic pole-and-line catch composition 2003-2018

This dataset includes 73 vessels operating under pelagic fishing licences and vessels classified as offshore or middle-sized (100 t – 150 t vessels, which do not have freezers). Vessels covered by these catch records fall under two fishing associations. The UoC is included in this dataset, which is shown here for the years 2013 – 2018 (Table 19).

- NOTFA catch information 2008-2018

NOTFA collects data from 46 vessels (in 2018), including those comprising the UoC for this assessment. NOTFA information covers a subset of the species caught (skipjack, albacore and Pacific bluefin tuna). Data for 2013 – 2018 is shown (Table 23).

- Catch for UoA vessels 2018-2019

This dataset comprises catch data for the 19 vessels comprising the UoA, as collated by the client group using records held by fisheries cooperatives (Table 24).

Table 19. Offshore and pelagic pole-and-line catch composition 2013-2018. (Catch information is shown in tonnes, with percentages for each grouping of vessels. 73 vessels are included in the dataset. See section 6.6.2.

		Total	Skipjack	Albacore	Yellowfin tuna	Bigeye tuna	Pacific bluefin tuna	Other tuna species	Swordfish	Frigate tuna	Shark spp.	Amberjack spp.	Spanish mackerel spp.	Mahi mahi	Other fish
2013	Pelagic P&L	65,344	42,581	21,205	330	1,182	5	4	0	1	0	0	0	0	37
		100.0%	65.2%	32.5%	0.5%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
2013	Offshore P&L	41,034	26,257	12,310	1,476	818	16	0	0	18	0	0	0	0	138
		100.0%	64.0%	30.0%	3.6%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%
2014	Pelagic P&L	57,614	38,770	17,462	255	1,097	0	2	0	0	0	0	0	0	29
		100.0%	67.3%	30.3%	0.4%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
2014	Offshore P&L	31,472	16,733	11,890	943	1,546	6	0	0	7	0	0	0	0	346
		100.0%	53.2%	37.8%	3.0%	4.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%
2015	Pelagic P&L	54,817	42,806	11,498	290	191	2	3	0	0	0	0	0	0	29
		100.0%	78.1%	21.0%	0.5%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
2015	Offshore P&L	31,733	20,362	9,710	980	432	4	0	0	5	0	1	0	0	240
		100.0%	64.2%	30.6%	3.1%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%
2016	Pelagic P&L	51,734	42,050	8,655	525	446	2	1	0	1	0	2	0	0	52
		100.0%	81.3%	16.7%	1.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
2016	Offshore P&L	29,464	20,387	5,754	1,671	590	22	99	0	35	0	7	1	0	899
		100.0%	69.2%	19.5%	5.7%	2.0%	0.1%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	3.1%
2017	Pelagic P&L	47,860	34,404	12,110	533	676	0	0	0	1	0	0	0	0	137
		100.0%	71.9%	25.3%	1.1%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%
2017	Offshore P&L	28,530	16,812	8,753	1,570	816	67	42	0	35	0	0	0	0	436
		100.0%	58.9%	30.7%	5.5%	2.9%	0.2%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	1.5%
2018	Pelagic P&L	54,808	44,238	9,401	351	637	0	0	0	0	0	0	0	0	181
		100.0%	80.7%	17.2%	0.6%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%
2018	Offshore P&L	30,333	19,510	8,394	1,507	705	7	3	0	27	0	0	0	0	180
		100.0%	64.3%	27.7%	5.0%	2.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.6%

Table 20. Catch information provided by the National Offshore Tuna Fisheries Association of Japan (NOTFA), for three species of tuna. Catch quantities are tonnes, with percentages of total catch by year (excluding bait). The number of vessels included in catch data is shown. (See section 6.6.2).

Year	Total catch (excl. bait)	Skipjack	Albacore	Pacific bluefin tuna	# vessels
2013	61,166.60	39,930.10	17,199.10	0.00	56
	93.40 %	65.28 %	28.12 %	0.00 %	
2014	48,748.90	25,511.90	18,837.90	0.00	55
	90.98 %	52.33 %	38.64 %	0.00 %	
2015	48,220.50	31,015.00	15,015.00	0.47	54
	95.46 %	64.32 %	31.14 %	0.00 %	
2016	41,761.40	29,185.00	8,847.90	15.40	51
	91.11 %	69.89 %	21.19 %	0.04 %	
2017	39,867.00	24,052.70	13,078.10	47.60	50
	93.26 %	60.33 %	32.80 %	0.12 %	
2018	39,972.20	24,792.80	12,900.40	0.00	46
	94.30 %	62.03 %	32.27 %	0.00 %	

Table 21. Catch information (kg) from the 19 UoA vessels, compiled by the client fishery using information collected by fisheries cooperatives. (See sections 6.6.2 - 6.6.5).

Species	Scientific name	2018	2019	% total catch (2019) incl. bait
Skipjack	<i>Katsuwonus pelamis</i>	11,093,987	11,674,760	74.0 %
Albacore	<i>Thunnus alalunga</i>	6,385,407	2,832,524	17.9 %
Yellowfin	<i>Thunnus albacares</i>	310,290	407,888	2.6 %
Bigeye	<i>Thunnus obesus</i>	344,742	202,211	1.3 %
Pacific bluefin tuna	<i>Thunnus orientalis</i>	34,846	6,248	0.0 %
Longtail tuna	<i>Thunnus tonggol</i>	2,800	28,195	0.2 %
Frigate tuna	<i>Auxis thazard</i>	5,451	2,864	0.0 %
Kawakawa	<i>Euthynnus affinis</i>	4,041	795	0.0 %
Rainbow runner	<i>Elagatis bipinnulata</i>	5,940	4,982	0.0 %
Mahi mahi	<i>Coryphaena hippurus</i>	23,031	14,663	0.1 %
Amberjack	<i>Seriola quinqueradiata</i>	276	528	0.0 %
Yellowtail amberjack	<i>Seriola lalandi</i>	3	18	0.0 %
Greater amberjack	<i>Seriola dumerili</i>	28	100	0.0 %
Wahoo	<i>Acanthocybium solandri</i>	53	24	0.0 %
Red sea bream	<i>Pagrus major</i>	0	4	0.0 %
Other		1,002	1,594	0.0 %
Japanese sardine	<i>Sardinops melanostictus</i>		145,000	0.9 %
Japanese anchovy	<i>Engraulis japonicus</i>		460,000	2.9 %
Total		18,211,897	15,782,397	100.0 %

6.6.3 Unwanted catch of primary and secondary species

Due to the selectivity of the fishing method, the amount of unwanted catch in this fishery is described as extremely low. Fisher practice is to release unwanted catch rapidly from the barbless hooks, therefore it is expected that virtually no unwanted catch is brought aboard the vessel. If small (less desirable) fish are caught, these are still able to be sold. Discard reporting is required for tuna and sharks (in addition to seabirds and sea turtles, see section 6.6.6), but is not occurring in the fishery.

WCPFC Resolution 2005-03 commits CCMs to releasing non-target fish species promptly and unharmed, to the extent practicable. CCMS are also required to encourage their vessels to avoid unwanted fish catch.

6.6.4 Primary species

6.6.4.1 Main primary species

- Skipjack (*Katsuwonus pelamis*)

Skipjack is one of the target species considered for this assessment. Therefore, stock status and management information is set out for Principle 1. (See section 6.3). Skipjack comprises a primary species for the albacore UoA (MSC FCR v2.01 SA3.1.3.1).

- North Pacific albacore (*Thunnus alalunga*)

Albacore is also considered as a target species under Principle 1. (See section 6.4). Albacore (north Pacific stock) is a primary species for the skipjack UoA (MSC FCR v2.01 SA3.1.3.1).

- Japanese anchovy (*Engraulis japonicus*)

The Japanese anchovy bait used by the UoA is sourced from the Pacific stock of this species, and is equivalent to 3 % of the assessed fishery's catch weight. This species is categorised as "main" for the assessment due to the depleted status of the stock, combined with the amount used (>2 % of the assessed fishery's catch weight).

Stock status was most recently assessed in 2019 by the Japan Fisheries Research Agency (FRA) (Central Fisheries Research Institute 2019). The stock is condition to be at a "low" level and declining. The biomass and spawning stock biomass were explored using cohort analysis. Substantial fluctuations in biomass have occurred over time. The biomass peaked at 2,909,000 tonnes in 2002, and declined to 78,000 in 2018. The projected biomass is 56,000 tonnes for 2019, and 39,000 tonnes for 2020. Spawning stock biomass peaked at 1,431,000 tonnes in 2003 and declined to 27,000 tonnes in 2018. This is the lowest spawning stock biomass level known for this stock. The projected spawning stock biomass is 18,000 tonnes for 2019, and 12,000 tonnes for 2020. Total catch in 2018 was 31,000 tonnes (Central Fisheries Research Institute 2019).

B_{limit} for this stock is identified as 155,000 tonnes. The management goal for the stock is to recover the spawning biomass to B_{limit} over 5 years. Current stock status is considered to be below PRI with a declining biomass trend. Fishing mortality (F) in 2018 was 2.02, and a reduction in catch was recommended to enable the status of the stock to improve. Fishing mortality currently considered necessary to achieve the biomass recovery goal is 0.34. The projected F value for 2019 is 2.20, i.e. a further increase in fishing mortality (Central Fisheries Research Institute 2019).

A recovery plan is not in place. Fishery management has typically focused on fishing licences and rights, and there has been no TAC or biologically-based mechanism in place for managing catch levels. However, the reform of Japan's Fisheries Law that occurred in 2018 will result in changes in the management of this fishery. Japan's Fisheries Agency consulted on development of an MSY-based TAC (informed by a stock assessment for this species) in September 2020, with work towards the TAC to occur from 2021.

Bait is purchased by vessel owners. Bait use for the UoA is estimated from information collected in 2019. That year, it is estimated that 460 tonnes of anchovies (comprising 91,999 buckets) were used as bait by the UoA. This represents 1.5 % of the catch in the anchovy fishery in 2018, and 0.6 % of the stock biomass. A UoA-wide strategy or coordinated approach to bait purchase and use is not in place. Vessel owners hold the relationship with bait suppliers and direct vessel operators where to acquire bait. If preferred bait (small anchovies) is unavailable, alternative baits are used (e.g. sardines, including larger sizes of those fish).

Prior to 2019, some bait use information was available for a subset of NOFTA vessels, and other fisheries comparable to the UoA (Ishihara Marine Products Fishery and the Japan pole and line fishery (Akroyd et al. 2016; Seip-Markensteijn et al. 2019)). Together, the information on bait use from all of these sources supports the conclusion that the 2019 data effectively reflect UoA bait use patterns over time.

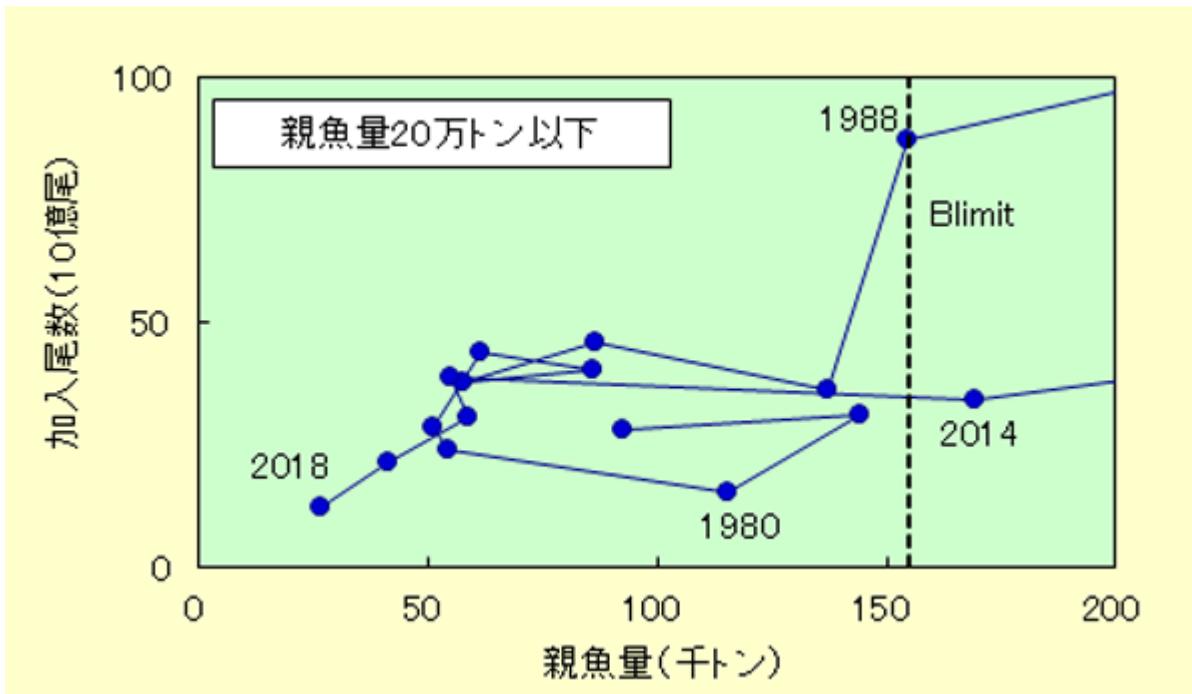


Figure 19. Spawning stock biomass (x1,000 tonnes, x axis) and recruitment (x1 billion fish, y axis) of Japanese anchovy, showing years from 1978 to 2018 for which stock status fell below B_{limit} (the point at which recruitment is considered impaired). (Source: http://abchan.fra.go.jp/digests2019/html/2019_24.html [Accessed 18 May 2020].

6.6.4.2 Minor primary species

- Yellowfin tuna (*Thunnus albacares*)

For this assessment, the Western Central Pacific Ocean stock of yellowfin tuna is considered. This stock was assessed in 2017 (Tremblay-Boyer et al. 2017b), and fishery indicators were most recently updated in 2019. The projected median spawning biomass of this stock is above the limit reference point of 20 % of $SB_{F=0}$ ($SB_{2020}/SB_{F=0} = 0.32$; median $SB_{2020}/SB_{\text{MSY}} = 1.33$), with an 8 % risk that spawning biomass is below the limit reference point (WCPFC 2019e). Projected fishing mortality is below F_{MSY} (median $F_{2020}/F_{\text{MSY}} = 0.74$) and there is a 3 % risk that F_{2020} is above F_{MSY} . The stock is projected to increase if recent fishery conditions continue, with this initial increase followed by a decline and a subsequent increase. Recent fishery indicators are reflected in Figure 20 and Figure 21 below.

A target reference point for the yellowfin tuna stock has not yet been agreed by WCPFC. Until a target reference point is agreed, the Commission has agreed that the spawning biomass depletion ratio must be maintained at or above the average $SB/SBF=0$ for 2012-2015, and that the stock is maintained at a level compatible with MSY as a minimum. A limit reference point of (20 % $SBF=0$) has been adopted. Management measures in place include gear restrictions and effort controls, capacity limits, and catch limits. Data collection and provision requirements also apply. CCMs are required to implement measures as necessary to ensure specified total catches are not exceeded. This agreement is formalised as CMM2018-01. The CMM is reviewed annually.

CMM2014-06 records the current schedule for developing a harvest strategy for yellowfin tuna, which was most recently updated in 2019. Timeframes have been delayed from earlier versions of the workplan such that in 2022, the development of management procedures is planned. The eventual adoption of a harvest strategy would occur in a later year.

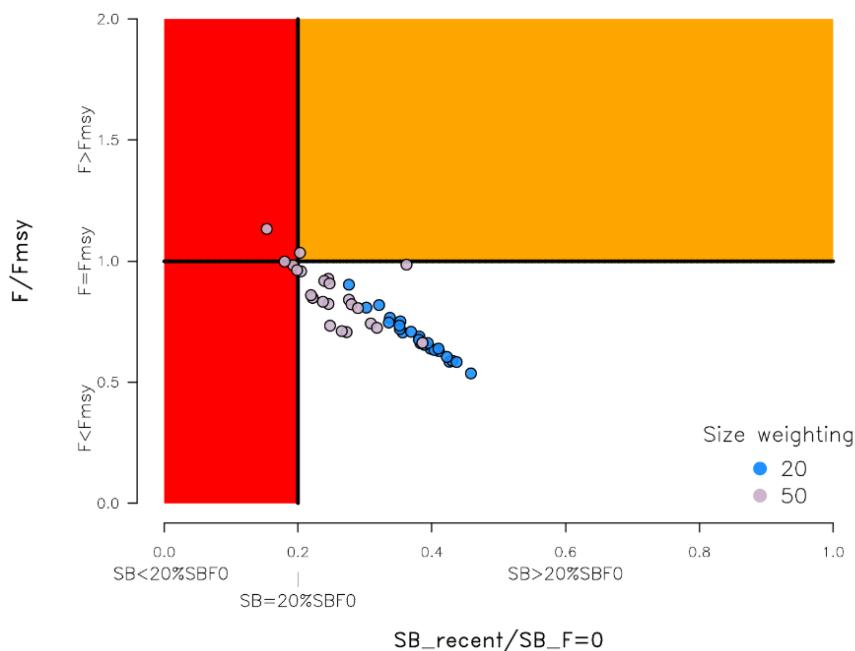


Figure 20. Majuro plot summarising the results for each of the models in the structural uncertainty grid for the western and central Pacific Ocean stock of yellowfin tuna, which were retained for management advice. The plots represent estimates of stock status in terms of spawning potential depletion and fishing mortality. The red zone represents spawning potential levels lower than the limit reference point which is marked with the solid black line. The orange region is for fishing mortality greater than F_{MSY} (F_{MSY} is marked with the black horizontal line). The points represent $SB_{recent}/SB_{F=0}$, and the colours depict the models in the grid with the size composition weighting using divisors of 20 and 50. (Source: WCPFC 2019e).

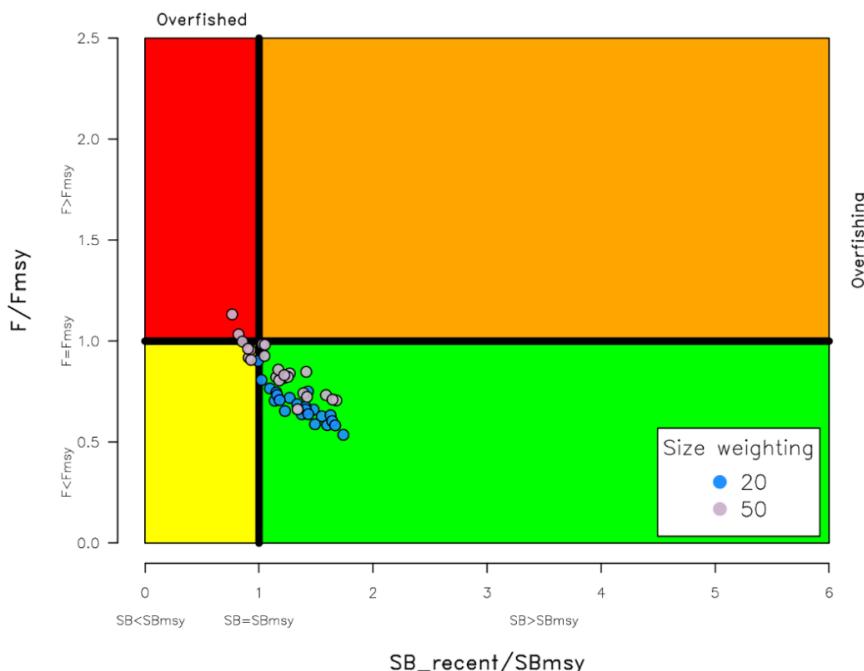


Figure 21. Kobe plot summarising the results for each of the models in the structural uncertainty grid, for the western and central Pacific Ocean stock of yellowfin tuna. The points represent SB_{recent}/SB_{MSY} , the colours depict the models in the grid with the size composition weighting using divisors of 20 and 50. (Source: WCPFC 2019e).

- Bigeye tuna (*Thunnus obesus*)

The Western Central Pacific bigeye tuna stock was last assessed in 2017 (McKechnie et al. 2017), and then updated in 2018 after the WCPFC Scientific Committee considered new age and growth information (Farley et al. 2018). Fishery indicators were updated in 2019 (WCPFC 2019c).

Projections for the bigeye stock show a similar pattern to yellowfin, i.e., an initial increase is predicted, followed by a decline in adult stock biomass and a subsequent increase. The projected spawning biomass is above the limit reference point (median $SB_{2020}/SB_{F=0} = 0.41$; median $SB_{2020}/SB_{MSY} = 1.79$), with 0 % risk of spawning biomass being below that point. Fishing mortality is projected to be below F_{MSY} (median $F_{2020}/F_{MSY} = 0.62$), also with 0 % risk of this not being the case (WCPFC 2019c).

As for yellowfin tuna, WCPFC has not yet agreed on a target reference point for bigeye. Until this occurs, the Commission has agreed that the spawning biomass depletion ratio must be maintained at or above the average $SB/SB_{F=0}$ for 2012-2015, and that management measures in place ensure the stock is at a level compatible with MSY. Management measures include limits on capacity and catch. Data collection and provision requirements are specified. CCMs are required to implement measures as necessary to ensure that total catches are not exceeded. This agreement is recorded in CMM2018-01 which is reviewed annually.

CMM2014-06 set out the initial schedule for developing a harvest strategy for bigeye tuna. The timeframe has subsequently been extended by WCPFC, such that the development of management procedures is now planned in 2022. The adoption of a harvest strategy would occur at some point subsequently.

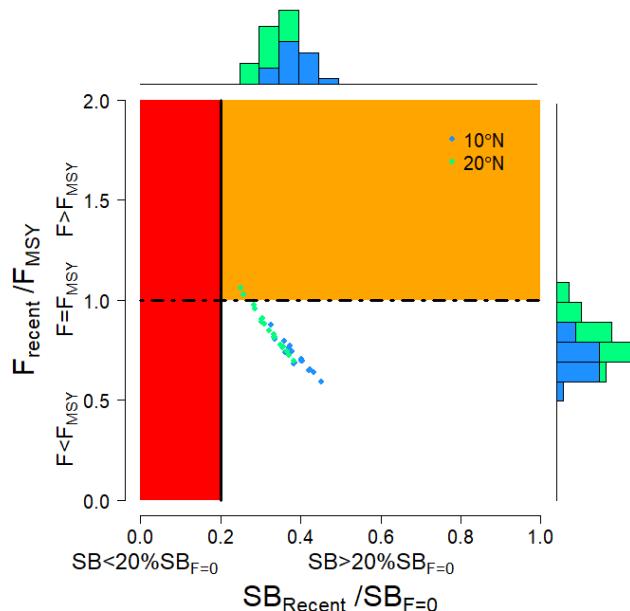


Figure 22. Majuro plot summarising the results for each of the models in the structural uncertainty grid, for the western and central Pacific Ocean stock of bigeye tuna. The plot represents estimates of stock status in terms of spawning biomass depletion and fishing mortality. The red zone represents spawning biomass levels lower than the agreed limit reference point, which is marked with the solid black line. The orange region is for fishing mortality greater than F_{MSY} (F_{MSY} is marked with the black dashed line). The points represent $SB_{recent}/SB_{F=0}$, where SB_{recent} is the mean SB over 2012-2015. In both panels the colours depict the models in the grid with the 10°N and 20°N regional structures. (Source: WCPFC 2019c).

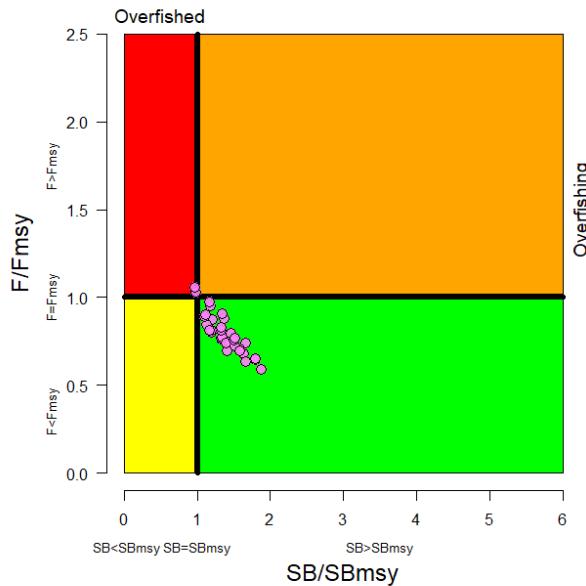


Figure 23. Kobe plot summarising the results for each of the models in the structural uncertainty grid, for the western and central Pacific Ocean stock of bigeye tuna. The points represent SB_{recent}/SB_{MSY} , where SB_{recent} is the mean SB over 2012-2015. (Source: WCPFC 2019c).

- Pacific bluefin tuna (*Thunnus orientalis*)

Pacific bluefin tuna comprises a single Pacific Ocean-wide stock. The stock is managed through both the WCPFC and IATTC. Stock status for Pacific bluefin tuna was last assessed in 2018 (Pacific Bluefin Working Group 2018b). In 2016, spawning biomass was assessed to be 3.3 % of original biomass and overfishing relative to 20 %SSB_{F=0} was reported. Since the 2018 assessment was conducted, there have been some signs of an improvement in stock status. Projections are influenced strongly by 2016 recruitment, which appeared relatively high. Overall, the stock appears to be recovering (Pacific Bluefin Working Group 2018b; WCPFC 2019d). The next stock assessment is planned for 2020.

A harvest strategy for Pacific bluefin was adopted by WCPFC in 2017 (Harvest Strategy 2017-02). The strategy sets out an initial rebuilding target of a stock size that is the median SSB estimated for the period 1952 through 2014 (6.7 %SSB_{F=0}), to be reached by 2024 with at least 60 % probability. The strategy includes a second rebuilding target: for the stock size of 20 %SSB_{F=0}, to be reached by 2034, or 10 years after reaching the initial rebuilding target, whichever is earlier, with at least 60 % probability. With the management measures in place, the probability of meeting these targets is 96 % (Pacific Bluefin Working Group 2018a). Target and limit reference points have not been formally adopted.

WCPFC CMM2019-02 sets out management measures for Pacific bluefin tuna. Measures include catch reductions and effort restrictions (benchmarked relative to average annual effort for 2002-2004), provisions for managing overcatch, monitoring and reporting requirements. Commercial activities are also addressed, within the relevant legal frameworks in place. In the eastern Pacific Ocean, IATTC Resolution C-18-01 sets out measures that apply for this species.

Japan has introduced an experimental TAC for this species from January 2018, under the Law for Conservation and Management of Marine Biological Resources. Pacific bluefin under 30kg may be accidentally caught, but fishers are instructed to avoid all captures of this species. The Fisheries Agency allocates an amount of catch to NOTFA, and fishers report back daily on their catch of this species.

When catches approach 70 % of the allocation, particular care is to manage any additional catch including sharing information at sea to avoid catch and stopping fishing on a school if catch of this species is likely. Until (and including) 2019, there was no subdivision of the allocated Pacific bluefin catch between longline and pole and line sectors. For 2020, agreement between the sectors has been reached such that each has access to 50 % of the allocated Pacific bluefin catch.

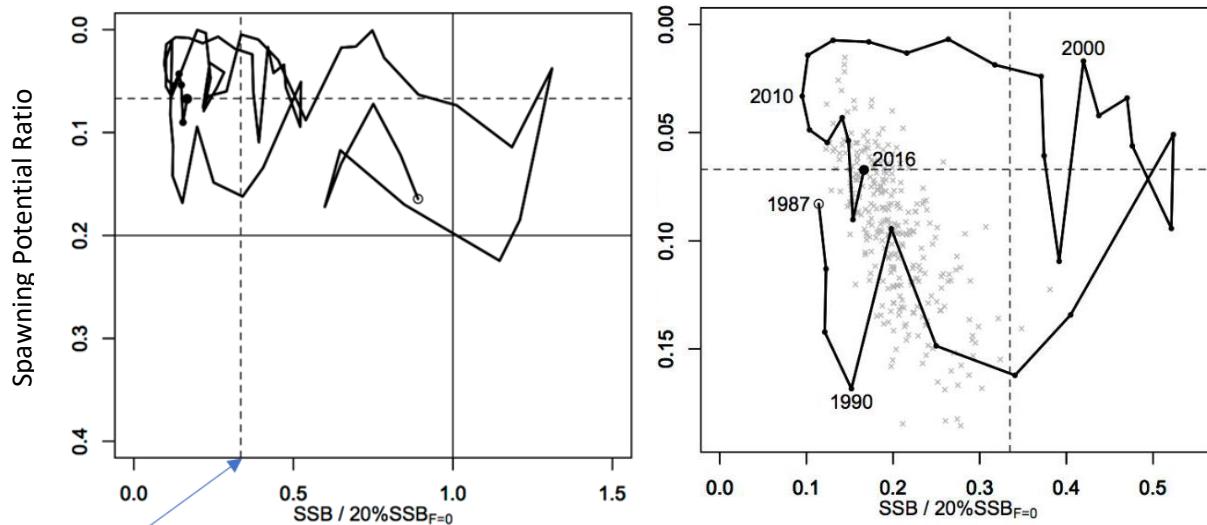


Figure 24. Kobe plots for Pacific bluefin tuna (*Thunnus orientalis*). X axis shows the relative SSB value to 20 %SSB_{F=0} (second rebuilding target) and Y axis shows spawning potential ratio as a measure of fishing intensity. Vertical and horizontal solid lines indicate the second rebuilding target (20 %SSB_{F=0}) and corresponding fishing intensity, respectively, while vertical and horizontal dashed lines indicate the initial rebuilding target (SSB_{MED} = 6.7 %SSB_{F=0}; note the blue arrow on the left panel) and corresponding fishing intensity, respectively. SSB_{MED} is calculated as the median of estimated SSB over 1952-2014. The left figure shows the historical trajectory, where the open circle indicates the first year of the assessment (1952) while solid circles indicate the last five years of the assessment (2012-2016). The right figure shows the trajectory only of the last 30 years, where grey crosses indicate the uncertainty of the terminal year. (Source: Pacific Bluefin Tuna Working Group 2018b).

- Pacific Sardine (Japanese sardine) (*Sardinops melanostictus*, also known as *S. sagax*)

The Pacific sardine is a bait species used by the UoA, with bait being equivalent to 1 % of the assessed fishery's catch weight. This stock's status was most recently assessed in 2018 by the Japan Fisheries Research Agency (Furuichi et al. 2018). It is considered to be at a "medium" level, with an increasing biomass trend and is strongly affected by environmental variability. The assessment is conducted using cohort analysis. Biomass has fluctuated significantly over time. For example, spawning stock biomass fell below 100,000 tons from 2002 through 2011, and then increased to 2.15 million tonnes in 2017. Fishing mortality was 0.3 in 2018. The catch in 2018 was 732,000 tonnes.

B_{limit} for this stock is identified as the spawning stock biomass in 1996 (221,000 tonnes). Below this level, recruitment is impaired (Furuichi et al. 2018). Fishing is prohibited when the stock biomass falls below 22,000 tonnes. (This was the estimated minimum stock biomass during the 1950s and 1960s).

The high-level management objective for this stock is described in Plan #3 for the Preservation and Management of Marine Living Resources. The objective set is to maintain stock biomass and increase this if possible, while considering environmental trends and the fishery. The probability of maintaining the spawning stock biomass through 2024 above B_{limit} was 100 % at F₂₀₁₂₋₂₀₁₇ (considered to be F_{current}).

The probability of maintaining the 2017 spawning stock biomass through 2024 at F_{current} was 86 %, taking uncertainty into account.

Data from 2017 and 2018 were used as the basis for setting a TAC. Fishing licences are issued for this fishery.

Bait is purchased by vessel owners. In 2019, the UoA vessels used an estimated 145 tonnes of sardine bait (28,980 buckets). This comprises 0.02 % of the 2018 catch in the Pacific sardine fishery, and significantly less than 0.01 % of the spawning stock biomass.

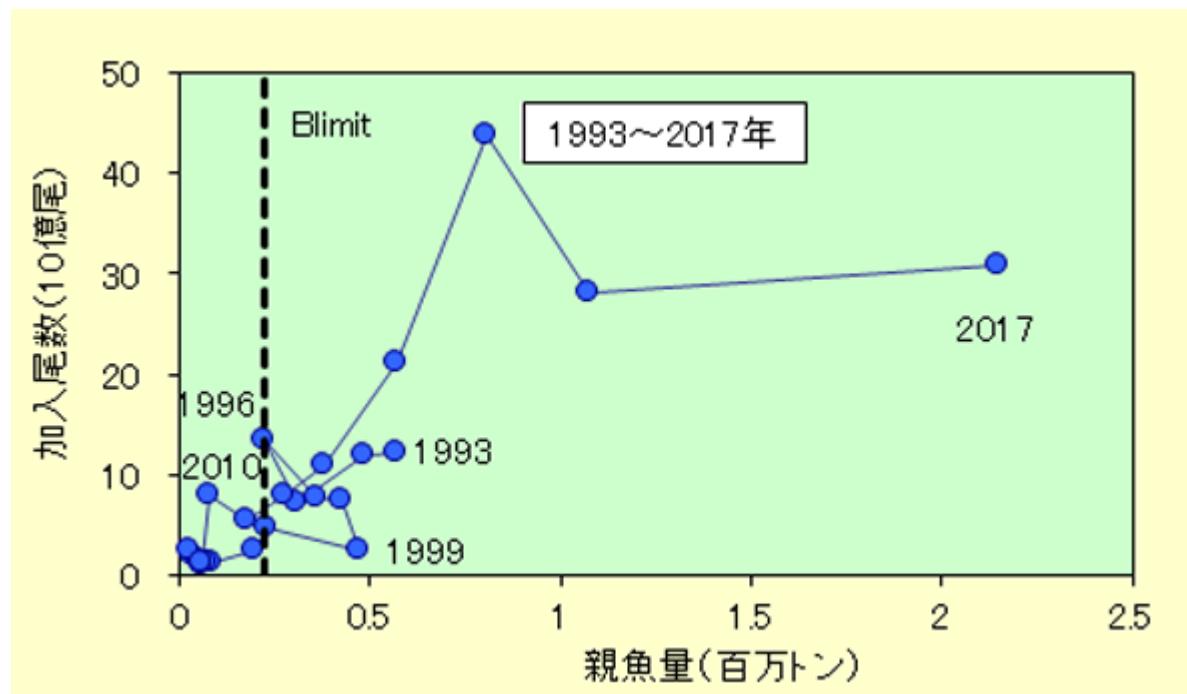


Figure 25. Spawning stock biomass (x100,000 tonnes, x axis) and recruitment (x1 billion fish, y axis) of Pacific sardine from 1993 to 2017. (Source: http://abchan.fra.go.jp/digests2018/html/2018_01.html [Accessed 17 March 2020].

6.6.5 Secondary species

Secondary species are recorded caught at levels below 1 % of the catch. Therefore, there are no secondary main species reported caught in the UoA. Secondary minor species are listed in Assessments of stock status were not available for other secondary species. There are no UoA-specific management measures in place for any secondary species. WCPFC CMM2019-04 Conservation and Management Measure for Sharks applied from 1 November 2020. This CMM contains a range of provisions, some of which are not relevant to the UoA (e.g. requirements for longline fishing gear and whale shark interactions with purse seine operations). Among other provisions, the measure covers the utilisation of sharks caught, prohibition of finning, actions to promote the release and survival of unwanted shark catch, and encourages CCMs to implement WCPFC-adopted guidelines for the safe release and handling of sharks.

Table 22.

- Swordfish (*Xiphias gladius*)

The stock assessment for swordfish in the Western Central and North Pacific Ocean was last updated in 2018 (ISC Billfish Working Group 2018). Reference points based on MSY and 20 % of unfished spawning biomass were considered. Overall, this stock is not considered to be overfished, and overfishing is unlikely to be occurring. In 2016, SSB was 87 % above SSB_{MSY} and 45 % below F_{MSY}. The population appears relatively stable, based on total stock biomass (ISC Billfish Working Group 2018).

Assessments of stock status were not available for other secondary species. There are no UoA-specific management measures in place for any secondary species. WCPFC CMM2019-04 Conservation and Management Measure for Sharks applied from 1 November 2020. This CMM contains a range of provisions, some of which are not relevant to the UoA (e.g. requirements for longline fishing gear and whale shark interactions with purse seine operations). Among other provisions, the measure covers the utilisation of sharks caught, prohibition of finning, actions to promote the release and survival of unwanted shark catch, and encourages CCMs to implement WCPFC-adopted guidelines for the safe release and handling of sharks.

Table 22. Secondary minor species that may be caught in the Kochi and Miyazaki offshore pole and line albacore and skipjack fishery.

Common name	Scientific name
コシナガ Longtail tuna	<i>Thunnus tonggol</i>
ヒラソウダ Frigate tuna	<i>Auxis thazard</i>
スマガツオ サカツオ Kawakawa	<i>Euthynnus affinis</i>
ツブリ ツムブリ Rainbow runner	<i>Elagatis bipinnulata</i>
シラ Mahi	<i>Coryphaena hippurus</i>
オキブリ Amberjack	<i>Seriola quinqueradiata</i>
ヒラマサ Yellowtail amberjack	<i>Seriola lalandi</i>
オニコ オキサンバチ Greater amberjack	<i>Seriola dumerili</i>
オキサラ Wahoo	<i>Acanthocybium solandri</i>
鯛 Red sea bream	<i>Pagrus major</i>
めかじき Swordfish	<i>Xiphias gladius</i>
さめ類 Shark spp.	
さわら類 Mackerel spp.	

6.6.6 ETP species

Endangered, threatened and protected (ETP) species are defined by MSC FS 2.01 as species that are:

- Recognised by national ETP legislation
- Listed in particular binding international agreements including Appendix 1 of the Convention on International Trade in Endangered Species (CITES), and binding agreements concluded

under the Convention on Migratory Species (e.g., the Agreement on the Conservation of Albatrosses and Petrels, ACAP); and,

- Out-of-scope for MSC fishery assessments (amphibians, reptiles, birds and mammals) and classified by the IUCN as vulnerable, endangered, or critically endangered.

Under Japanese legislation, the short-tailed albatross (*Phoebastria albatrus*) is classified as a “Nationally Endangered Species” and therefore cannot be taken, injured or killed (Law for the Conservation of Endangered Species of Wild Fauna and Flora (Law No. 75 1992). It is also listed in Japan’s Red Data Book, where it is classified as Vulnerable. Law No. 75 also sets out provisions restricting the transfer of “International Endangered Species”, which include those that are listed on CITES Appendix 1. Restrictions apply to the movement of animals and animal parts in commercial and non-commercial contexts, and when such species are dead or alive.

Other seabird species which are known to, or may, overlap in distribution with the fishery, and that are listed in Japan’s Red Data Book include the following:

- Bonin petrel (*Pterodroma hypoleuca*), classified as Data Deficient
- Laysan albatross (*Phoebastria immutabilis*), classified as Endangered
- Audubon’s shearwater (*Puffinus lherminieri bannermani*), classified as Endangered; and,
- Bryan’s shearwater (*Puffinus bryani*), classified as Critically Endangered and declared as a species in 2011.

(See Appendix 8.2) for the full list of species considered using the Risk Based Framework).

In this fishery, the likelihood of interactions with ETP is very low due to the use of the pole and line fishing method. Hooks without barbs are used (see Figure 3). These are fitted with artificial lures and are not baited (with baitfish being tipped into the water directly). The size of the hooks precludes the incidental capture of many ETP species (i.e., the hooks are too small). However, fishers report having observed a range of ETP species when fishing (e.g. dolphins, whales, sharks and whale sharks). Several species of seabirds are reported to be caught on occasion, including streaked shearwater (*Calonectris leucomelas*). When caught, birds are unhooked and released rapidly. Other non-target catch may be released by cutting the line. Seabirds are deterred from attending vessels by a horn sounding. A low incidence of seabird captures has also been reported from other Japanese pole and line operations, as well as infrequent captures of sharks (e.g. Seip-Markensteijn et al. 2019).

Pole and line fishing around FADs have been associated with higher levels of fish bycatch, which may include ETP species (Miller et al. 2017). However, while some fishing activity takes place around anchored FADs in the UoA, the fishing gear is not expected to capture larger ETP due to hook size, as above.

Reporting of incidental captures (including null reports when there are no captures) of seabirds, marine mammals, turtles, sharks, and tunas is required by Japan’s Fisheries Agency although this currently appears not to be met by the fishery.

Seabirds were the only ETP reported to interact with the fishery or considered by stakeholders to be at risk of interaction.

For completeness, international requirements for ETP protection that apply to the area in which the fishery operates include the following WCPFC CMMs:

- CMM2010-07 encouraging the live release of unwanted incidentally caught sharks

- CMM2011-04 prohibiting landing and retention and requiring release of oceanic whitetip sharks
- CMM2013-08 on the landing and retention of silky sharks
- CMM2018-04 requiring the safe handling of captured sea turtles
- CMM2018-03 Attachment N on recommended best practice for handling and release of seabirds after capture in hook fisheries; and,
- CMM2019-04 (from 1 November 2020), containing a range of provisions, some not relevant to the UoA (e.g. requirements for longline and purse seine operations). Among other provisions, the measure covers the prohibition of finning, actions to promote the release and survival of unwanted shark catch, and encourages CCMs to implement WCPFC-adopted guidelines for the safe release and handling of sharks.

6.6.7 Habitats

The MSC FCR v2.01 requires habitats interacting with the fishery to be defined as ‘commonly-encountered’, ‘VME’ or ‘minor’, with definitions as given in Table 23.

Table 23. Habitat definitions as per the MSC Fisheries Certification Requirements v2.01.

FCR reference	Definition
SA3.13.3.1	A commonly encountered habitat shall be defined as a habitat that regularly comes into contact with a gear used by the UoA, considering the spatial (geographical) overlap of fishing effort with the habitat’s range within the management area(s) covered by the governance body(s) relevant to the UoA.
SA3.13.3.2	A Vulnerable Marine Ecosystem (VME) shall be defined as is done in paragraph 42 subparagraphs (i)-(v) of the FAO Guidelines (definition provided in GSA3.13.3.2). This definition shall be applied both inside and outside EEZs and irrespective of depth.
GSA3.13.3.2	VMEs have one or more of the following characteristics, as defined in paragraph 42 of the FAO Guidelines: Uniqueness or rarity – an area or ecosystem that is unique or that contains rare species whose loss could not be compensated for by similar areas or ecosystems Functional significance of the habitat – discrete areas or habitats that are necessary for survival, function, spawning/ reproduction, or recovery of fish stocks; for particular life-history stages (e.g., nursery grounds, rearing areas); or for ETP species Fragility – an ecosystem that is highly susceptible to degradation by anthropogenic activities Life-history traits of component species that make recovery difficult – ecosystems that are characterised by populations or assemblages of species that are slow growing, are slow maturing, have low or unpredictable recruitment, and/or are long lived Structural complexity – an ecosystem that is characterised by complex physical structures created by significant concentrations of biotic and abiotic features
N/a	Minor habitats are those that do not meet the above definitions.

The habitat under consideration in this assessment is mainly the epipelagic zone in the north Pacific, both inside the boundary of Japan’s Exclusive Economic Zone, and on the high seas (Figure 2 and Figure 6). The fishing gear interacts almost exclusively with shallow surface layers, which are considered to be the commonly encountered habitats for this assessment.

The UoA does not place FADs, but occasionally fishes around existing anchored FADs around Okinawa. These FADs have been installed by local fishers, and permission is sought annually for UoA vessels to fish around them. Habitats occurring where FADs are placed are considered to be minor habitats in this assessment. Most FADs around Okinawa are located in waters greater than 1,000 m deep (Ohta and Kakuma 2005). There is a maximum of 200 FADs in place at any time, and FADs must be approved by local and/or national authorities, including the coastguard and Fisheries Adjustment Commission (Karama and Matsushita 2019).

An extremely small amount of pole and line gear is lost annually in the course of fishing (e.g. when poles break or are lost overboard, reported during the site visit as occurring 2-3 times per year on a vessel). Loss of a pole incurs a direct cost to fishers in some cases, incentivizing pole retention. When poles are broken in the course of fishing, efforts are made to retain broken portions aboard vessels to avoid the falling pieces startling the schooling target fish.

It is possible that gear lost has impacts on other habitats (e.g. at water depths below the epipelagic zone, or surface waters outside the UoA area of operation). Habitats affected gear loss are characterized as minor for the purposes of this assessment.

Fishing activities do not take place near reefs or seamounts.

6.6.7.1 Vulnerable Marine Ecosystems

The pole and line gear operate in surface waters only and therefore would not contact VMEs. FADs are not known to interact with VMEs ; FADs are not known to be in place where corals occur³ (Ohta and Kakuma 2005).

6.6.8 Ecosystem

The fishery operates in Japanese waters and on the high seas (Figure 2 and Figure 6). Dominant oceanographic features close to Japan are the warm Kuroshio current (moving from the Philippines northeastwards to Hokkaido) with a surface area of approximately 1.3 million km², and the cold Oyashio current, moving from Russia and the Kuril Islands, southwest towards Hokkaido and then eastwards) with a surface area of about 530,000 km². Both currents are classified as a globally significant Large Marine Ecosystems⁴. More broadly, fishing activity takes place in the waters of the warm temperate zone, subtropical zone and tropical zone (Figure 26).

The Kuroshio – Oyashio ecosystem exhibits decadal-scale fluctuations in climate and ecosystem characteristics, e.g., affecting sea surface temperature, stratification of ocean layers, and the distribution of nutrients and primary and secondary producers (Yatsu et al. 2013). Impacts of these changes on fish species including bait species used by the UoAs have been explored. A northward shift in Japanese sardine distribution is predicted to result from ocean warming. Decreases in growth and early survival rates have also been predicted, though increased prey availability may offset these impacts. In contrast, warming temperatures could increase anchovy growth rates, with any benefits of this potentially offset if temperature increases eventually result in decreased productivity and

³ <https://www.env.go.jp/nature/biodic/coralreefs/reference/contents/060104.pdf> [Accessed 18 September 2000]

⁴ <http://www.lmehub.net/#> [Accessed 2 April 2020]

increased stratification. The relative plasticity in the life history characteristics and habitats of these species is expected to ameliorate climate impacts overall (Yatsu et al. 2013).

Effects of climate change on tuna species and other ecosystem components have been considered (e.g. Bell et al. 2011). Eastern shifts predicted for skipjack and yellowfin tuna while weaker impacts are predicted on bigeye and albacore. The effects of fishing on biomass are predicted to remain much more significant than climate change effects in the short and medium term (Senina et al. 2018; Brouwer et al. 2019).

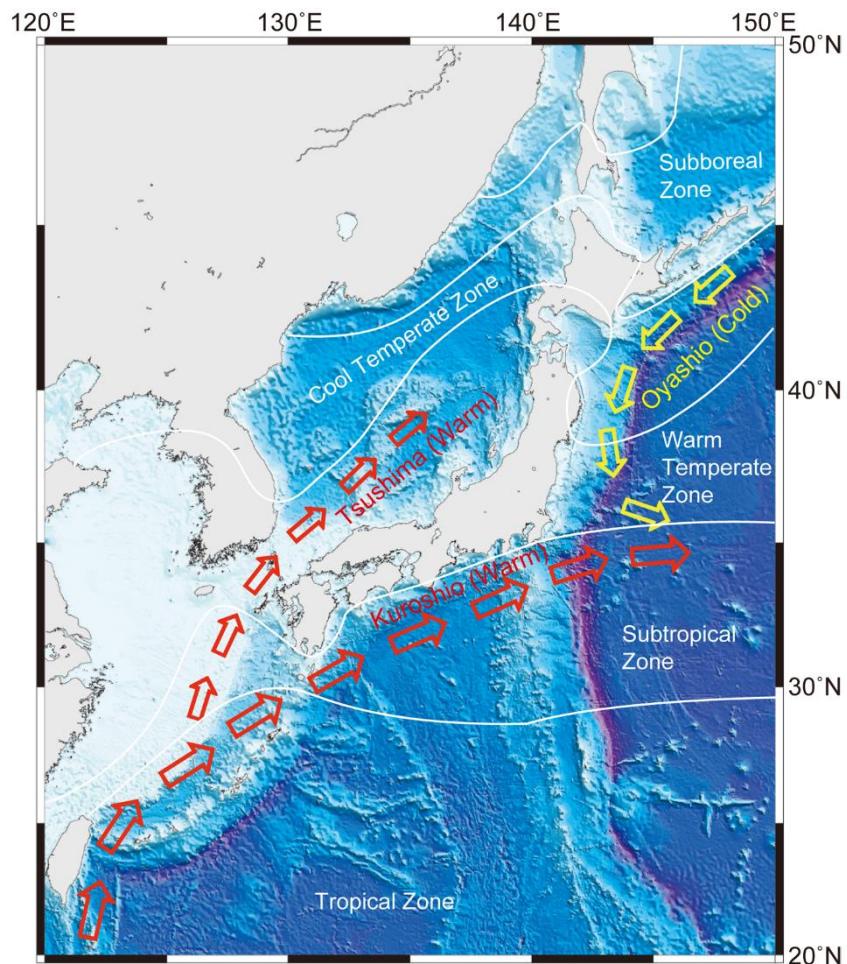


Figure 26. Surface ocean currents and climatic regimes around Japan. (Source: Fujikura et al. 2010).

Trophic relationships and ecological roles of the target species are well studied and research on the ecosystem effects of fishing (including modelling) in the Pacific Ocean is ongoing. The main trophic relationships are known (Figure 27), though uncertainty remains about the detailed relationships among ecosystem elements where there is an absence of local information. A significant volume of ecosystem-related research outputs is available through WCPFC (<https://www.wcpfc.int/about-wcpfc>) and SPC (<https://www.spc.int/resource-centre>) reports. The WCPFC Scientific Committee meeting includes a plenary session on ecosystems and bycatch, and the SPC has a dedicated work area on ecosystem monitoring and analysis (<https://oceanfish.spc.int/ofpsection/ema?lang=en>). Research has included ecosystem modelling using Ecopath and SEAPODYM over time (e.g. Allain 2004, 2010; Lehodey et al. 2008, 2014). Recent work has involved considering the implementation of ecosystem-based approaches to fisheries management across tuna RFMOs (FAO 2016). While impacts on the size

of fish caught and the trophic level of catch have been reported, no detectable changes are described in trophic levels at the population level (Sibert et al. 2006). Changes in the relative proportions of different predator and prey taxa are also documented from the Pacific (e.g. meso-predators compared to apex predators), but impacts comprising serious or irreversible harm are not evident (e.g. Allain 2010; Hunsicker et al. 2012).

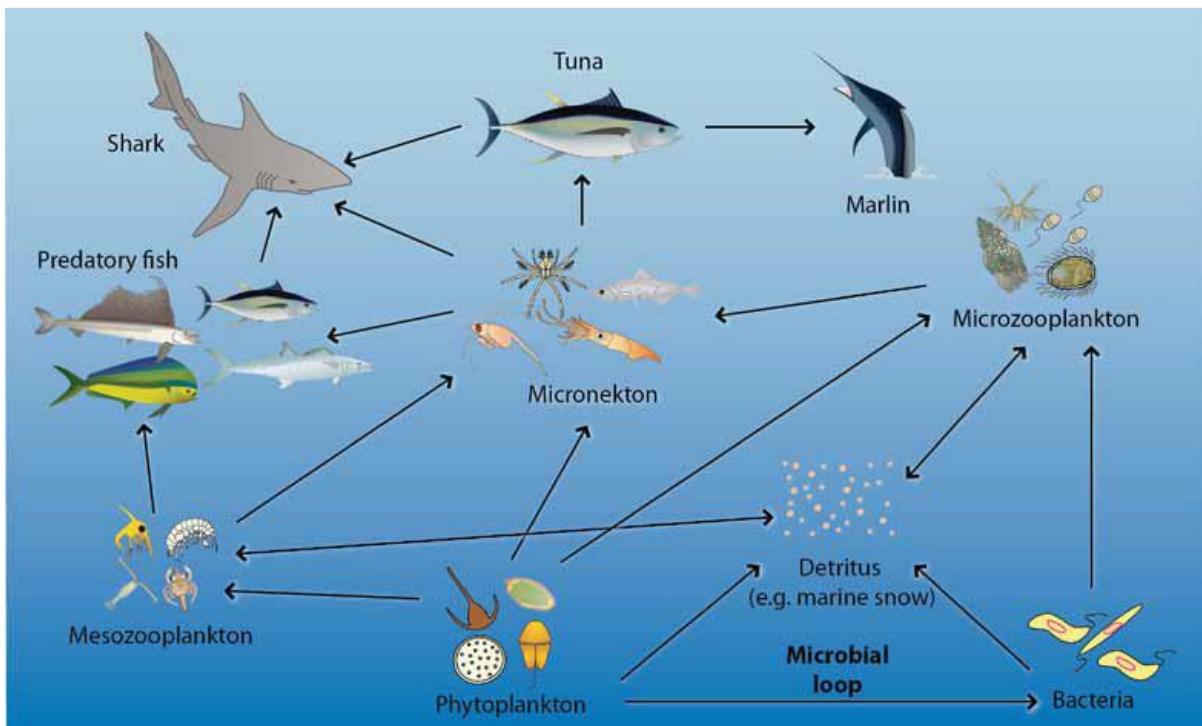


Figure 27. Generalised food web supporting tuna and other large pelagic fish. (Source: Borgne et al. 2011).

The UoA catch of the target species was <1 % of the total catch of skipjack and <6 % of north Pacific albacore catch reported to WCPFC in 2019. The stock status of these species and the small proportion of total catch taken by the UoA supports the conclusion that the UoA activities are not causing serious or irreversible harm to the ecosystem. Other ecosystem impacts, that apply at significantly smaller scales than removal of target species, would result from bait harvest (section 6.6.4), placement of FADs (section ②) and any ETP species interactions (section 6.6.6). The Japanese anchovy stock is depleted, while the Pacific sardine stock is considered to be at a “medium” level. However, the amount of bait utilized by the UoA comprises extremely small proportions of the total catch of both bait fisheries and is not expected to cause any significant ecosystem impacts. Benthic and ETP impacts are of very limited extent in the fishery. FADs may affect the distribution, movement and diet of tuna and other species (Leroy et al. 2012). However, FAD fishing is a minor component of the operation of the UoAs (which do not place the FADs themselves). As such, it is considered extremely unlikely to result in significant ecosystem impacts.

Ecosystem impacts of waste discharge at sea are the focus of WCPFC CMM2017-04, which requires CCMs to prohibit the discharge of any plastics from vessels (excluding fishing gear). CCMs are also encouraged to prohibit the discharge of other waste from their fishing vessels (e.g. unwanted fishing gear, food waste, garbage), among other provisions of this CMM. The Act on Prevention of Marine Pollution and Maritime Disaster outlines how on-board waste must be disposed of, this includes requirements on reporting waste and ensuring management practices. In addition, vessels have booklets on-board titled "Regulations for the Prevention of Pollution from Ship Generated Waste" and

a placard titled "Standards for the discharge of waste from ships" affixed to the bridge. These provide procedures on on-board waste management.

The concept of ecosystem-based fisheries management is incorporated into the Convention that underpins the activities of WCPFC. Article 5 of the Convention refers to "*target stocks, non-target stocks, and species belonging to the same ecosystem or dependent upon or associated with the target*", biodiversity, and fishing impacts affecting ecosystems such as lost gear, pollution and waste. Article 6 of the Convention also refers to the impacts of fishing activities on non-target and associated or dependent species. Article 12 refers to scientific work, e.g. assessments of non-target species and others in the same ecosystem as the fishery.

6.6.9 Cumulative impacts

The MSC introduced requirements for cumulative impact assessments in Principle 2 with the release of the Fisheries Certification Requirements v2.0. These requirements are to ensure that MSC certified fisheries will no longer cumulatively be at risk of generating negative impacts on Principle 2 species (and habitat).

- For primary species, cumulative impacts assess whether the collective impact of overlapping MSC fisheries are hindering the recovery of 'main' primary species that are below a point of recruitment impairment (PRI); i.e. ensuring that the combined impact of MSC fisheries are not harming the recovery of the stock;
- For secondary species, the same intent applies when a species is below a biologically based limit, but only in cases where two or more MSC fisheries have 'main' catches that are 'considerable', defined as a species being 10 per cent or more of the total catch;
- For ETP species, the combined impacts of MSC fisheries on all ETP species needs to be evaluated, but only in cases where either national and/or international requirements set catch limits for ETP species and only for those fisheries subject to the same national legislation or within the area of the same binding agreement;
- For habitats, in contrast, cumulative impacts are evaluated in the management PI (PI 2.4.2). The requirements here aim to ensure that vulnerable marine ecosystems (VMEs) are managed cumulatively to ensure serious and irreversible harm does not occur.

For the UoAs covered by this assessment, harmonization with the following fisheries was considered:

- AAFA and WFOA South Pacific albacore tuna (certified);
- PNA Western and Central Pacific skipjack and yellowfin tuna (certified);
- Solomon Islands skipjack and yellowfin tuna purse seine and pole & line (certified);
- Talley's New Zealand Skipjack Tuna Purse Seine (certified);
- Tri Marine Western and Central Pacific skipjack and yellowfin tuna (certified);
- PT Citraraja Ampat, Sorong pole and line skipjack and yellowfin tuna (certified);
- CHMSF British Columbia Albacore Tuna North (certified);
- Tropical Pacific yellowfin and skipjack tuna free-school purse seine fishery (certified)
- Pan Pacific yellowfin, bigeye and albacore longline fishery (in assessment)

- Owasebussan Co. Ltd. North Pacific Longline Tuna Fishery for Albacore, Yellowfin Tuna & Bigeye Tuna (in assessment)
- PNG Fishing Industry Association's purse seine Skipjack & Yellowfin Tuna Fishery (certified)
- Ishihara Marine products albacore and skipjack pole and line fishery (certified)
- Japanese Pole and Line skipjack and albacore tuna fishery (certified)
- Kiribati albacore, bigeye and yellowfin tuna longline fishery (in assessment)
- Indonesia pole-and-line and handline, skipjack and yellowfin tuna of Western and Central Pacific archipelagic waters (in assessment)

Table 24. Cumulative impacts considered for Principle 2 scoring elements.

Outcome Performance Indicator	Element	Cumulative impact?	Rationale
2.1.1 Primary species (main)	Skipjack (<i>Katsuwonus pelamis</i>) (for albacore UoA)	No	Not below PRI
	Albacore (<i>Thunnus alalunga</i>) (for skipjack UoA)	No	Not below PRI
	Japanese anchovy (<i>Engraulis japonicus</i>)	No	Not “main” in overlapping certified fisheries.
2.2.1 Secondary species (main)	N/A	N/A	No secondary main species
2.3.1 ETP outcome	N/A	N/A	No national or international requirements that include catch limits.
2.4.2 VME management	N/A	N/A	No VME impacts

6.6.10 Scoring elements

Table 25. Principle 2 scoring elements. The term “data deficient” indicates if the scoring element meets the criteria set by the MSC for use of the Risk Based Framework. (See Table 3, MSC FCP v2.1).

Component	Scoring elements	Designation	Data-deficient	Information gap
Primary	Skipjack (<i>Katsuwonus pelamis</i>)	Main	No	
Primary	Albacore (<i>Thunnus alalunga</i>)	Main	No	
Primary	Japanese anchovy (<i>Engraulis japonicus</i>)	Main	No	
Primary	Yellowfin tuna (<i>Thunnus albacares</i>)	Minor	No	

Primary	Bigeye tuna (<i>Thunnus obesus</i>)	Minor	No	
Primary	Pacific bluefin tuna (<i>Thunnus orientalis</i>)	Minor	No	
Primary	Pacific Sardine (Japanese pilchard) (<i>Sardinops melanostictus</i> , also known as <i>S. sagax</i>)	Minor	No	
Secondary	Longtail tuna (<i>Thunnus tonggol</i>)	Minor	Yes	Status in relation to biologically-based limits, no RBF needed for minor secondary species.
Secondary	Frigate tuna (<i>Auxis thazard</i>)	Minor	Yes	As above
Secondary	Kawakawa (<i>Euthynnus affinis</i>)	Minor	Yes	As above
Secondary	Rainbow runner (<i>Elagatis bipinnulata</i>)	Minor	Yes	As above
Secondary	Mahi mahi (<i>Coryphaena hippurus</i>)	Minor	Yes	As above
Secondary	Amberjack (<i>Seriola quinqueradiata</i>)	Minor	Yes	As above
Secondary	Yellowtail amberjack (<i>Seriola lalandi</i>)	Minor	Yes	As above
Secondary	Greater amberjack (<i>Seriola dumerili</i>)	Minor	Yes	As above
Secondary	Wahoo (<i>Acanthocybium solandri</i>)	Minor	Yes	As above
Secondary	Red sea bream (<i>Pagrus major</i>)	Minor	Yes	As above
Secondary	Swordfish (<i>Xiphias gladius</i>)	Minor	No	
ETP	Seabirds		Yes	Species unknown
Habitats	Epipelagic zone		No	
Habitats	Minor habitats (where FADs are placed)		Yes	Information on habitats where FADs occur, noting that the available information is sufficient to score the fishery.
Ecosystem			No	

6.6.11 Principle 2 Performance Indicator scores and rationales

PI 2.1.1 – Primary species outcome

PI 2.1.1		The UoA aims to maintain primary species above the point where recruitment would be impaired (PRI) and does not hinder recovery of primary species if they are below the PRI		
Scoring Issue	SG 60	SG 80	SG 100	
a	Main primary species stock status			
Guide post	Main primary species are likely to be above the PRI. OR If the species is below the PRI, the UoA has measures in place that are expected to ensure that the UoA does not hinder recovery and rebuilding.	Main primary species are highly likely to be above the PRI. OR If the species is below the PRI, there is either evidence of recovery or a demonstrably effective strategy in place between all MSC UoAs which categorise this species as main , to ensure that they collectively do not hinder recovery and rebuilding.	There is a high degree of certainty that main primary species are above the PRI and are fluctuating around a level consistent with MSY.	
Met?	Yes – All species	Yes – Skipjack, North Pacific albacore No – Japanese anchovy	Yes – Skipjack No – North Pacific albacore, Japanese anchovy	

Rationale

Skipjack:

The status of this stock was assessed in 2019. An 8-region model was developed, with an uncertainty grid containing 54 models that were assigned assumed weightings. Stock status was defined using recent spawning biomass depletion (2015 – 2018) and fishing mortality (2014-2017). Stock status was characterised probabilistically based on the upper 90th and lower 10th percentile of the empirical distributions of SB and F from the uncertainty grid. The median level of spawning potential depletion was 0.44 (80 % probability interval: 0.37 – 0.53). There were no individual models for which spawning biomass was below the limit reference point ($SB_{recent}/SB_{F=0} < 0.2$). There was similarly a probability of 0 that recent fishing mortality exceeds F_{MSY} . (The grid median F_{recent}/F_{MSY} was 0.45 (80 % probability interval: 0.34 – 0.60)). Kobe plots display stock status in relation to MSY (Figure 8). The largest uncertainty in the structural uncertainty grid arose from the assumed tag mixing period, and this area was recommended for further research. The stock is considered to be moderately exploited, not overfished and not subject to overfishing. However, the stock is below the interim target reference point of 50 % of spawning biomass in the absence of fishing, and has been below that interim target since 2009.

Skipjack is therefore considered highly likely to be above the PRI and SG60 and SG80 are met. There is also a high degree of certainty that skipjack are above the PRI, and above a level consistent with MSY. SG100 is met.

North Pacific albacore:

Stock status was assessed for North Pacific albacore in 2020, and the stock is considered to be moderately exploited. The model used to assess the stock was a length-based, age-structured and sex-specific stock synthesis model. Estimated female SSB has consistently been above the LRP (20 %SSB_{current, F=0}) through the assessment period of 1994-2018. Uncertainty around female SSB is relatively large however, as a result of uncertainties inherent in the estimation of R₀ (the virgin recruitment parameter); confidence intervals associated with some estimates overlap the LRP. Current fishing intensity (F, calculated as 1 - SPR) is below F_{MSY} and other F-defined reference points excluding F₅₀ %. (Figure 14). As a main primary species, the north Pacific albacore stock is highly likely to be above the PRI. SG60 and SG80 are met.

The stock assessment report notes that the 2020 model projections tend to underestimate future uncertainty in female SSB trends. (The 2017 model showed an increasing tendency for female SSB to dip below the LRP over time, when considered under a constant catch scenario). The probability of this occurring increased from about 3.5 % in 2020 to about 30 % in 2025. Further, in 2017, it was noted that these probabilities may be higher than estimated because all estimated uncertainty from the base case model cannot be incorporated into the projections due to software limitations). For the 2020 model, when constant (current) fishing intensity is considered, the probability of stock status moving below the LRP is small (Figure 15). However, the management approach is not focused on constant catch and when constant average catch is removed, the probability of SSB being below the LRP by 2028 is slightly higher. A “high degree of certainty” requires ≥90 % for this PI. Taking a precautionary view of the uncertainties and ranges inherent in the projections, SG100 is not met.

Japanese anchovy:

This species is below the PRI with a declining biomass trajectory. A recovery plan for the stock is not in place, and there is not a strategy to manage bait use across UoAs. The operational measure in place to ensure that the UoAs do not hinder recovery and rebuilding is the scale of the fishery, which limits the amount of bait used. (Anchovy bait used by the UoA comprised approximately 1.5 % of the catch of the anchovy fishery in 2018, and 0.6 % of the stock biomass. However, more than twice as much anchovy is used as bait compared to sardine, and this ratio may vary over time). The fishery falls under the definition of GSA 3.4.6, whereby the UoA catches of less than 30 % of the total catch, which is considered to not hinder recovery and rebuilding and in summary, the UoAs have measures in place that are expected to ensure that it does not hinder recovery and rebuilding. SG60 is met.

There is no evidence of recovery for this primary main species. An operational constraint is in place that limits the UoAs' use of this species, i.e. the scale of the fishery limits the amount of bait used. However, this does not comprise a “demonstrably effective strategy”, particularly when species-specific bait use information is available for 2019 only. (Prior to 2019, bait information was available from a subset of NOTFA vessels for 2015-2017, as well as comparable fisheries (see section 6.6.4.1)). There are other MSC UoAs in which the Japanese anchovy is used as bait (e.g. Meijo Gyogyo pole and line skipjack and albacore fishery, Ishihara Marine Products albacore and skipjack pole and line fishery). However, at the time of the current assessment, Japanese anchovy was not considered to be a main species for these other MSC fisheries. In summary, the species is below the PRI, there is neither evidence of recovery nor a demonstrably effective strategy in place. SG80 is not met.

The species is below PRI, therefore SG100 cannot be met.

b	Minor primary species stock status	
	Guide post	Met?
		Minor primary species are highly likely to be above the PRI. OR If below the PRI, there is evidence that the UoA does not hinder the recovery and rebuilding of minor primary species.
		Yes – All species

Rationale

Yellowfin tuna:

The WCPO yellowfin tuna stock was most recently assessed in 2017, and fishery indicators have been updated in the subsequent years. The projected median spawning biomass of this stock is above the LRP (20 %SSB_{current, F=0}): SB₂₀₂₀/SB_{F=0} = 0.32; median SB₂₀₂₀/SB_{MSY} = 1.33. There is an 8 % risk that spawning biomass is below the limit reference point. "Highly likely" for this PI requires a probability of ≥80 %. Therefore, this species is considered highly likely to be above the PRI and SG100 is met.

Bigeye tuna:

The WCPO bigeye tuna stock was last assessed in 2017 with an update to the model completed in 2018. Fishery indicators were updated in 2019. The projected spawning biomass is above the LRP (20 %SSB_{current, F=0}): median SB₂₀₂₀/SB_{F=0} = 0.41; median SB₂₀₂₀/SB_{MSY} = 1.79. There is 0 % risk of spawning biomass being below LRP. This species is highly likely to be above the PRI and SG100 is met.

Pacific bluefin tuna:

The status of Pacific bluefin tuna was assessed in 2018. This stock is severely overfished, and overfishing is occurring. Spawning biomass is estimated at 3.3 %Bo. This species is caught at very low levels by the UoA (significantly less than 1 % of the catch of this species reported by ISC members), which provides evidence that the UoA is not hindering recovery or rebuilding and fishers are instructed to avoid catching this species. SG100 is met.

Pacific sardine:

The status of this stock was assessed in 2018. The probability of maintaining the spawning stock biomass through 2024 above Blimit was 100% at F2012-2017 (considered to be Fcurrent). The probability of maintaining the 2017 spawning stock biomass through 2024 at Fcurrent was 86%, taking uncertainty into account. While showing broad fluctuations year to year, there is a net increasing trend in biomass and spawning stock biomass is above the PRI. SG100 is met.

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	60-79
Information gap indicator	More information sought

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Skipjack	90
North Pacific albacore	80
Japanese anchovies	60
Minor species	100
Overall Performance Indicator score	75
Condition number (if relevant)	4

PI 2.1.2 – Primary species management strategy

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are measures in place for the UoA, if necessary, that are expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are likely to be above the PRI.	There is a partial strategy in place for the UoA, if necessary, that is expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are highly likely to be above the PRI.	There is a strategy in place for the UoA for managing main and minor primary species.
	Met?	Yes – All species	Yes – All species	Yes – Skipjack, Pacific sardine, Pacific bluefin tuna No – North Pacific albacore, Japanese anchovy, Yellowfin tuna, Bigeye tuna

Rationale

Main species:

Skipjack:

Management measures in place for skipjack as a stock are discussed in detail in sections 6.3.6 - 6.3.9 (Principle 1 background). CMM2018-01 sets out WCPFC's approach to a management regime ensuring skipjack sustainability, that will apply until a harvest strategy is developed. The CMM states that management measures applied will ensure (as a minimum) that the stock is maintained at a level compatible with MSY. A limit reference point ($20\%SB_{F=0}$) has been adopted. An interim target reference point has also been agreed, of 50 % of the recent average spawning biomass in the absence of fishing (CMM 2015-06). Management measures at the stock level include gear restrictions and effort controls, capacity limits, and catch limits. Data collection and provision requirements also apply. For pole and line fishing specifically, CMM2018-01 provisions for "other commercial fisheries" apply, i.e. unless fisheries are taking <2,000 t, catches are capped at either the average level for the period 2001-2004 or the level of 2004. The CMM is annually reviewed, and there are mechanisms by which fishing practices can be modified in light of the identification of unacceptable impacts. CMM2014-06, updated most recently in 2019, sets out WCPFC's agreement to develop a harvest strategy for this species. A management procedure for skipjack that will supersede the interim provisions set out in CMM2018-01 is currently scheduled for completion in 2022.

At the UoA level, measures in place for vessels operating as part of the distant water pole and line and offshore pole and line fleets include a voluntary initiative to reduce fishing capacity, conformance with which is reported to Japan's Fisheries Agency. This involves vessels staying in port for at least 10 days per year. Vessels operating as part of NOTFA must also undertake three fishing suspension periods in the month of July. (Weather conditions resulting from typhoons, and summer vacations, do not comprise suspension periods, though one period may be counted if a vessel develops engine problems). For vessels operating under NOTFA, measures in place include a voluntary skipjack catch limit of 50,000 t. Catch accumulation towards this voluntary limit is monitored through monthly reporting to the secretariat of each prefecture. The voluntary limit is reconsidered when catch reaches 40,000 t. The limit of 50,000 t has never been reached, though one year 47,000 t of catch was landed. This led to discussions of potential future catch control measures such as ITQ (which were ultimately not progressed). Fishing licences are issued to vessels 5-yearly, which provides for some management of catching capacity.

There are measures, a partial strategy and a strategy in place for the UoA for managing skipjack. **SG60, SG80 and SG100 are met.**

North Pacific albacore:

Management measures for this stock are described in sections 6.4.6 - 6.4.8 (Principle 1 Background). An interim harvest strategy was adopted in 2017, with an interim limit reference point of 20 %SB_{F=0}. There is no target reference point adopted as yet, and development of this is expected to be progressed through management strategy evaluation. The stated management objective is to "*maintain the biomass, with reasonable variability, around its current level in order to allow recent exploitation levels to continue and with a low risk of breaching the limit reference point*". If spawning stock size falls below the LRP, a CMM to achieve rebuilding to the LRP (or above) within not more than 10 years would be developed and recommended to the Commission by the Northern Committee.

CMM2019-03 records the agreement of the Commission to not increase total fishing effort, and of CCMs to not exceed average annual fishing effort for the period 2002-2004. This CMM also documents agreement to report catch, and to maintain or reduce fishing effort (as necessary) to ensure the long-term sustainability of the stock. Committees that monitor stock status and provide management advice for the consideration of the WCPFC are identified in the CMM. WCPFC coordinates with IATTC on management of this stock and WCPFC CMM2019-03 is mirrored by IATTC Resolution C-05-02, with respect to fishing effort restrictions in place for this stock in the eastern Pacific Ocean.

There is no target reference point and the stock must fall below the LRP to trigger action on rebuilding, which comprises a recommendation to the Commission. The recommendation would be expected to establish effort reductions, but may also include other (unspecified) measures. Falling below the LRP prior to initiating management action is not aligned with the WCPFC position (i.e. that harvest strategies should ensure the risk of falling below LRP does not exceed 20 %). The mechanisms by which fishing practices can be modified would be identified as considered appropriate in response to this depletion (which in this case comprises "unacceptable impacts").

Vessels operating in the UoA are issued with fishing five-yearly licences, providing some ability to manage fishing capacity. There are no other UoA-specific management measures in place, though there is an operational limit in place in that fishing for this species only occurs about 3 months of the year. There is a partial strategy in place for the UoA, that is expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are highly likely to be above the PRI. SG60 and SG80 are met. A strategy is not in place and SG100 is not met.

Japanese anchovy:

The only measure in place that is expected to not hinder rebuilding of this species to levels which are likely to be above the PRI is operational – that is, the scale of the fishery, which in effect sets a limit on the amount of bait used (i.e. 1.5 % of the catch in the anchovy fishery in 2018, and 0.6 % of the stock biomass). SG60 is met.

This operational management measure caps bait use, which would contribute to the fishery to meet SG80 of the Outcome PI (MSC FS 2.01 Table GSA3: “*For a “partial strategy”, specific measures may not have been designed to manage the impact on that component specifically, but if such a measure/ measures are effective in assisting the UoA to achieve the SG80 level for the primary or secondary species Outcome PI then this could be considered as a management measure under the primary or secondary species Management Strategy PI.*”.) Further, GSA 3.4.6 notes that: “*even if the total catch of a species is clearly hindering recovery, UoA catches of less than 30 % of the total catch of a species may not normally be influential in hindering a recovery in a marginal sense*”. While the restraint on bait use is indirect, if the fishery used anchovy bait entirely, that would still represent an order of magnitude less than the total catch from the anchovy stock. On that basis, SG80 requiring a partial strategy for the UoA that is expected to not hinder rebuilding of the main primary species at/to levels which are highly likely to be above the PRI is met. SG80 is met

A strategy is not in place and SG100 not met.

Minor species:

Yellowfin tuna:

CMM2018-01 sets out WCPFC’s approach to a transitional management regime that will apply until a harvest strategy is developed. CMM2014-06, updated in 2019, provides the current schedule for developing a harvest strategy for yellowfin. Previously agreed timeframes have been delayed such that in 2022, the development of management procedures is planned. The eventual adoption of a harvest strategy would occur in a subsequent year. The CMM states that management measures applied will ensure (as a minimum) that the stock is maintained at a level compatible with MSY. While agreement is reached on a target reference point for yellowfin, CMM2018-01 records the Commission’s agreement that “*the spawning biomass depletion ratio (SB/SBF=0) is to be maintained at or above the average SB/SBF=0 for 2012-2015*”.

A limit reference point (20 %SB_{F=0}) has been adopted. Management measures include gear restrictions and effort controls, capacity limits, and catch limits. Data collection and provision requirements also apply. CMM2018-01 provisions for “other commercial fisheries” apply to pole and line fishing, i.e. unless fisheries are taking <2,000 t, catches are capped at either the average level for the period 2001-2004 or the level of 2004. CCMs are required to implement measures as necessary to ensure specified total catches are not exceeded. The CMM is reviewed annually, and there are mechanisms by which fishing practices can be modified in light of the identification of unacceptable impacts. SG60 and SG80 are met

For yellowfin, while a combination of measures applies at a stock level, there are no specific measures that comprise a strategy at the UoA level. SG100 is not met.

Bigeye tuna:

CMM2018-01 describes WCPFC’s approach to a transitional management regime that will apply until a harvest strategy is developed for this species. The CMM states that management measures applied will ensure (as a minimum) that the stock is maintained at a level compatible with MSY. While agreement is reached on a target reference point for bigeye tuna, the Commission has agreed that “*the spawning biomass depletion ratio (SB/SBF=0) is to be maintained at or above the average SB/SBF=0 for 2012-2015*”.

As for skipjack and yellowfin, a limit reference point (20 %SB_{F=0}) has also been adopted for bigeye tuna. Management measures include capacity and catch limits. Data collection and provision requirements are specified. For pole and line fishing, CMM2018-01 provisions for “other commercial fisheries” apply, i.e., unless <2,000 t is taken, catches are

capped at either the average level for the period 2001-2004 or the level of 2004. CCMs are required to implement measures as necessary to ensure specified total catches are not exceeded. The CMM is reviewed annually, and there are mechanisms by which fishing practices can be modified in light of the identification of unacceptable impacts.

CMM2014-06, updated in 2019, records the current schedule for developing a harvest strategy for bigeye tuna. Timeframes have been delayed such that in 2022, the development of management procedures is planned. The eventual adoption of a harvest strategy would occur in a later year.

There is a national limit set in Japan on the number of high seas days of operation and number of permitted vessels. For bigeye tuna, management measures apply at a stock level. Based on the information available currently, SG60 and SG80 are met, SG100 is not met.

Pacific bluefin tuna:

WCPFC adopted a harvest strategy for this stock in 2017 (Harvest Strategy 2017-02). The initial rebuilding target is that by 2024, there is at least 60 % probability that the stock will reach the median SSB estimated for the period 1952 through 2014 ($6.7\%SSB_{F=0}$). The strategy includes a second rebuilding target: for the stock size of 20 % $SSB_{F=0}$ by 2034, or 10 years after reaching the initial rebuilding target (whichever occurs sooner), with at least 60 % probability. The probability of meeting these targets is 96 % with the management measures currently in place (WCPFC CMM 2018-02 and IATTC Resolution C-18-01) (Pacific Bluefin Working Group 2018a). Target and limit reference points have not been formally adopted.

CMM2019-02 sets out management measures for Pacific bluefin tuna, which include catch limits, fishing effort restrictions (benchmarked relative to average annual catch for 2002-2004), monitoring and reporting requirements. Within the relevant legal frameworks, CCMs also agree to address commercial transactions of this species which would undermine the efficacy of the CMM.

UoA-specific management measures include an experimental catch limit introduced in January 2018, and an instruction to avoid catch of this species and report all incidences of this. The Fisheries Agency allocates an amount of catch of this species to NOTFA, against which fishers report back daily. When catches approach 70 % of the allocation, particular care is to manage any additional catch including sharing information at sea to avoid catch and stopping fishing on a school if catch of this species is likely. Until (and including) 2019, there was no subdivision of the allocated Pacific bluefin catch between longline and pole and line sectors. For 2020, agreement between the sectors has been reached such that each has access to 50 % of the allocated Pacific bluefin catch. SG60, SG80 and SG100 are met.

Pacific sardine:

A management goal, harvest control rule and TAC are all in place for this stock. Fishing licences are the main tool for effort control, and these are issued to vessels active in the fishery for periods of five years. For the UoA specifically, the scale of the fishing operation comprises an operational measure that constrains the amount of sardine bait used. Together these measures comprise a strategy for this species and SG60, SG80 and SG100 are met.

b Management strategy evaluation				
	Guide	The measures are considered likely to work, based on plausible argument (e.g., general	There is some objective basis for confidence that the measures/partial strategy will work, based on	Testing supports high confidence that the partial strategy/strategy will work, based on

	post	experience, theory or comparison with similar fisheries/species).	some information directly about the fishery and/or species involved.	information directly about the fishery and/or species involved.
	Met?	Yes – All species	Yes – All species	No – All species

Rationale
Main species:
Skipjack:

The management framework for skipjack includes objectives, target and limit reference points, and operational measures such as controls on fishing effort, and catch and capacity limits. The management framework is supported by ongoing data collection and analysis. These elements are all well recognised as effective components of a fisheries management framework, with numerous examples of implementation worldwide. General experience provides a plausible argument that the measures in place for skipjack are likely to work. SG60 is met.

There is an extensive body of information available about skipjack and the fishery as managed by WCPFC. This body of information continues to grow, due to ongoing data collection and analytical work (including stock assessments). Therefore, there is some objective basis for confidence that the measures/partial strategy that apply stock-wide will work. The UoA specific measures that apply appear likely to work, provided that conformance occurs (as they are voluntary measures).

Overall, there is an objective basis for confidence that the measures/partial strategy will work, based on information directly about the fishery involved. SG80 is met.

Management strategy evaluation is planned for 2021, as part of the progression towards adoption of a management procedure in 2022. While the findings and outputs of research and analytical work offer a strong foundation for management, the target reference point for skipjack has not been reached in a decade. Failure to reach the target reference point at the stock level does not support high confidence that the partial strategy/strategy will work. SG100 is not met.

North Pacific albacore:

At the stock level, fishing effort controls are a cornerstone of the operational management of north Pacific albacore catch, with harvest levels framed by a specified management objective, an interim harvest strategy, and an agreed limit reference point. While there are some inconsistencies between elements of the partial strategy (see scoring issue 2.1.2(a)), controlling fishing effort should be broadly effective in managing catch taken (noting that variability in catchability / CPUE will affect this). Therefore, there is some objective basis for confidence that the measures/partial strategy will work, based on some information directly about the fishery and/or species involved. UoA-specific management controls consist of licences for this species (which provides some control over capacity). SG60 and SG80 are met.

Management strategy evaluation has been initiated for this stock, and a second round is planned to further compare selected harvest control rules. Testing is in progress, but it cannot be concluded as yet that this supports high confidence that the partial strategy/strategy will work, based on information directly about the fishery and/or species involved. SG100 is not met.

Japanese anchovy:

Currently, there is no biologically-based mechanism in place for managing catch in the anchovy fishery, from which bait is sourced by the UoA. However, the operational measure constraining bait use (i.e. scale of the fishery) is considered likely to work. Further, information about the fishery under assessment (e.g. number of vessels involved) and species (amount of total catch in the anchovy fishery) provides an objective basis for confidence that the measure will work. SG60 and SG80 are met.

Testing has not occurred to provide high confidence that the partial strategy/strategy will work, based on information directly about the fishery and/or species involved. SG100 is not met.

Minor species:

Yellowfin tuna, Bigeye tuna

Strategies are not in place for these minor species and testing has not occurred. Therefore, SG100 is not met.

Pacific bluefin tuna, Pacific sardine:

For these species, testing does not yet support high confidence that the strategy will work. For example, for Pacific bluefin, some elements of the strategy have been very recently introduced and for Pacific sardine, it is uncertain whether the TAC works to limit catch. SG100 is not met.

c Management strategy implementation			
	Guide post		
	Met?		
		There is some evidence that the measures/partial strategy is being implemented successfully .	There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its overall objective as set out in scoring issue (a).
		Yes – All species	No – All species

Rationale

Main species:

Skipjack:

Some evidence that the measures/partial strategy is working is provided by the stock status, which is above PRI. The stock is considered to be moderately exploited, not overfished and not subject to overfishing. This is underpinned by information collected from fishing operations (e.g. catch reporting). At the UoA level, catch data provide evidence of conformance with the voluntary catch limit of 50,000 t. SG80 is met.

While the current status of the stock is above PRI, the target reference point has not been reached in a decade. The target reference point is a component of the stock management strategy. Therefore, while overall, the stock status is above PRI and the objective set out in scoring issue (a) is being achieved, there is not clear evidence that the strategy is being implemented successfully in its entirety. Further, no on-vessel monitoring appears to occur among the UoA (e.g. observer monitoring of catch). SG100 is not met.

North Pacific albacore:

This stock has been above PRI since 1993, providing some evidence that the measures/partial strategy is being implemented successfully. SG80 is met.

There continues to be some probability of female SSB to dipping below LRP in future projections (with the extent varying in accordance with assumptions relating to fishing pressure or catch, and recognition that uncertainties around female SSB remain relatively high), precluding the conclusion that there is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its overall objective as set out in scoring issue (a). No at-sea catch monitoring occurs among the UoA vessels. SG100 is not met.

Japanese anchovy:

Some evidence that the operational measure constraining impact on this bait stock is being implemented successfully is provided by bait use information recorded by the UoA. SG80 is met.

Bait information is available to estimate usage across the UoA in 2019. While it is expected to be the case, additional information over time would be required to provide clear evidence that the partial strategy/strategy is being implemented successfully. SG100 is not met.

Minor species:

Yellowfin tuna, Bigeye tuna :

Strategies are not in place for these minor species. SG100 is not met.

Pacific sardine:

Stock assessments provide some evidence that the partial strategy/strategy is being implemented successfully and is achieving its overall objective as set out in scoring issue (a). There is also some evidence, provided by bait use information from the UoA, that the operational measure constraining UoA impacts on this bait stock is being implemented successfully. Bait information is available to estimate usage for the UoA in 2019. Additional information over time would be required to provide clear evidence that the partial strategy/strategy is being implemented successfully. SG100 is not met.

Pacific bluefin tuna:

While there is some evidence of the strategy for this species being implemented, and preliminary indications of success in achieving its objective, additional information over time is needed to provide clear evidence of this. SG100 is not met.

d Shark finning			
Guide post	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark finning is not taking place.
	Met?	NA	NA

Rationale

Sharks are not primary species in this fishery. Therefore, this Scoring Issue is not scored.

e Review of alternative measures			
Guide post	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main primary species.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main primary species and they are implemented as appropriate.	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of all primary species, and they are implemented, as appropriate.
	Met?	NA	NA

Rationale

There appears to be no unwanted catch of primary species caught in the UoA or the fisheries from which bait is sourced (see section 0). There is a small amount of gear lost by the fishing operation. However, ghost fishing resulting from this gear loss is expected to be negligible to non-existent, due to the barbless unbaited hooks used. This scoring issue is not scored.

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	Information sufficient to score the PIs, but more information sought at site visit

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Skipjack	85
North Pacific albacore:	80
Japanese anchovy	80
Minor species	
Japanese sardine	85
Pacific Bluefin tuna	85
Yellowfin tuna	80
Bigeye tuna	80
Overall Performance Indicator score	80
Condition number (if relevant)	-

PI 2.1.3 – Primary species information

PI 2.1.3		Information on the nature and extent of primary species is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage primary species		
Scoring Issue		SG 60	SG 80	SG 100
a	Information adequacy for assessment of impact on main primary species			
	Guide post	<p>Qualitative information is adequate to estimate the impact of the UoA on the main primary species with respect to status.</p> <p>OR</p> <p>If RBF is used to score PI 2.1.1 for the UoA:</p> <p>Qualitative information is adequate to estimate productivity and susceptibility attributes for main primary species.</p>	<p>Some quantitative information is available and is adequate to assess the impact of the UoA on the main primary species with respect to status.</p> <p>OR</p> <p>If RBF is used to score PI 2.1.1 for the UoA:</p> <p>Some quantitative information is adequate to assess productivity and susceptibility attributes for main primary species.</p>	Quantitative information is available and is adequate to assess with a high degree of certainty the impact of the UoA on main primary species with respect to status.
	Met?	Yes	Yes	Yes

Rationale

Quantitative information about the UoA includes catch reporting, and bait use which is adequate to assess the impact of the UoA on main primary species with respect to status. SG60 and SG80 are met.

Assessment of the UoA impact with a high degree of certainty is possible, e.g. considering the UoA catch as a component of total catch of the main primary species stocks. While only one year of quantitative bait information is available to estimate the impact of the UoA on Japanese anchovy, the proportion of the total harvest of this species (and stock biomass) that this comprises is small, which enables the UoA impact to be assessed with a high degree of certainty. SG100 is met.

b	Information adequacy for assessment of impact on minor primary species	
	Guide post	Some quantitative information is adequate to estimate the impact of the UoA on minor primary species with respect to status.

	Met?	Yes
Rationale		

Catch reporting and bait use data provide some quantitative information that is adequate to estimate the impact of the UoA on minor primary species with respect to status. There is an extensive body of quantitative information on minor species from beyond the UoA which also informs this estimation. SG100 is met.

c		Information adequacy for management strategy		
Guide post	Information is adequate to support measures to manage main primary species.	Information is adequate to support a partial strategy to manage main primary species.	Information is adequate to support a strategy to manage all primary species, and evaluate with a high degree of certainty whether the strategy is achieving its objective.	
Met?	Yes	Yes	No	

Rationale

There is an extensive body of quantitative information available on the main species relevant to the UoA (e.g. see section 6.6.4). This includes catch information (stock-wide), biological information, and catch reporting from within the UoA. Information is adequate to support a partial strategy to manage main primary species. SG60 and SG80 are met.

Information is also adequate to support a strategy to manage all primary species. However, the lack of at-sea monitoring constrains information verification and it is not possible to evaluate with a high degree of certainty whether the strategy is achieving its objective. SG100 is not met.

References

Same as for PI 2.1.1 and 2.1.2

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	95
Condition number (if relevant)	-

PI 2.2.1 – Secondary species outcome

PI 2.2.1		The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit		
Scoring Issue		SG 60	SG 80	SG 100
a	Main secondary species stock status			
	Guide post	<p>Main secondary species are likely to be above biologically based limits.</p> <p>OR</p> <p>If below biologically based limits, there are measures in place expected to ensure that the UoA does not hinder recovery and rebuilding.</p>	<p>Main secondary species are highly likely to be above biologically based limits.</p> <p>OR</p> <p>If below biologically based limits, there is either evidence of recovery or a demonstrably effective partial strategy in place such that the UoA does not hinder recovery and rebuilding.</p> <p>AND</p> <p>Where catches of a main secondary species outside of biological limits are considerable, there is either evidence of recovery or a, demonstrably effective strategy in place between those MSC UoAs that have considerable catches of the species, to ensure that they collectively do not hinder recovery and rebuilding.</p>	There is a high degree of certainty that main secondary species are above biologically based limits.
Met?	NA	NA	NA	NA

Rationale

There are no main secondary species. Therefore, this Scoring Issue is not applicable⁵.

b	Minor secondary species stock status	
Guide post		Minor secondary species are highly likely to be above biologically based limits. OR If below biologically based limits', there is evidence that the UoA does not hinder the recovery and rebuilding of secondary species.
Met?		No

Rationale

A stock assessment for swordfish is available that confirms that this species is above biologically based limits. Catch records provide insight into the extent of UoA impacts. However, evidence is not available to show that all other minor secondary species are highly likely to be above biologically based limits, or that the UoA does not hinder the recovery and rebuilding of these species. SG100 is not met.

References

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	More information sought

⁵ (see MSC interpretation log: <https://mscportal.force.com/interpret/s/article/P2-species-outcome-PIs-scoring-when-no-main-or-no-minor-or-both-PI-2-1-1-1527262009344>)

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	80
Condition number (if relevant)	-

PI 2.2.2 – Secondary species management strategy

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are measures in place, if necessary, which are expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be above biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a partial strategy in place, if necessary, for the UoA that is expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be above biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a strategy in place for the UoA for managing main and minor secondary species.
	Met?	Yes	Yes	No

Rationale

There are no main secondary species, therefore the SG60 and SG80 requirements are met by default.

A strategy is not in place for managing all minor secondary species. SG100 is not met.

b	Management strategy evaluation			
	Guide post	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar UoAs/species).	There is some objective basis for confidence that the measures/partial strategy will work, based on some information directly about the UoA and/or species involved.	Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the UoA and/or species involved.
	Met?	Yes	Yes	No

Rationale

There are no main secondary species caught (i.e., relevant to the measures or partial strategy). Consequently, the SG60 and SG80 requirements are met by default.

A strategy is not in place for managing minor secondary species and testing has not occurred. Therefore, SG100 is not met.

c	Management strategy implementation			
	Guide post	There is some evidence that the measures/partial strategy is being implemented successfully .	There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective as set out in scoring issue (a).	
	Met?	Yes	No	

Rationale

There are no main secondary species caught (as relevant to the measures or partial strategy), therefore the SG80 requirement is met by default.

There is not a strategy in place for managing minor species. Therefore, SG100 is not met.

d	Shark finning			
	Guide post	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark finning is not taking place.
	Met?	Yes	Yes	No

Rationale

Extremely low levels of shark captures are documented in fishery data (Table 19; prior to the time series shown, 1 tonne of shark catch was recorded in 2005 and 2 tonnes in 2009) and captures of larger sharks are reported as impossible with the fishing gear used. Fishers aim to dislodge any smaller sharks off hooks without bringing them aboard. If sharks cannot be dislodged in that way, they are released after dehooking onboard. No sharks are retained. As a result, it is considered highly likely that shark finning is not taking place. SG60 and SG80 are met.

There is no at-sea monitoring undertaken in this fishery. Therefore, it cannot be concluded that there is a high degree of certainty that shark finning is not taking place. SG100 is not met.

e	Review of alternative measures to minimise mortality of unwanted catch			
	Guide post	There is a review of the potential effectiveness and practicality of alternative measures to minimise	There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of

		UoA-related mortality of unwanted catch of main secondary species.	of unwanted catch of main secondary species and they are implemented as appropriate.	unwanted catch of all secondary species, and they are implemented, as appropriate.
Met?	Yes		Yes	No

Rationale

There are no main secondary species, therefore SG60 and SG80 are scored by default. For the minor secondary species caught (see section 6.6.5), there is no biennial review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch SG100 is therefore not met. There is a small amount of gear lost by the fishing operation. However, the risk of ghost fishing resulting from this gear loss is expected to be negligible, due to the barbless unbaited hooks used.

References

Same as PI 2.1.2, and PI 2.2.1.

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	More information sought

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	80
Condition number (if relevant)	-

PI 2.2.3 – Secondary species information

PI 2.2.3		Information on the nature and amount of secondary species taken is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage secondary species		
Scoring Issue		SG 60	SG 80	SG 100
a	Information adequacy for assessment of impacts on main secondary species			
	Guide post	Qualitative information is adequate to estimate the impact of the UoA on the main secondary species with respect to status. OR If RBF is used to score PI 2.2.1 for the UoA: Qualitative information is adequate to estimate productivity and susceptibility attributes for main secondary species.	Some quantitative information is available and adequate to assess the impact of the UoA on main secondary species with respect to status. OR If RBF is used to score PI 2.2.1 for the UoA: Some quantitative information is adequate to assess productivity and susceptibility attributes for main secondary species.	Quantitative information is available and adequate to assess with a high degree of certainty the impact of the UoA on main secondary species with respect to status.
	Met?	NA	NA	NA

Rationale

There are no main secondary species. Therefore, this Scoring Issue is not applicable.

b	Information adequacy for assessment of impacts on minor secondary species			
	Guide post			Some quantitative information is adequate to estimate the impact of the UoA on minor secondary species with respect to status.
	Met?			Yes

Rationale

Some quantitative information is available from the UoA on catch of minor species. Catches of some secondary minor species are very low (e.g. red sea bream), while others are caught in larger quantities (e.g. longtail tuna). Overall, catches of minor secondary species reported from the UoA comprise a small percent of known WCPO catches, and/or these species tend to be broadly distributed such that any UoA impacts occur within a small proportion of the species' ranges. Information is adequate to estimate the impact of the UoA on these species, with respect to status. SG100 is met.

Information adequacy for management strategy				
	Guide post	Information is adequate to support measures to manage main secondary species.	Information is adequate to support a partial strategy to manage main secondary species.	Information is adequate to support a strategy to manage all secondary species, and evaluate with a high degree of certainty whether the strategy is achieving its objective .
Met?	Yes	Yes		No

Rationale

There are no main secondary species. Consequently, SG60 and SG80 are met by default.

Information is not adequate to support a strategy to manage all secondary species and evaluate with a high degree of certainty whether the strategy is achieving its objective. SG100 is not met.

References

Same as PI 2.1.1; PI 2.2.1

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	90
Condition number (if relevant)	-

PI 2.3.1 – ETP species outcome

PI 2.3.1		The UoA meets national and international requirements for the protection of ETP species The UoA does not hinder recovery of ETP species		
Scoring Issue		SG 60	SG 80	SG 100
a	Effects of the UoA on population/stock within national or international limits, where applicable			
	Guide post	Where national and/or international requirements set limits for ETP species, the effects of the UoA on the population/ stock are known and likely to be within these limits.	Where national and/or international requirements set limits for ETP species, the combined effects of the MSC UoAs on the population /stock are known and highly likely to be within these limits.	Where national and/or international requirements set limits for ETP species, there is a high degree of certainty that the combined effects of the MSC UoAs are within these limits.
	Met?	NA	NA	NA

Rationale

There are no national or international limits that apply to the ETP interacting with this fishery (seabirds). This Scoring Issue is not scored.

b	Direct effects			
Guide post	Known direct effects of the UoA are likely to not hinder recovery of ETP species.	Direct effects of the UoA are highly likely to not hinder recovery of ETP species.	There is a high degree of confidence that there are no significant detrimental direct effects of the UoA on ETP species.	
Met?	Yes	Yes	No	

Rationale

The pole and line fishing method is highly selective and does not interact with most ETP. The hooks used are too small to capture larger ETP species and hooks are not baited. Among ETP, seabirds are the exception. Given the qualitative information on seabird interactions, it is considered highly unlikely that the UoA would hinder seabird recovery. However, in light of the lack of quantitative information on seabird interactions the Risk Based Framework was used to score this Performance Indicator for seabirds (Appendix 8).

Overall, the direct effects of the UoA are highly likely to not hinder recovery of ETP species (seabirds, in the case of this fishery). SG60 and SG80 are met. SG100 is not met.

c	Indirect effects		
	Guide post	Indirect effects have been considered for the UoA and are thought to be highly likely to not create unacceptable impacts.	There is a high degree of confidence that there are no significant detrimental indirect effects of the UoA on ETP species.
	Met?	N/A	N/A

Rationale

The Risk Based Framework was used to score this Performance Indicator. Therefore, this scoring issue is not scored.

References

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	More information sought

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	95
Condition number (if relevant)	-

PI 2.3.2 – ETP species management strategy

PI 2.3.2		<p>The UoA has in place precautionary management strategies designed to:</p> <p>meet national and international requirements;</p> <p>ensure the UoA does not hinder recovery of ETP species.</p> <p>Also, the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of ETP species</p>		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place (national and international requirements)			
Guide post	There are measures in place that minimise the UoA-related mortality of ETP species, and are expected to be highly likely to achieve national and international requirements for the protection of ETP species.	There is a strategy in place for managing the UoA's impact on ETP species, including measures to minimise mortality, which is designed to be highly likely to achieve national and international requirements for the protection of ETP species.	There is a comprehensive strategy in place for managing the UoA's impact on ETP species, including measures to minimise mortality, which is designed to achieve above national and international requirements for the protection of ETP species.	
Met?	Yes	Yes	Yes	No

Rationale

ETP interactions are managed operationally through the use of the pole and line method. This fishing method is highly selective. Barbless, unbaited hooks are used, and these are too small to capture larger ETP species. Being barbless, these hooks also facilitate the release of any non-target species caught. Because the hooks are barbless, any birds caught can be unhooked and released rapidly. Although the impact of these measures has not been studied in this fishery, the same methods used in the Maldivian pole-and-line fishery have allowed the low-level of seabirds caught to be released swiftly and all seabirds caught flew away apparently uninjured. Although long-term survival was not studied, all birds reportedly 'flew away strongly' upon release (Miller et al. 2017). If the release of ETP from hooks is not feasible, the fishing line can be readily cut without bringing ETP animals onboard the vessel. For seabirds, use of a horn is reported to discourage birds from interacting with fishing activity. The measures in place are expected to achieve national requirements, as set out by Law No. 75 (see section 6.6.6).

International requirements for ETP protection are set out in WCPFC CMMs. However, the nature and extent of ETP interactions with this fishery (i.e., being limited to seabirds) limits the relevance of these CMM requirements. In effect therefore, the operational strategy in place achieves international requirements.

Overall, there is a strategy in place for managing the UoA's impact on ETP species, including some measures to minimise mortality, which is highly likely to achieve national and international requirements for the protection of ETP species. SG60 and SG80 are met.

A comprehensive strategy is a complete and tested strategy made up of linked monitoring, analyses, and management measures and responses (MSC FCR v2.01, Table SA8). There is no monitoring of ETP interactions in this fishery and analyses are not undertaken or linked to management measures and responses. Therefore, SG100 is not met.

b Management strategy in place (alternative)			
Guide post	There are measures in place that are expected to ensure the UoA does not hinder the recovery of ETP species.	There is a strategy in place that is expected to ensure the UoA does not hinder the recovery of ETP species.	There is a comprehensive strategy in place for managing ETP species, to ensure the UoA does not hinder the recovery of ETP species.
Met?	NA	NA	NA

Rationale

There are national and international requirements in place for the protection of ETP species. Therefore, this Scoring Issue is not scored.

c Management strategy evaluation			
Guide post	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).	There is an objective basis for confidence that the measures/strategy will work, based on information directly about the fishery and/or the species involved.	The strategy/comprehensive strategy is mainly based on information directly about the fishery and/or species involved, and a quantitative analysis supports high confidence that the strategy will work.
Met?	Yes	Yes	No

Rationale

The main component of the strategy for managing ETP interactions in the UoA is the pole and line fishing method itself. Experience from other pole and line fisheries (e.g. Kiseleva et al. 2014; Akroyd et al. 2016; Seip-Markensteijn et al. 2019) supports plausible argument that the measures are likely to work. SG60 is met.

Information from this fishery provides an objective basis for confidence that the strategy will work. ETP interactions are infrequent, qualitatively described as limited to seabirds, and the gear does not effectively capture larger ETP. SG80 is met.

Quantitative analysis relating to ETP captures has not been conducted. Therefore, SG100 is not met.

d Management strategy implementation			
Guide post		There is some evidence that the measures/strategy is being implemented successfully.	There is clear evidence that the strategy/comprehensive strategy is being implemented successfully and is achieving its objective as set out in scoring issue (a) or (b) .
Met?		Yes	No

Rationale

The fishing operation involves the sole use of the pole and line fishing method, and vessels are configured for the use of this method. Based on information from this fishery and other fisheries using this method, ETP captures seldom occur. Information currently available comprises some evidence that the strategy is being implemented successfully. Whilst mitigation measures for seabird interactions have not been tested in this fishery, similar fishing methods have been investigated with respect to ETP bycatch, specifically the Maldivian pole-and-line fishery. In that fishery, the small number of seabirds caught were released swiftly and all seabirds “flew away strongly” upon release (Miller et al. 2017). SG80 is met.

No monitoring or reporting of ETP captures occurs in the fishery. Therefore, it cannot be concluded that there is clear evidence that the strategy is being implemented successfully and is achieving its objective as set out in scoring issue (b). *SG100 is not met*.

e Review of alternative measures to minimize mortality of ETP species			
Guide post	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of ETP species.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of ETP species and they are implemented as appropriate.	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality ETP species, and they are implemented, as appropriate.
Met?	Yes	No	No

Rationale

UoA-related mortality of ETP would occur as a result of hooking or entanglement in fishing gear, and is expected to be limited in nature and extent as described above (e.g. larger ETP species will not be affected) though quantitative information is not available. Methods for release of ETP to promote survival have been considered by WCPFC and documented. Specifically, CMM2018-03 Attachment N contains recommended best practice for handling and release of seabirds after capture in hook fisheries.

It appears that regular review of alternative measures to minimise mortality of ETP species is undertaken by the management body (with seabirds being relevant to this fishery). It appears that the findings of these reviews are not considered by the UoA, and it is not clear that measures are implemented if appropriate. The efficacy of rapid removal of any non-target species from hooks as reported, cutting the fishing line if the hook cannot be readily removed, and use of the horns for deterring attending seabirds are unknown. **SG60 is met.** With the information currently available, SG80 is not.

Biennial review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality ETP species, does not appear to take place. SG100 is not met.

References

Akroyd, J., Stokes, K. and Nagano, K. 2016. MSC Sustainable Fisheries Certification: Japanese Pole and Line Skipjack and Albacore Fishery Public Certification Report. Acoura Marine Ltd.

Kiseleva, A., Stokes, K., Akroyd, J. and Chaudbury, S. 2014. Initial assessment of the PT Citraraja Ampat, Sorong pole and line Skipjack and Yellowfin Tuna fishery. Public Certification Report. Project No. PRJC-564937-2017-MSC-NOR. DNV GL Business Assurance.

Miller, K., Nadheeh, I., Jauharee, A.R., Anderson, R.C. and Adam, M.S. 2017. Bycatch in the Maldivian pole-and-line tuna fishery. PLoS ONE 12(5): e0177391. <https://doi.org/10.1371/journal.pone.0177391>

Seip-Markensteijn, C., Gascoigne, J., Drugan, J. and Tamura, Y. 2019. Marine Stewardship Council (MSC) Public Certification Report Ishihara Marine Products Albacore and Skipjack Pole and Line Fishery. On behalf of Ishihara Marine Products Ltd. Prepared by Control Union Pesca Ltd.

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	60-79
Information gap indicator	More information sought

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	75
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Condition number (if relevant)

5

PI 2.3.3 – ETP species information

PI 2.3.3		Relevant information is collected to support the management of UoA impacts on ETP species, including: Information for the development of the management strategy; Information to assess the effectiveness of the management strategy; and Information to determine the outcome status of ETP species		
Scoring Issue		SG 60	SG 80	SG 100
a	Information adequacy for assessment of impacts			
	Guide post	Qualitative information is adequate to estimate the UoA related mortality of ETP species. OR If RBF is used to score PI 2.3.1 for the UoA: Qualitative information is adequate to estimate productivity and susceptibility attributes for ETP species.	Some quantitative information is adequate to assess the UoA related mortality and impact and to determine whether the UoA may be a threat to protection and recovery of the ETP species. OR If RBF is used to score PI 2.3.1 for the UoA: Some quantitative information is adequate to assess productivity and susceptibility attributes for ETP species.	Quantitative information is available to assess with a high degree of certainty the magnitude of UoA-related impacts, mortalities and injuries and the consequences for the status of ETP species.
	Met?	Yes	Yes	No

Rationale

The Risk Based Framework was used to score 2.3.1, consequently, the alternative SI requirements are considered for this scoring issue.

Information available on the pole and line fishing method, and its implementation by the UoA, establishes that the UoA-related mortality of ETP species is highly likely to be low (as a result of a low level of interactions with some ETP and because larger ETP cannot interact with the fishing gear at all). Qualitative information is adequate to estimate the UoA-related mortality of ETP species. SG60 is met.

It is reported that any seabirds that are captured are released alive. However, there is no quantitative information available on the species caught or number of capture events that occur, or the fate of seabirds released after being hooked. It is considered highly unlikely that the UoA is a threat to the protection and recovery of any ETP species with which it interacts. Some quantitative information is adequate to assess productivity and susceptibility attributes for ETP species, therefore SG80 is also met.

b Information adequacy for management strategy			
Guide post	Information is adequate to support measures to manage the impacts on ETP species.	Information is adequate to measure trends and support a strategy to manage impacts on ETP species.	Information is adequate to support a comprehensive strategy to manage impacts, minimize mortality and injury of ETP species, and evaluate with a high degree of certainty whether a strategy is achieving its objectives.
Met?	Yes	No	No

Rationale

The mechanism by which ETP interact with the fishery is through interaction with fishing gear. Interactions are understood to occur at low levels for seabirds, and larger ETP species cannot be captured (because of the size of the hooks used in the fishery). Information on the use of barbless hooks and swift release of any captured seabirds in this fishery, together with information from other pole and line fisheries on ETP impacts (Miller et al. (2017), and on safe handling practices to promote post-release survival (WCPFC 2020) is adequate to support measures to manage impacts on ETP species. SG60 is met.

There is no information available with which to measure trends in ETP interactions (e.g. seabird catch reports). Therefore, information is not adequate to measure trends and SG80 is not met. Information is also not adequate to support a comprehensive strategy (which involves linked monitoring, analyses, and management measures and responses). SG100 is not met.

References

Same as PI 2.3.1 and 2.3.2

WCPFC. 2020 Attachment N: Supplement to CMM2018-03 Information on safe handling and release of seabirds. WCPFC Commission 16th Regular Session, Port Moresby, Papua New Guinea 5 – 11 December 2019.

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	60-79
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Information gap indicator

More information sought

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score

70

Condition number (if relevant)

6

PI 2.4.1 – Habitats outcome

PI 2.4.1		The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(s) responsible for fisheries management in the area(s) where the UoA operates		
Scoring Issue		SG 60	SG 80	SG 100
a	Commonly encountered habitat status			
	Guide post	The UoA is unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.	The UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.	There is evidence that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.
Met?		Yes	Yes	Yes

Rationale

Fishing activity is restricted to the surface waters of the epipelagic zone, because of the method used. Therefore, commonly encountered habitats comprise the epipelagic zone within the UoA area of operation. The gear is transient in these habitats, with no impacts after fishing activity is completed (except if gear is lost). Gear may be lost through poles snapping if particularly large fish are hooked; this is reported to occur very rarely. Attempts are made to retain broken gear (such that the fished school is not startled by gear falling on the sea surface). Overall, the characteristics of the fishing operation provide evidence that the UoA is highly unlikely to reduce the structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm. SG60, SG80 and SG100 are met.

b		VME habitat status		
Guide post	The UoA is unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	The UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	There is evidence that the UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	
Met?	NA		NA	NA

Rationale

Pole and line gear operate in the surface layers of epipelagic waters. Therefore, this gear will not interact with VMEs. There are no known VME impacts due to FADs (VMEs are not known to occur at FAD locations). FADs are limited in number, not placed by the UoA and used only occasionally around Okinawa, where most FADs located in waters more than 1,000 m deep. Therefore, this scoring issue is not scored.

c	Minor habitat status Guide post Met?		There is evidence that the UoA is highly unlikely to reduce structure and function of the minor habitats to a point where there would be serious or irreversible harm. Yes
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Rationale

Minor habitats include those affected by FADs and any lost gear. Gear loss is reported to occur infrequently (2-3 times/year on a vessel), and may result from poles snapping when large fish are hooked. Attempts are made to retain broken pieces of rods onboard, to avoid startling schooling target fish. Fishing occasionally occurs around FADs placed by other fishers in Okinawa. The maximum number of FADs that can be placed in Okinawan waters is 200. It is considered highly unlikely that this opportunistic use of FADs is such that the UoA activities have severe impacts on minor habitats.

Overall, the nature of the fishing operation, extent of known gear loss, and known impacts of FADs make it highly unlikely that the UoA would reduce the structure and function of minor habitats to a point where there would be serious or irreversible harm. SG100 is met.

References

Ohta, I. and Kakuma, S. 2005. Periodic behaviour and residence time of yellowfin and bigeye tuna associated with fish aggregating devices around Okinawa Islands, as identified with automated listening stations. *Marine Biology* 146: 581 – 594.

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	More information sought

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	100
Condition number (if relevant)	-

PI 2.4.2 – Habitats management strategy

PI 2.4.2		There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats		
Scoring Issue	SG 60	SG 80	SG 100	
a	Management strategy in place			
	Guide post	There are measures in place, if necessary, that are expected to achieve the Habitat Outcome 80 level of performance.	There is a partial strategy in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above.	There is a strategy in place for managing the impact of all MSC UoAs/non-MSC fisheries on habitats.
	Met?	Yes	Yes	No

Rationale

The pole and line method is a well-established, highly-selective technique for targeting tuna species in surface waters. The gear, and fishing operation, have no lasting impacts on the commonly encountered habitats after gear is removed from the water. There is a small amount of gear loss reported to occur in this fishery, which may have longer term impacts. However, these would not be expected to affect habitats such that there would be serious or irreversible harm. Overall, the use of the pole and line fishing method comprises a measure, and a partial strategy, that is expected to achieve the Habitat Outcome 80 level of performance or above. SG60 and SG80 are met.

At SG100, management of gear loss⁶ and minor habitat impacts are considered. The extent of gear loss in this fishery is considered to be low, and there are incentives in place for gear retention (including replacement costs in some cases, if an entire pole is lost). However, the amount of gear lost is not monitored or reported quantitatively, and risks to habitat are not specifically considered. There does not appear to be a strategy in place to manage the habitat impacts of FADs.

The MSC-certified Japanese Pole and Line Skipjack and Albacore Fishery (operated by Meiho Gyogyo Ltd, <https://fisheries.msc.org/en/fisheries/japanese-pole-and-line-skipjack-and-albacore-tuna-fishery/@@view>) overlaps with the UoAs evaluated in this assessment. The habitat impacts of that fishery were assessed under v1.3 of the MSC Certification Requirements, with the conclusion drawn that fishing practices comprised an operational strategy that effectively managed habitat impacts. Gear loss was not considered. FADs are not used by that fishery. The Ishihara Marine Products albacore and skipjack pole and line fishery also overlaps (<https://fisheries.msc.org/en/fisheries/ishihara-marine-products-albacore-and-skipjack-pole-and-line-fishery/@@view>), with that assessment conducted using v2.0 of the

⁶ MSC (2018) Table GSA8

MSC Fisheries Standard. That fishery does not use FADs, and the assessment team found that the gear used and fishing operation comprised an operational strategy for managing habitat impacts.

No information is available on the management of habitat impacts of non-MSC fisheries in these regions.

Overall, a strategy is not in place for managing the impact of all MSC UoAs/non-MSC fisheries on habitats. SG100 is not met.

b Management strategy evaluation				
Guide post	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar UoAs/habitats).	There is some objective basis for confidence that the measures/partial strategy will work, based on information directly about the UoA and/or habitats involved.	Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the UoA and/or habitats involved.	
Met?	Yes	Yes	Yes	

Rationale

The pole and line method is designed for use in shallow surface waters, and to not contact the sea floor. Therefore, the use of this method is considered likely to work based on plausible argument. SG60 is met.

Vessels in the UoA solely use the pole and line method to harvest the target species. Therefore, there is some objective basis for confidence that the partial strategy will work, based on directly about the UoA and habitats involved. SG80 is met.

The ongoing use of this fishing method in the UoA (and other fisheries) comprises testing to support high confidence that the partial strategy will work (the fishery has no known impacts on VMEs). SG100 is met.

c Management strategy implementation				
Guide post		There is some quantitative evidence that the measures/partial strategy is being implemented successfully.	There is clear quantitative evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective, as outlined in scoring issue (a).	
Met?		Yes	Yes	

Rationale

Quantitative evidence that the partial strategy is being implemented successfully is provided by logbook information. This includes the location of fishing activity (see the overview in Figure 6), number of poles used, and catch composition (which demonstrates that the catch comprises only pelagic species) (Table 19 - Table 21). The pole and line fishing method is the cornerstone of the partial strategy. Overall, there is clear quantitative evidence that the partial strategy is being implemented successfully and is achieving its objective, as outlined in scoring issue (a). SG80 and SG100 are met.

d Compliance with management requirements and other MSC UoAs'/non-MSC fisheries' measures to protect VMEs				
	Guide post	There is qualitative evidence that the UoA complies with its management requirements to protect VMEs.	There is some quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.	There is clear quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.
Met?	NA		NA	NA

Rationale

The UoA does not make contact with VMEs, because gear operates in epipelagic waters. Fishing operations also do not occur in proximity to seamounts and reefs. This scoring issue is not scored.

References

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Seip-Markensteijn, C., Gascoigne, J., Drugan, J. and Tamura, Y. 2019. Marine Stewardship Council (MSC) Public Certification Report Ishihara Marine Products Albacore and Skipjack Pole and Line Fishery. On behalf of Ishihara Marine Products Ltd. Prepared by Control Union Pesca Ltd.

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	95
Condition number (if relevant)	-

PI 2.4.3 – Habitats information

PI 2.4.3		Information is adequate to determine the risk posed to the habitat by the UoA and the effectiveness of the strategy to manage impacts on the habitat		
Scoring Issue		SG 60	SG 80	SG 100
a	Information quality			
Guide post	The types and distribution of the main habitats are broadly understood . OR If CSA is used to score PI 2.4.1 for the UoA: Qualitative information is adequate to estimate the types and distribution of the main habitats.	The nature, distribution and vulnerability of the main habitats in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA. OR If CSA is used to score PI 2.4.1 for the UoA: Some quantitative information is available and is adequate to estimate the types and distribution of the main habitats.	The distribution of all habitats is known over their range, with particular attention to the occurrence of vulnerable habitats.	
Met?	Yes	Yes		No

Rationale

The main habitat affected by the UoA is the epipelagic zone. The distribution of this zone is broadly understood. **SG60 is met**.

The impacts of the fishery on this zone are transient and it is not considered to be a vulnerable habitat. Therefore, overall the nature, distribution and vulnerability of the main habitats in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA. **SG80 is met**.

Based on currently available information, habitats affected by FADs are considered as minor habitats. The nature of these habitats is unknown, therefore distribution cannot be assessed over their range, with particular attention to the occurrence of vulnerable habitats. **SG100 is not met**.

b	Information adequacy for assessment of impacts			
Guide post	Information is adequate to broadly understand the nature of the main impacts of gear use on	Information is adequate to allow for identification of the main impacts of the UoA on the main habitats, and there is reliable information on the	The physical impacts of the gear on all habitats have been quantified fully.	

		<p>the main habitats, including spatial overlap of habitat with fishing gear.</p> <p>OR</p> <p>If CSA is used to score PI 2.4.1 for the UoA:</p> <p>Qualitative information is adequate to estimate the consequence and spatial attributes of the main habitats.</p>	<p>spatial extent of interaction and on the timing and location of use of the fishing gear.</p> <p>OR</p> <p>If CSA is used to score PI 2.4.1 for the UoA:</p> <p>Some quantitative information is available and is adequate to estimate the consequence and spatial attributes of the main habitats.</p>	
Met?	Yes	Yes	Yes	No

Rationale

The location of fishing activity is the primary determinant of habitat impacts in this fishery, which occur in the surface layers of the epipelagic zone. The location of fishing activity is recorded in logbooks and vessel locations are known from VMS. The impacts of the gear on the main habitats are transient, only occurring when gear is in the water. Information is adequate to broadly understand the nature of the main impacts of gear use on the main habitats, including spatial overlap of habitat with fishing gear. SG60 is met.

Information is also adequate to allow for identification of the main impacts of the UoA on the main habitats. There is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear. SG80 is met.

The physical impacts of the gear on all habitats have not been quantified fully. SG100 is not met.

Monitoring			
Guide post	Adequate information continues to be collected to detect any increase in risk to the main habitats.	Changes in all habitat distributions over time are measured.	
Met?	Yes	No	

Rationale

Fishers are required to record their fishing locations, therefore, any changes in risk to the main habitats would be detectable. Adequate information continues to be collected to detect any increase in risk to the main habitats. SG80 is met.

Changes in all habitat distributions over time are not measured. SG100 is not met.

References

Same as PI 2.4.1 and 2.4.2

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	More information sought

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	80
Condition number (if relevant)	-

PI 2.5.1 – Ecosystem outcome

PI 2.5.1		The UoA does not cause serious or irreversible harm to the key elements of ecosystem structure and function		
Scoring Issue		SG 60	SG 80	SG 100
a	Ecosystem status			
	Guide post	The UoA is unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	The UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	There is evidence that the UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.
	Met?	Yes	Yes	Yes

Rationale

Fishing operations are carried out by the UoA in Japanese waters and on the high seas, in the warm temperate zone, subtropical zone and tropical zones. Closer to Japan, two ocean currents (the Kuroshio and Oyashio) are important for the fishery. The fishery itself has no impact on these currents and zones, which are defining for marine ecosystems. The pole and line fishing method is highly selective, and the substantive majority of the catch is of the target species, skipjack and albacore. A small proportion of the reported annual catch is of these species is caught by the UoA. A significant amount of research (including modelling) has been undertaken to investigate the impact of tuna fishing in the WCPO, and this is ongoing. Ecosystem impacts of tuna removals include, e.g., changes in the relative abundance of different predator taxa. However, among the body of information available, there is no evidence of disruption causing serious or irreversible harm (e.g. Allain 2004, 2010; Lehodey et al. 2008, 2014; Hunsicker et al. 2012; see section 0).

Interactions with ETP species are minimal due to the nature of the fishing method (with seabirds being the most likely to interact, and very low levels of such interactions reported, see section 6.6.6).

The proportion of the bait fishery total catches used by the UoA are less than 1.5 %, and also comprise less than 1 % of the stock biomasses for each bait these species (see section 6.6.4). While it is depleted, Japanese anchovy is one of an assemblage of small pelagic fish (SPF) that occur around the Japanese archipelago. Ecosystem indicators show that the Kuroshio Current system is largely dependent on the mid-trophic level species such as SPFs, and large-scale fluctuations of biomass in these species (e.g. anchovy and Japanese sardine) highlight that there is some resilience to perturbation in the system. Predators tend to be generalists, further reducing the likelihood of the UoA disrupting ecosystem elements to the point of serious or irreversible harm.

In conclusion, the UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm. SG60 and SG80 are met. Further, there is evidence that the UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm. SG100 is met.

References

- Allain, V. 2004. Ecopath model of the pelagic ecosystem of the WCPO and related projects. SCTB17 Working Paper INFO-ECO-1. Oceanic Fisheries Programme, Secretariat of the Pacific Community.
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- Lehodey, P., Senina, I., Titaud, O., Calmettes, B., Conchon, A., Dragon, A., Nicol, S., Caillot, S., Hampton, J. and Williams, P. 2014. Project 62: SEAPODYM applications in WCPO. WCPFC-SC10-2014/EB-WP-02. Revision 1, 23 July 2014.
- Yatsu, A. 2019. Review of population dynamics and management of small pelagic fishes around the Japanese Archipelago. Fisheries Science 85: 611–639. <https://doi.org/10.1007/s12562-019-01305-3>

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	100
Condition number (if relevant)	-

PI 2.5.2 – Ecosystem management strategy

PI 2.5.2		There are measures in place to ensure the UoA does not pose a risk of serious or irreversible harm to ecosystem structure and function		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are measures in place, if necessary, which take into account the potential impacts of the UoA on key elements of the ecosystem.	There is a partial strategy in place, if necessary, which takes into account available information and is expected to restrain impacts of the UoA on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance.	There is a strategy that consists of a plan, in place which contains measures to address all main impacts of the UoA on the ecosystem , and at least some of these measures are in place.
	Met?	Yes	Yes	No

Rationale

The Convention underpinning the activities of WCPFC includes high-level objectives relating to target, non-target and associated and dependent species. Further, there are numerous Conservation and Management Measures in place that are intended to manage the impacts of the UoA on the ecosystem. Such CMMs include, for example, CMM 2018-01, 2019-02, 2019-03, 2011-04 and 2013-08. For bait species, the operational measure that limits the UoA's ecosystem impact is the extent of fishing effort (and therefore the amount of bait used) (see section 6.6.4). Broader ecosystem impacts include pollution, and 2017-04 sets out provisions that encourage CCMs to address waste disposal at sea, including a prohibition on plastic waste discharge (excluding fishing gear). Further management measures in place include the Act on Prevention of Marine Pollution and Maritime Disaster, which outlines how on-board waste must be disposed of, which includes requirements on reporting waste and ensuring management practices. In addition, vessels have booklets on-board titled "Regulations for the Prevention of Pollution from Ship Generated Waste" and a placard titled "Standards for the discharge of waste from ships" affixed to the bridge. These provide procedures on on-board waste management.

Together, these measures comprise a partial strategy, which takes into account available information and is expected to restrain impacts of the UoA on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance. SG60 and SG80 are met.

There does not appear to be a strategy that consists of a plan, in place which contains measures to address all main impacts of the UoA on the ecosystem, and at least some of these measures are in place. SG100 is not met.

b	Management strategy evaluation
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	Guide post	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar UoAs/ ecosystems).	There is some objective basis for confidence that the measures/ partial strategy will work , based on some information directly about the UoA and/or the ecosystem involved.	Testing supports high confidence that the partial strategy/ strategy will work, based on information directly about the UoA and/or ecosystem involved.
	Met?	Yes	Yes	No

Rationale

The measures in place to manage ecosystem impacts of the fishery were based on information from both the fishery and the wider ecosystem involved. These are considered likely to work based on plausible argument (e.g. catch limits restraining the ecosystem impacts of removing target species). SG60 is met.

There is a considerable information base available about the ecosystems in which the fishery occurs both closer to Japan (where the Kuroshio and Oyashio currents flow) and the wider WCPO. For example, a significant volume of ecosystem-related research outputs is available through WCPFC (<https://www.wcpfc.int/about-wcpfc>) and SPC (<https://www.spc.int/resource-centre>) reports. This supporting information collected from the fishery and the region provides some objective basis for confidence that the partial strategy will work. SG80 is met.

Testing (for example, through modelling work) provides some confidence that the partial strategy will work. However, it is premature to conclude that testing supports high confidence that the partial strategy will work, based on information directly about the UoA and/or ecosystem involved. SG100 is not met.

c Management strategy implementation				
	Guide post			
		There is some evidence that the measures/partial strategy is being implemented successfully .		There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective as set out in scoring issue (a).
	Met?	Yes		No

Rationale

Evidence that the partial strategy is being implemented successfully includes WCPFC-wide stock management information (such as target species catch information and stock assessments), research findings relating to ecosystem structure and function, and information about the UoA (e.g. including bait usage and catch information). SG80 is met. There is no monitoring in place on the UoA vessels. Therefore, clear evidence directly from the UoA is not available. SG100 is not met.

References

Same as PI 2.5.1

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	80
Condition number (if relevant)	-

PI 2.5.3 – Ecosystem information

PI 2.5.3		There is adequate knowledge of the impacts of the UoA on the ecosystem		
Scoring Issue		SG 60	SG 80	SG 100
a	Information quality			
Guide post	Information is adequate to identify the key elements of the ecosystem.		Information is adequate to broadly understand the key elements of the ecosystem.	
	Met?	Yes	Yes	

Rationale

The broad information base acquired from the WCPFC to date, and including the Kuroshio and Oyashio Large Marine Ecosystems, is adequate to identify the key elements of the ecosystem. A large amount of this information has been reported through WCPFC and SPC, and therefore is widely available for consideration by fishery managers. The key elements of ecosystem, as relevant to the UoA, are identified and broadly understood. For example, the functions of key ecosystem elements are generally known (e.g. Brouwer et al. 2019 and references within). SG60 and SG80 are met.

b	Investigation of UoA impacts			
Guide post	Main impacts of the UoA on these key ecosystem elements can be inferred from existing information, but have not been investigated in detail .	Main impacts of the UoA on these key ecosystem elements can be inferred from existing information, and some have been investigated in detail .	Main interactions between the UoA and these ecosystem elements can be inferred from existing information, and have been investigated in detail .	
Met?	Yes	Yes	No	

Rationale

Main impacts on the ecosystem due to the UoA activities include removal of target and other catch species. The effects of biomass removal for tuna species have been actively researched in the Pacific Ocean (e.g. Allain 2004, 2010; Sibert et al. 2006; Allain et al. 2007; Hunsicker et al. 2012; Lehodey et al. 2008, 2014). This work has included a large amount of information, but limitations reported include the need to make broad assumptions (e.g. about species diets) when local information is not available.

Climate change effects have also been considered for primary species especially. For example, eastern distribution shifts are predicted to be stronger for skipjack and yellowfin, than bigeye and albacore. Overall, the effects of fishing are predicted to remain a more significant influence on biomass of these species than climate change through the medium term (Senina et al. 2018; Brouwer et al. 2019).

The main impacts of the UoA on key ecosystem elements can be inferred and some have been investigated in detail. SG60 and SG80 are met.

While the main interactions between the UoA and key ecosystem elements can be inferred, not all have been investigated in detail. SG100 is not met.

c Understanding of component functions		
Guide post	The main functions of the components (i.e., P1 target species, primary, secondary and ETP species and Habitats) in the ecosystem are known .	The impacts of the UoA on P1 target species, primary, secondary and ETP species and Habitats are identified and the main functions of these components in the ecosystem are understood .
Met?	Yes	No

Rationale

The main functions of the components in the ecosystem are known (e.g. the trophic web is broadly defined). SG80 is met.

Investigation of the impacts of Pacific tuna fisheries has focused on the target species and top predators, with more variable levels of information about other species and species groups. The main functions of these groups are known, though ecosystem modelling has required assumptions to be made when local information is not available. Impacts of the UoA on ETP seabirds are not well known and any impacts of FADs on habitat function are unidentified. SG100 is not met.

d Information relevance		
Guide post	Adequate information is available on the impacts of the UoA on these components to allow some of the main consequences for the ecosystem to be inferred.	Adequate information is available on the impacts of the UoA on the components and elements to allow the main consequences for the ecosystem to be inferred.
Met?	Yes	No

Rationale

Adequate information is available on the impacts of the UoA on these components to allow some of the main consequences for the ecosystem to be inferred. Information on the target (P1) species is most extensive. The available knowledge base and modelling work allows some of the main consequences for the ecosystem to be investigated. SG80 is met.

There are some components and elements for which the impacts of the UoA are not well known (e.g. relating to FADs and seabird interactions). In the absence of information on impacts, the main consequences for the ecosystem cannot be inferred. SG100 is not met.

e	Monitoring		
	Guide post	Adequate data continue to be collected to detect any increase in risk level.	Information is adequate to support the development of strategies to manage ecosystem impacts.
Rationale	Met?	Yes	Yes

Logbook data are collected from the UoA on an ongoing basis, and research on ecosystems in which the target species occur in the Pacific continues (including through WCPFC and SPC initiatives). Within the area of operation of the UoA, the lack of data collection on ETP seabirds is addressed in 2.3.3, and potential FAD impacts are noted under 2.4.3. At an ecosystem scale where the most substantive effects manifest as a result of target species removals, adequate data appear to be collected to detect any increase in risk level. SG80 is met.

While there are specific data gaps from the UoA on some ecosystem elements, overall, there is a substantial body of ecosystem information available about the Pacific and the impacts of removing the target species. Information available is adequate to support the development of strategies to manage ecosystem impacts. SG100 is met.

References

- Allain, V. 2004. Ecopath model of the pelagic ecosystem of the WCPO and related projects. SCTB17 Working Paper INFO-ECO-1. Oceanic Fisheries Programme, Secretariat of the Pacific Community.
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- Brouwer, S., Pilling, G., Hampton, J., Williams, P., Vincent, M. and Peatman, T. 2019. The Western and Central Pacific tuna fishery: 2018 overview and status of stocks. Oceanic Fisheries Programme. Tuna Fisheries Assessment Report No. 19. Pacific Community.

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	85
Condition number (if relevant)	-

6.7 Principle Three: Management system background

6.7.1 Jurisdictions within the area of operation

The fishery under assessment takes place mostly within Japanese EEZ, but also in the high seas, all within the Western and Central Pacific Ocean (WCPO). It targets skipjack tuna and North Pacific albacore tuna and both of them are highly migratory species (HMS). The target species are therefore subject to both national and RFMO measures and policy.

Skipjack tuna in the Western Central Pacific Ocean (WCPO) is under the management jurisdiction of the WCPFC (Western Central Pacific Fisheries Commission). North Pacific albacore tuna in the Northern Pacific Ocean is under the jurisdiction of the Inter-American Tropical Tuna Commission (IATTC) and the WCPFC, since the NP albacore stock occurs in both the WCPFC and the IATTC Convention areas.

Stock assessments for NP albacore are carried out by the ISC; the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean. ISC is the science service provider for the Northern Committee, but NP albacore is not officially designated as a northern stock. Although, the ISC and the Northern Committee have an informal agreement for the stock assessment. In 2012-13 there was a request to formalize this situation, but it was not supported by the Scientific Committee of WCPFC. Unlike the SPC, the ISC does not have its own office or infrastructure, and works by convening working groups of scientists from member countries to address different issues.

United Nations Convention on the Law of the Sea (UNCLOS), Article 63 or 64 states that highly migratory fish species that migrate through several EEZs and/or several high seas are managed by cooperation among coastal and fishing countries and countries who are fishing in the area, directly or based on the decisions of relevant RFMOs. As a signatory to the UNCLOS, Japan's 'Our Countries Marine Biological Resources Management Policy' (which is updated annually by the JFA) explicitly states this, and Japan manages HMFS directly based on the decisions of RFMOs (MAFF, 2017).

As a member of WCPFC and IATTC, Japan is legally bound to implement relevant CCMs issued by them and also required to report information back to the organization for its implementation status. All distant-water fisheries and offshore fisheries are managed directly by the Ministry of Agriculture, Forestry and Fisheries (MAFF) and the fisheries are operated with Minister-issued licenses. The fishery under assessment is licensed as "nearshore and offshore skipjack/albacore fisheries" and fishing licences are issued directly by the minister.

6.7.2 Legal and customary framework

There are three management frameworks to be considered in this fishery, 1; the international framework set by RFMOs, 2; Japan's national framework through the MAFF and the Japanese Fisheries Agency (JFA) as implementing agency, with 3; co-management by Fisheries Cooperatives, to implement JFA's policies and regulations. The fishery under assessment belongs to NOTFA (National Offshore Tuna Fisheries Association), as well as 2 prefectoral skipjack and tuna fishery cooperatives that belongs to NOTFA.

6.7.3 International framework by RFMOs

Regarding the management of skipjack and tuna resources, two RFMOs have established international cooperation mechanisms to manage the shared highly migratory resources. The WCPFC manages skipjack resources in the western and central Pacific Ocean (WCPO) and WCPFC and IATTC share the

management responsibilities of albacore resources in the WCPO, with the same resources (NP albacore) distributing in its Convention area.

The RFMOs have concluded a number of Memoranda of Understanding (MOU) with related organisations. There are shared responsibilities between RFMOs, mainly WCPFC, IATTC, IOTC (Indian Ocean Tuna Commission), and Commission for the Conservation of Southern Bluefin Tuna (CCSBT). WCPFC also cooperates with numerous other organisations in the region including the Secretariat of the Pacific Community (Oceanic Fisheries Programme), Pacific Islands Forum Fisheries Agency (FFA), the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC), the Secretariat for the Pacific Regional Environment Programme (SPREP), and the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR).

The decisions taken at RFMOs are binding among the members of the Commission and Cooperating non-members (CCMs) and Japan is a member of both RFMOs (WCPFC and IATTC). Resolutions are non-binding statements and recommendations addressed to CCMs, but Conservation and Management Measures (CMMs) are binding from the year of adoption.

WCPFC was established by the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the WCPO. The WCPFC, as the most recently established tuna RFMO, has incorporated some of the most progressive provisions from the international treaties (Miller et al 2014). The WCPFC is tasked to co-ordinate scientific research and make recommendations designed to maintain populations of tuna and species sharing the same ecosystem at levels that will prevent recruitment failure and permit maximum sustainable yield (WCPFC, 2020). The Convention has a Commission, which works to create conservation and management measures (CMMs), developed under the terms of the Convention.

The WCPF Convention draws on many of the provisions of the UN Fish Stocks Agreement (UNFSA) and explicitly commits to precautionary approach on the fisheries management. It has also adopted the dispute settlement provision of the UN Fish Stocks Agreement to disputes between WCPFC Members (Art 31). It seeks to implement catch limits and effort limits, and adopt measures to minimize waste, discards, catch by lost or abandoned gear, pollution originating from fishing vessels, catch of non-target species, and impacts on associated or dependent species, in particular endangered species and promote the development and use of selective, environmentally safe and cost-effective fishing gear and techniques (WCPFC, 2000). The opportunity to become a member or a co-operating non-member is open to all. In particular, the small island nations are well represented through the Pacific Islands Forum Fisheries Agency (FFA).

The IATTC was established by the “Antigua Convention”, a Convention for the Establishment of an Inter-American Tropical Tuna Commission, signed between the United States and Costa Rica in 1949. The Antigua Convention explicitly recognizes the UNCLOS of 1982, the Rio Declaration on Environment and Development and Agenda 21, the FAO Code of Conduct for Responsible Fisheries (1995), and the 1995 UNFSA.

Both the WCPFC and IATTC have an intention and a management system that observes the legal rights created explicitly or established by custom for people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2: The WCPFC considers common allocation principles such as historical participation, the rights of Coastal States and the rights of developing States.

Japan has signed and ratified the United Nations Convention on the Law of the Sea (UNCLOS) in 1996, the United Nations Fish Stock Agreement (FSA) and FAO Code of conduct for responsible Fisheries,

and supports 4 International Plans of Action (IPOA) on management of sea birds, sharks, fishing capacity and IUU fishing.

The Japanese fisheries management system is governed primarily by the Fisheries Law (1949), with the most recent revision in 2018. The Ministry of Agriculture, Forestry and Fisheries (MAFF) administers the law. The Fisheries Basic Act (2001), the overarching framework for the management of fisheries in Japan, requires conservation and management of fisheries resources, to ensure its sustainable use as a component of marine ecosystem, in accordance with the UNCLOS Chapter 1, article 2. The Law of Conservation and Management of Marine Living Resources (LCMMLR) guides to protect surrounding ecosystem and habitat.

Under the Fisheries Cooperative Law, all fishermen in Japan must belong to a fishery cooperative (FC) that oversee a specific area or specific group of fisheries and license issuances. Compliance implementation of all regulations are managed through these FCs in coordination with governments agencies. The combination of top-down and bottom-up management approach in Japan is a so-called co-management approach.

Japan is also a signatory to MARPOL. The Ministry of Agriculture, Forestry and Fisheries (MAFF) takes care of implementing the FAO Code and MARPOL legislation. The FAO Code supervises the marking and identification of vessels, while the MARPOL Convention prevents pollution from vessels.

6.7.4 Consultation, roles and responsibilities

National Offshore Tuna Fisheries Association (NOTFA, or Kinkatsu in Japanese) was established in 1982. The association serves for Japanese pole and line and longline tuna fishermen members to jointly benefit through cooperation. NOTFA consists of skipjack and albacore tuna fishermen's organizations, such as cooperatives (FCs) and councils, who's members all operate fishing vessels less than 120 gross tonnages. There are 15 member-organisations in total. In this assessment, 2 fishermen's organisations (cooperatives) take part: One from Kochi Prefecture, and another from Miyazaki Prefecture.

The main purpose of NOTFA is to ensure business stability for members and sound development of the offshore skipjack and tuna fishing industry, to serve seafood supplies to Japanese market. They focus to development of the fishing industry through improvement of the industry's structure, securing the fishing grounds, technology development, etc.

Of the total 56 pole and line vessels over 20 belonging to NOTFA, 19 vessels take part in this assessment (see Table 4). These vessels are from the Kochi and Miyazaki FCs. The other members from other prefectures are not under this assessment.

Other than NOTFA, the key industry stakeholder groups for distant-water tuna fisheries includes the Japan Tuna and Skipjack Fisheries Co-operative Association (JTSFCA), the Japan Distant Water Tuna Fishery Association (JDWTFA), the Japan Adjacent Sea Tuna Fishery Association (JASTFA) and the Japan Far Seas Purse Seine Fishing Association (JFSPSFA). These organizations represent the interests of the tuna fisheries at regular consultation meetings organized by the government, and participate in RFMO meetings with stakeholders to ensure collective opinions of stakeholders are reflected in Japan's proposal and negotiations.

NOTFA, a Fisheries Cooperative (FC) that the fisheries under assessment belongs to, regularly holds consultation meetings. NOTFA members of the Study Group for Skipjack Fisheries Issues also meet twice a year (May-June and December) to discuss the possible management actions, with participation

of the administration and scientists. The government support accelerates the active participation of NOTFA members in decision-making around management plans and mechanisms for implementation of such plans within the association. Rules agreed between members are reported to Director-General of the Fisheries Agency for approval as a formal fisheries management plan. NOTFA establishes their own voluntary management plan, while guiding fishers to implement them.

Ministry of Agriculture, Forestry and Fishery (MAFF) is responsible for preserving and managing marine biological resources and fisheries production activities in Japan. The Fisheries Agency (FA) is the department within MAFF responsible for preserving and managing marine biological resources and fishery production activities. The FA maintains several research institutes, such as Japan Fisheries Research and Education Agency (also called Fisheries Research Agency, FRA).

The Fisheries Research Agency (FRA), an incorporated administrative agency, conducts a wide range of research and development activities on fisheries, from basic research and application to practical use. The National Research Institute of Far Seas Fisheries (NRIFSF) was established at Shimizu city (now Shizuoka city), Shizuoka prefecture in 1967. As one of the national research institutes of the FA, NRIFSF covers the research for tunas, whales, walleye pollock, snapper, squids, and krill caught by the Japanese fisheries operating widely in the Pacific, Indian, Atlantic and Antarctic Oceans. Following the directions determined domestically within the FA and industry regular meetings, the FRA scientists take part in the Scientific Committee, Northern Committee and Technical and Compliance Committee of the WCPFC.

The National Research and Development Agency, Japan Fisheries Research and Education Agency (FRA) was established on April 1, 2016 through a merger of the Fisheries Research Agency and the National Fisheries University. The FRA aims to maximize research and development (R&D) outcomes as the only comprehensive fisheries R&D organization in Japan. The National Research Institute of Far Seas Fisheries (NRIFSF) was established at Shizuoka city in 1967. As one of the national research institutes of the FA, NRIFSF covers the research for tunas, whales, and other international stocks commercially fished by Japan, and works in collaboration with RFMO's scientific committees globally in providing data and scientific analysis.

World Wide Fund for Nature (WWF) is an active tuna-lobbying environmental NGO, and participates in international meetings including RFMOs. They regularly update reports of the meetings on their website, and inform the public on the proceedings. Because of its large presence, it is usually the only NGO that is invited to the Japanese government tuna discussions, if they are open to NGOs. E.g., the WWF is involved in the management objectives and commission processes as part of the Japanese delegation to the WCPFC. These discussions were not open to all NGOs or interested stakeholders, but in 2017, FA and the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC) held a call for all interested stakeholders to participate in the discussion, before a decision was brought to the WCPFC meeting. It is currently not clear if this practice becomes routine.

6.7.5 Decision making processes

In the Memorandum of Cooperation between WCPFC and ISC (ISC, 2020a), WCPFC's functions are described as below:

- Adopts measures to ensure long-term sustainability of highly migratory fish stocks in the Convention Area and promote the objective of their optimum utilization;
- Ensures that such measures are based on the best scientific evidence available and are designed to maintain or restore stocks at levels capable of producing maximum

sustainable yield, as qualified by relevant environmental and economic factors, including the special requirements of developing States in the Convention Area, particularly small island developing States, and taking into account fishing patterns, the interdependence of stocks and any generally recommended international minimum standards, whether sub regional, regional, or global;

- Assesses the impacts of fishing, other human activities and environmental factors on target stocks, non-target species, and species belonging to the same ecosystem or dependent upon or associated with the target stocks;
- Collects and shares, in a timely manner, complete and accurate data concerning fishing activities on, *inter alia*, vessel position, catch of target and non-target species and fishing effort, as well as information from national and international research programs;
- Establishes a committee, which shall be called the Northern Committee, to make recommendations on the implementation of such conservation and management measures as may be adopted by the Commission for the area north of the 20 parallel of north latitude and on the formulation of such measures in respect of stocks which occur mostly in this area;

Skipjack

Stock assessments are carried out by the Oceanic Fisheries Programme (OFP) of the Secretariat of the Pacific Community (SPC). Stock assessments for North Pacific (NP) albacore are carried out by the ISC, who periodically convene an Albacore Working Group (ALBWG) for stock assessments. Both skipjack and albacore were last reviewed by the WCPFC Scientific Committee (SC). The SC conducts annual assessments, reflecting current concerns with status of stocks or uncertainty in the assessments. Procedures and stock assessment methodology for the assessments are discussed among scientists of the WCPFC, though important technical changes are made in response to methodological advances, working papers presented, and external reviews.

After reviewing the stock assessments from each stock's science provider organizations, SC provides a stock assessment summary document and scientific advice to WCPFC to be agreed by the Commission. Generally, multiple, relevant working papers are presented to support the decision. The NC meets in September and makes scientific recommendations to the Commission for species distributing in North Pacific Ocean. WCPFC NC can request from the SPC and ISC the scientific information and advice for response prior to each meeting. The ISC's albacore working group, is currently led by Mr. Kiyofuji at FRA. The stock assessment of albacore, ISC reports to the Northern Committee of WCPFC as well as to IATTC, so that both RFMOs can make decisions on management, although the CCMs will be harmonized later.

The WCPFC has three subsidiary bodies to support the decision-making of the Commission and which meet prior to the Commission meeting held every December: these are the Scientific Committee (SC), Technical and Compliance Committee (TCC), and The Northern Committee (NC). Each committee is comprised of representatives of member states. Each committee is comprised of representatives of member states. Decisions taken by the Commission are generally done by consensus, however if consensus cannot be reached, voting, grounds for appealing decisions, conciliation and review can be used as a part of the decision-making process, as described in Article 20 of the Convention. Decisions made in the scientific committee, at the commission and other committees are usually explained in its documents published and available through the RFMO's website.

The IATTC accepts stakeholders such as fishing industry representative, NGOs, and other affected or interested individuals. Similarly, for the WCPFC, there are established guidelines for observer participation at IATTC. The opportunity to become a member or a cooperating non-member is open to all countries.

At the national level, the Japanese Fisheries Policy Council plays a key role in consultation processes that regularly seek and accept relevant information including local knowledge to incorporate into management measures. The council meeting is open for all interested parties, but only invited persons are allowed to make comments in the meeting.

The JFA regularly undertakes both formal and informal consultation with fishing industry stakeholders and other groups. FA regularly undertakes both formal and informal consultation with fishing industry stakeholders and other groups. The other key industry stakeholder groups, apart from NOFTA, are the Japan Tuna Fisheries Co-operative Association (JTFCA), the Japan Distant Water Tuna Fishery Association (JDWTFA), the Japan Far Seas Purse Seine Fishing Association (JFSPSFA) and Federation of North Pacific District Purse Seine Fisheries Co-Operative Association (KITAMAKI). These organizations represent the interests of the tuna fisheries. The government interacts throughout the year with industry stakeholders through these co-operative associations to consult on the management directions.

Through NOTFA, the client group (JOPFSC) has opportunities to provide information and requests to the Japanese government. The results are reviewed by the Fisheries Research Agencies to be discussed with Regional Fisheries Management Organizations (RFMOs).

Decisions at WCPFC, are by consensus and if necessary, by voting (majority required) and decisions are binding. Members may be required an independent review on a decision to ensure it is consistent with the Convention. Conservation and management measures (CMMs) are binding but resolutions are non-binding.

The FA is responsible for distribution and publication of Convention decisions and outcomes to the relevant agencies and fishing industries in Japan. The Japanese government issues a White Paper annually, describing trends in fisheries and an updated fisheries policy overview.

6.7.6 Long- and short-term objectives

Chapter 1, Article 2 of the Fisheries Basic Act (2001), is also an overarching framework for the management of fisheries in Japan and requires conservation and management of fisheries resources to ensure its sustainable use as a component of marine ecosystem, following UNCLOS, which Japan ratified in 1996.

The Law of Conservation and Management of Marine Living Resources (1996) legally enshrines Japan's commitment to "maximum sustainable production" and sets TAC and TAE systems and ABC calculation rules. The law also guides to protect surrounding ecosystem and habitat. Japan formally accepted the 1992 UN Convention on Biological Diversity. This formally commits Japan to the Precautionary Principle.

The procedures to set long-term objectives for fisheries management and conservation are set out in the Fisheries Law (1949, with revisions). In 2018, the fisheries law had been amended and an explicit objective of sustainable fisheries management has been incorporated in the resource management for the first time. The new National Fisheries Master Plan of 2020 shows the commitment to full utilization of fishery resources with sustainable management, to provide a stable supply of products

and contribute to the development of fishing communities. This has also made the government committed to the establishment of measurable objectives (TRP and LRP) set in major commercial fisheries to achieve MSY and to avoid overfishing in due course. The promulgation of the new law to amend the partial Fisheries Law is in 2020. In September 2020, a roadmap for implementation was released by JFA.

For the straddling stocks, Japan ratified the Straddling Stocks Agreement (formally, the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks) in 1996. This agreement allows Japan to manage the resources within the international frameworks, and requires application of precautionary approach and ecosystem-based approach to the stocks that are managed by RFMOs.

Japan formally accepted the 1992 UN Convention on Biological Diversity. Most recently Japan's Basic Act on Biodiversity (No. 58 of June 6, 2008) clearly states the legal objective of conservation and sustainable use of biodiversity.

The overall renewal process of "fishery permits for designated fisheries" set in the Japan's Marine Biological Resources Management Policy (MAFF, 2017) states that Japan manages skipjack resources through introduction and implementation of management measures by working with/ complying with WCPFC decisions. In addition, there is the establishment of voluntary management measures by each fishery cooperative (through their Resources Management Plan), such as voluntary off- fishing days. The same policy (MAFF, 2017) does not state specific management objectives for albacore resources, thus only RFMO decisions are considered for management. RFMO's decision on management measures of both species are summarized in Table 26 below.

The WCPFC Convention requires that members of the Commission apply precautionary approach as described in Article 6 and Annex II. Specifically, the Convention requires that the Commission be more cautious when information is uncertain unreliable or inadequate. In all cases decisions are required to be based on the best scientific information available.

6.7.7 Fisheries specific objectives

WCPFC has short and long-term objectives using the Ecosystem Approach to Fisheries Management and the Precautionary Approach. WCPFC has determined its general policy to develop and implement a harvest strategy approach for key fisheries and stock in the WCPO and Harvest Strategy Workplan by Dec. 2020 (2014-06 CMM). However, explicitly defined harvest strategies and HCRs are not yet established for tropical tuna species managed by the WCPFC (Nakatsuka, 2018). Plans to establish MSEs are underway for both species.

Management objectives of target species

Skipjack: The stated objective of the WCPFC harvest strategy as defined in CMM 2018-01 is to maintain biomass at the level of the interim TRP (50 %BF=0). This target level is well above the MSY level. It is not currently being achieved (see 1.1.1). Limit reference point (20 %SBF=0) and interim target reference point (50 %SBF=0) are set . Skipjack is ahead of the other stocks in having an interim TRP agreed among other tuna species in WCPFC.

Albacore: Objective of the management is to maintaining the stock so not decreasing under limit reference point (LRP) of 20 %SB_{current}. Only LRP is set for NP albacore resources and TRP is not discussed.

Currently enforced Conservation and Management Measures relevant to the pole and line skipjack and albacore fisheries are:

Skipjack: CMMs for skipjack are discussed at NC in 2018 and 2019 and current CMMs are effective until 2020, although this is only applicable to longline fishery (restriction of FAD use and Vessel Days)

NP albacore: Total fishing effort by their vessel fishing in the area north of the 20° N shall stay below the 2002–2004 annual average levels (CMM 2019-03)

Pacific bluefin tuna (bycatch): Total fishing effort by their vessel fishing for Pacific bluefin tuna in the area north of the 20° N shall stay below the 2002–2004 annual average levels.

All catches of Pacific bluefin tuna less than 30 kg shall be reduced to 50 % of the 2002–2004 annual average levels. Any overage of the catch limit shall be deducted from the catch limit for the following year (CMM 2019- 02).

Summary of management measures of Skipjack and Albacore is summarised in Table 26.

Table 26 Summary of multiple layered management measures for target species

	Skipjack (WCPO)	Albacore (North Pacific)
RFMO	WCPFC	WCPFC, IATTC
Scientific body	SPC	ISC – Albacore WG
Stock assessment	2019	2017
RFMO management objective and management measures	Limit reference point (LRP) of 20 % SB current, F=0, and Interim target reference point (TRP) is defined as 50 %SBcurrent, F=0 (CMM 2015-06) (WCPFC2014 年)	Managing risks so stock not decreasing under limit reference point (LRP) of 20 %SBcurrent. (no TRP discussed yet)
Currently enforced CMM	<ul style="list-style-type: none"> • CMMs for skipjack are discussed at NC in 2018 and 2019 and current CMMs are effective until 2020, although this is only applicable to longline fishery (restriction of FAD use and Vessel Days) • No regulation applicable to pole and line fishery 	<ul style="list-style-type: none"> • Total fishing effort by their vessel fishing in the area north of the 20° N shall stay below the 2002–2004 annual average levels (CMM 2019-03) • Limiting F to current level (WCPFC, 2005) • Limiting F to current level (IATTC, 2005)
JFA / MAFF management measure (license)	Licence limit for Nearshore pole and line skipjack and tuna fishery applied though local (prefectural) fisheries cooperative: 5 year renewal of license, License numbers are not increased but decreased constantly.	
JFA / MAFF (other)	VMS Catch / bycatch format submission Voluntary resources management plan establishment and approval by MAFF (at least 10 non-fishing days per year)	

NOTFA / Nango FC and Kochi Katsuo FC	<ul style="list-style-type: none"> • maximum volume of landings (50,000 tons per year)3 times closed day in July 	<ul style="list-style-type: none"> • 3 times closed day in July (skipjack fishery objective applied to vessels) • No objective for albacore management yet
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NOTFA has set a long-term objective to protect and sustainably use skipjack resources. To achieve this, members have discussed and agreed upon self-management regulations, documented in their Fisheries Management Plan, submitted formally to MAFF and approved.

NOTFA members believe that skipjack stocks are in decline, although the 2019 stock assessment indicates that the skipjack in the Western and Central Pacific Ocean (WCPO) is not overfished nor approaching overfishing. In particular, they believe that the skipjack migration to Japanese coastal area has been declining. The voluntary management rule set for skipjack resources include the maximum volume of landings (50,000 tons per year) and every year closed seasons are set. In addition, the members must stop fishing three times in July. This is because July is considered as high season for pole-and-line fishing. In addition, each vessel must stop operations at least 10 days per year (this can be at any time of the year). These management measures are being put to practice at the prefectural level by the local FCs.

NOTFA members have also begun to discuss the self-management of albacore resources, but progress is slow. The members are trying to manage albacore together with tuna long-liners which are also targeting albacore.

It is worth mentioning that the skipjack fishermen in Kochi Prefecture have established the Kochi Sustainable Skipjack Association (KSSA) in 2017. KSSA's goal is to contribute to sustainable use of the skipjack resources. KSSA plays an active role in education of consumers to maintain traditional culture through local skipjack consumption. One of four subcommittees of the KSSA is called Fish Consumption/Fishing Subcommittee (Shohi Gyogyou Bunkakai in Japanese) and it is raising consumer awareness including the choice of sustainable fish, i.e. MSC and MEL (Marine Eco-Label Japan). Responding to the needs of science to understand recent migration routes and resources structure, KSSA is also undertaking a tagging survey of skipjack in the Pacific Ocean.

6.7.8 Monitoring Control Surveillance and Enforcement

A number of CMMs are set by WCPFC for Monitoring, Control and Surveillance (MCS) purposes, which gives national authorities the responsibility of enforcement. Vessel Monitoring Systems (VMS) are required on all vessels fishing for highly migratory species in the western and central Pacific Ocean. There are measures in place allowing for the boarding and inspection of vessels in the Convention Area (WCPFC 2006) and the WCPFC maintains a list of illegal, unreported and unregulated (IUU) vessels (CMM 2019-07). Vessels fishing in the Convention Area are required to install a transmitting device known as an Automatic Location Communicator (ALC), which transmits a signal to a land-based receiving station where fisheries managers can view and track the location of fishing vessels. Another important MCS element is the boarding and inspection of fishing vessels on the high seas by patrol vessels registered with the Commission by CCMs. These patrol vessels conduct routine operations throughout the Pacific Ocean. Aerial patrols are also made by countries adjacent to fishing grounds. On a national level, Japanese vessels are required to carry VMS and logbooks, and are prohibited transshipping without permit. All skipjack and tuna must be landed at the wholesale markets where

the catch can be verified. The operator and crew have to allow WCPFC fishery inspectors to board and inspect fishing vessels on the high seas, as stated as a condition of the fishery licence.

The Commission's regional observer program objective is to achieve 5 % coverage of the effort in each fishery in high seas areas but this does not include pole and line vessels.

At the national level, FA maintains the licence and registration of fishermen through the cooperatives, the registration of the WCPFC FFA vessels, carries out port monitoring and observer programs (for longline vessels only) and maintains the vessel monitoring systems (follows CMMs of WCPFC). For example, logbooks and VMS are mandatory for the skipjack and albacore pole-and-line fisheries (following from CMM 2014-02). JFA responded to the assessment team's site visit interview that they conduct at-sea surveillance and port-side patrol, however any detail is confidential. There was no violation by pole and line fisheries in the past 5 years.

There are sanctions for non-compliance. Penalties can include imprisonment, fines, permit removals or suspensions of the catch or the fishing vessel (docking of the vessel). In the case of pole-and-line fishing, there has been no record of violation in the past 5 years, except for one Warning Notice. Two years ago, one vessel failed to respond to WCPFC inspector's radio calls to stop the vessel. The vessel did not notice the call while they were busy fishing. WCPFC reported the case to the Fisheries Agency. Considering the situation, the vessel was only given a verbal warning.

For Pacific Bluefin Tuna (PBT), following the CMM 2019-02 issued by WCPFC for management of PBT, Japanese allocation for juvenile bluefin tuna has been reduced from 8015 t to 4007 t, adult fish catch limit is 4882t. To implement the measures in Japan, the Fisheries Agency has introduced an experimental TAC and strengthened monitoring for Pacific bluefin tuna from 2014. The TAC has been officially implemented in January 2018 under the Law for Conservation and Management of Marine Biological Resources (so called TAC-law) (FA 2018). Pole and line fishery can catch only small juvenile Bluefin tuna if accidentally caught (<30kg). During the 2017 experimental TAC season, NOTFA members have caught about 47 tons of juvenile Pacific bluefin tuna and 23.1 t are exceeded from experimental catch allocation for nearshore and offshore tuna fisheries in total. This excess was deducted from the 2018 TAC allocation started in January 2018, and resulted in the total limit of 38.9 t juvenile Pacific bluefin tuna for nearshore skipjack and tuna fishery. At the site visit, NOTFA explained that the catch was mostly made by longline fishery members of NOTFA, not pole and line. Also, they mentioned that pole and line and longline fishers have discussed to agree that from 2019, the TAC allocation for BFT will be equally 50 % each for both sectors for fairness. Overall compliance of NOTFA for the BPT catch allocation requirement by JFA was not well confirmed at the site visit (remote) as clear evidence could not be provided.

When there are any catch limits, such as for Pacific Bluefin tuna, allocation is given to NOTFA as total, and bycatch numbers must be coordinated among longline fisheries and pole and line fishery, also between all cooperative members of NOTFA (FA 2018).

6.7.9 Licensing system for pole and line skipjack and albacore fishery:

In order to operate nearshore and offshore skipjack/albacore fisheries, fishing licenses issued by MAFF are necessary. Licenses are valid for five years and can be renewed if no violations are recorded. The number of licences has declined significantly over the past several decades. It is said that the main reasons for this are due to the aging of fishermen and them retiring from the workforce. The fact that fuel and gear prices continue to rise, combined with declining catches and incomes added to the issue.

The fishery under assessment has 19 pole and line vessels, from the members of 2 Cooperatives belonging to National Offshore Tuna Fisheries Association of Japan (NOTFA): Kochi Offshore Skipjack and Tuna Fisheries Association (KOFTFA, Kochi Kinkai Katsuo-Maguro Gyogyo Kyokai in Japanese) and Miyazaki Prefecture Skipjack and Tuna Fishermen's Association (MPSTFA, Miyazakiken Katuo Maguro Gyogyosya Kyokai in Japanese).

Of the 19 vessels, 7 vessels are KOFTFA members, with 3 vessels holding new-offshore fishery licenses issued by FA. 12 vessels are MPSTFA members, with 9 vessels holding New-Offshore fishery licenses (see Table 4 and a summary in Table 27).

Table 27. Summary of licence categories and numbers held by vessels of each cooperative under assessment

Fishery licence category	New-Offshore (新近海) 19~119t	Long-distance (遠洋)	Total number of Fishery licenses
Kochi Offshore Skipjack and Tuna Fisheries Association (KOFTFA) (高知県近海鰹鮪漁業協会)	3	4	7
Miyazaki Prefecture Skipjack and Tuna Fishermens' Association (MPSTFA) (宮崎県かつお・まぐろ漁業者協議会)	9	3	12
Total	12	7	19

The current licence issued by MAFF is effective from August 2017 to 2022. The licence comes with the conditions of the regulations for the fishery from MAFF.

6.7.10 Compliance and Management performance evaluation

The WCPFC's Compliance Monitoring Scheme (CMS) (CMM 2010-03) was first implemented in 2011 for the following purposes:

- a) “To assess CCM’s compliance with their obligations;
- b) To identify areas in which technical assistance or capacity building may be needed to assist CCMs to attain compliance;
- c) To identify aspects of CMMs which may require refinement or amendment for effective implementation;
- d) To respond to non-compliance through remedial options that include a range of possible responses that take account of the reason for and degree of noncompliance, and include cooperative capacity-building initiatives and, in case of serious noncompliance, such penalties and other actions as may be necessary and appropriate to promote compliance with CMMs and other Commission obligations; and e. monitor and resolve outstanding instances of non-compliance” (WCPFC, 2018c).

An independent review to determine the effectiveness of Compliance Monitoring Scheme was conducted in 2018. The review concluded the following “the current system is fundamentally sound, and achieves its overall objectives, as well as stacking up well against other compliance monitoring systems, including those of other RFMOs. It is robust and comprehensive. It appears to be having positive effects upon overall compliance. However due to its comprehensive nature and its (still increasing) size and scope, as well as the demands it places on participants, it is at risk of collapsing

under its own weight unless those demands can be reduced". The review recommended several improvements associated with these concerns including: improving the effectiveness of information collection and storage; reducing volume of material produced; ensuring clarity of CMMs; assisting under-resourced members to implement WCPFC requirements effectively; introducing systems to improve the perceived fairness of treatment between fleets and members; (WCPFC, 2018c).

The Technical and Compliance Committee (TCC) meets in October to ensure the measures enforcement. Progress with implementation of CMMs is monitored through the members' Annual Reports to the Commission. (CMM 2019-06 CMM for Compliance Monitoring Scheme).

Scientific stock assessment procedures and methodology for the assessments are consistently reviewed amongst members and cooperating non-members of the WCPFC, through workshops and working papers which present various peer-review opportunities and external reviews), before presented to the WCPFC SC meeting. A similar process is used for North Pacific albacore with the ISC forming the key, joint WCPFC and IATTC reference group. External reviews have been carried out.

Japan's annual report (Uosaki et al, 2015) is available at WCPFC website as last updated in July 2015. This report describes extensively how Japan (mainly FRA) obtain, analyse data from Japanese skipjack and tuna fisheries and conduct research for bycatch mitigation, with statistics etc. In particular, the report informs, for pole and line fishery, that "Although the logsheet submission is mandate, the submission rate for the pole-and-line is not necessarily 100 %. The coverage is likely to be around 80 % in the beginning of the history of the pole-and-line logsheet system (1970's), but the submission rate was improved after that, to nearly 100 % in 1990s. " and "Similar check processes to the longline are also conducted. In case there is significant omission or errors, the NRISFS staff will contact to owner or other relevant person to obtain information to revise. "

Domestically, Japanese pole and line fishery performance can be reviewed at the time of license renewal, through catch reporting, and daily VMS monitoring by FA officials through satellite tracking. Some compliance monitoring and reporting are performed by Fisheries Associations like NOTFA to ensure their members are compliant with relevant laws and regulations. However, the Japanese management system seems to lack a comprehensive and integrated review system to evaluate its compliance and monitoring scheme, without having a monitoring strategy or its effectiveness analysis documented for this fishery. Although it may exist, there is no comprehensive system description of MCS existing within Japan or review available to public, therefore it is not clear whether the MCS system is comprehensively implemented at national level.

6.7.11 Principle 3 Performance Indicator scores and rationales

PI 3.1.1 – Legal and/or customary framework

PI 3.1.1		<p>The management system exists within an appropriate legal and/or customary framework which ensures that it:</p> <p>Is capable of delivering sustainability in the UoA(s);</p> <p>Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and</p> <p>Incorporates an appropriate dispute resolution framework</p>		
Scoring Issue		SG 60	SG 80	SG 100
a Compatibility of laws or standards with effective management				
Guide post	There is an effective national legal system and a framework for cooperation with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2	There is an effective national legal system and organised and effective cooperation with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2.	There is an effective national legal system and binding procedures governing cooperation with other parties which delivers management outcomes consistent with MSC Principles 1 and 2.	
Met?	Yes	Yes	Yes	

Rationale

United Nations Convention on the Law of the Sea (UNCLOS), Article 63 or 64 states that highly migratory fish species that migrate through several EEZs and/or several high seas are managed by cooperation among coastal and fishing countries and countries who are fishing in the area, directly or based on the decisions of relevant RFMOs. The duty for cooperation is enshrined also in UN Fish Stock Agreement (UNFSA). Regarding the management of skipjack and tuna resources, the 2 regional fisheries management organizations (RFMOs) have established international cooperation mechanisms to manage the shared highly migratory resources.

Skipjack in the Western Central Pacific Ocean (WCPO) are considered to comprise a single stock for assessment and management purposes, and managed by WCPFC. The WCPFC and IATTC share the management responsibilities of albacore resources in WCPO, based on the Article 22(4) of the WCPFC Convention (https://www.iatc.org/PDFFiles/IATTC-Instruments/_English/IATTC_WCPFC-IATTC-Memorandum-of-Understanding-Jun-2006.pdf)

The RFMOs have agreed on a number of Memoranda of Understanding (MoU) with related fisheries organizations, which help foster cooperation and coordination among regional and national entities, so that both stocks within the Japanese EEZ, WCPFC and IATTC convention areas are organized and effective.

Therefore, there is general agreement that both organizations pursue management by cooperation under their management policy. Although implementation depends on national legal system of the country, both WCPFC and IATTC encourage relevant fishing nations to join or participate in the management through their organization.

The decisions taken at RFMOs are binding among the members of Commission and Cooperating non-members (CCM)s and Japan is a member of both RFMOs. Resolutions are non-binding statements and recommendations addressed to CCMs, but Conservation and Management Measures (CMMs) are binding from the year of adoption.

Therefore, with the WCPFC Convention, cooperation procedures for skipjack management are binding, and for North Pacific Albacore, the MoU exists with WCPFC and IATTC for cooperation, and under this MOU CMMs are applied to all areas including IATTC, therefore it is also considered binding for NP albacore.

Chapter 1, Article 2 of the Fisheries Basic Act (2001) provides overall framework for the management of fisheries in Japan and requires conservation and management of fisheries resources to ensure its sustainable use as a component of the marine ecosystem, following the principles of UN Convention on the Law of the Sea (UNCLOS). The Law of Conservation and Management of Marine Living Resources guides to protect Japan's surrounding ecosystem and habitat. The Japanese Fisheries Law (1949, as revised 2018) of Japan sets general fisheries management policies and stock management, and recently revised in 2018 to include sustainable fisheries objectives. These are generally in accordance with MSC Principles 1 and 2. Above mentioned structures demonstrates that there is an effective national legal system and binding procedures governing cooperation with other parties which delivers management outcomes consistent with MSC Principles 1 and 2. Therefore SG60, SG80 and SG100 are met.

b Resolution of disputes				
	Guide post	The management system incorporates or is subject by law to a mechanism for the resolution of legal disputes arising within the system.	The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes which is considered to be effective in dealing with most issues and that is appropriate to the context of the UoA.	The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes that is appropriate to the context of the fishery and has been tested and proven to be effective .
Met?	Yes	Yes	Yes	No

Rationale

At RFMO level, Article 31 of the WCPFC convention establishes a dispute settlement mechanism, consists of appointing a review panel to settle disputes among members of the Commission. WCPFC established this drawing from the dispute settlement provision of the UN Fish Stocks Agreement. Meanwhile, the Commission requires that any decision should be consensus-based. States have to settle their disputes by negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or any other peaceful means of their own choice. However, to date, no formal dispute settlement procedure has been needed in order to solve disputes between members of the WCPFC (Unterweger, 2015). The dispute settlement mechanism outlined in the Convention allows for a transparent process.

At a national level, the Fisheries Basic Act has set up the Fisheries Policy Discussion Committee within MAFF, to discuss issues to be resolved among various stakeholders, including fishing industry, scientists, academia, administrations and deals with issues related to all fisheries-related laws in Japan (Chapter 4 Article 35-39). This approach allows issues to be solved by discussion before it is developed to a dispute, therefore development of legal disputes is a rare case. The Committee can advise the Minister or related administration's chief or request cooperation for information and clarification if necessary. The scheduled committee meetings and minutes are open and available online for stakeholders. For more local levels disputes, such as among different fishing industries and among coastal and offshore fishermen, JFA hold periodical or ad-hoc meetings to consult their opinions and provide appropriate solutions where needed, and if necessary, adjudication will be held by JFA. It is considered that this consultation mechanism is generally effective, as issues are rarely developed into legal disputes in Japan.

Although there are appropriate dispute settlement mechanisms in place in both level of management, so far there was no formal dispute to prove that the settlement procedure has been tested and proven to be effective. Therefore, SG60 and SG80 are considered to be met, but SG100 is not met.

c Respect for rights				
	Guide post	The management system has a mechanism to generally respect the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	The management system has a mechanism to observe the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	The management system has a mechanism to formally commit to the legal rights created explicitly or established by custom of people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.
Met?	Yes	Yes	Yes	No

Rationale

Japan's Fisheries Law chapter II (article 6 to 51) observes and protect rights of coastal fishermen that are dependent on fishing for food or livelihood. The systematic co-management system protected by Fisheries Cooperative Law has developed to allow fishermen's discretion in the management of local resources within the legal framework. Under the Fisheries Cooperative Law, all fishermen in Japan belongs to a local fisheries cooperative (FC) and through the fisheries cooperative association (FCA) they are coordinated with government agencies to observe management regulations while in turn their opinions are delivered and reflected into the government policy. The Japanese fisheries management system is formally integrated with the decisions of local fishermen through the FC or FCA. Therefore, in Japan, there is a formal commitment to the legal rights of fishermen dependent on fishing for food and livelihood.

The convention on the conservation and management of highly migratory fish stocks in the WCPPO recognizes that smaller island developing States have unique needs which require special attention and consideration in the provision of financial, scientific and technological assistance. WCPFC coordinates a close relationship with the regional fisheries body known as the Pacific Islands Forum Fisheries Agency (FFA), an organization comprised of independent Pacific Island countries who share a common fisheries interest in the Pacific Ocean region. FFA members are also members of the WCPFC. At IATTC, the Antigua Convention states that it takes into account the special circumstances and requirements of the developing countries of the region, particularly the coastal countries, in order to achieve the objective of the Convention. Both the WCPFC and IATTC

have an intention and a management system that observes the legal rights created explicitly or established by custom for people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2. However, Although the WCPFC considers common allocation principles such as historical participation, the rights of Coastal States and the rights of developing States, but these are not yet formally part of an allocation process of fishing rights.

At IATTC also, it has demonstrated the intention to develop and implement methods to allow a fair distribution and mechanisms, they are not formal commitments. As a result, with the RFMO level's lack of formal commitment. SG60 and SG80 are met, but does not meet SG100.

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	85
Condition number (if relevant)	-

PI 3.1.2 – Consultation, roles and responsibilities

PI 3.1.2		The management system has effective consultation processes that are open to interested and affected parties The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties		
Scoring Issue		SG 60	SG 80	SG 100
a		Roles and responsibilities		
	Guide post	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are generally understood .	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for key areas of responsibility and interaction.	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for all areas of responsibility and interaction.
	Met?	Yes	Yes	No

Rationale

At an international level, WCPFC and IATTC have defined roles and responsibilities of member states, scientific committee, technical and compliance committee and its functions, updates of discussion, meeting plans and proceedings are all available at both RFMO's homepage. WCPFC and IATTC consult on science advisory for skipjack and albacore stocks to the SPC and ISC. Japan follows the RFMO's decisions for the management of stocks under assessment, through CMMs.

The key roles of the Japanese government are well defined and understood through the definitions in Fisheries Act. The Ministry of Agriculture, Forestry and Fisheries (MAFF) is responsible for the management of marine biological resources and fishery production activities, and the Fisheries Agency (FA) is a focal administrative agency.

All distant-water fisheries are managed directly by the Ministry and the fisheries are operated with Minister-issued licences and the mechanism of cooperation and arrangements with FCs and FCAs, which are explicitly determined in Fisheries Cooperatives Law. Licence limits and other important management issues related to implementation of CMMs agreed at international levels are discussed at Fishery Policy Councils, with participation of stakeholders including fishing industry. Fisheries Cooperatives and its associations, such as NOTFA, are available for detailed implementation in cooperation with JFA and other stakeholders.

Individuals responsible for specific issues in organizations are identified, and functions and responsibility is clearly defined and can be explained when inquired. The NOTFA has clearly defined roles and responsibilities, and regular and ad-hoc meetings to serve its members.

However, roles and responsibility may not be necessarily well understood in all areas. Medley et al. (2020) points out that the WCPFC and IATTC have had a number of problems with Flag States that have not applied appropriate controls to all their vessels and may not fully understand their responsibilities. This includes Flag States not submitting timely data and not in the correct form.

During the site visit, assessment team has found that the JFA's bycatch format submission and data entry requirement was not well understood by fishermen in the assessment, and it appears that this is a consistent trend across many skipjack and tuna fishermen with other fishing methods (not entering zero when non-encountering bycatch species). JFA collects the format within 30 days of port arrival and JFA says that the submitted forms are checked, but upon interview it was revealed that JFA do not recognize this issue. It may be possible that the incorrect bycatch data is reported to WCPFC. Thus, the responsibility of JFA for checking the catch report, and FC who are responsible for guiding the fishers to ensure compliance appear to be not understood well (This issue is discussed again in PI 3.2.3.). Bycatch reporting compliance is considered to be a key area, as it affects data considered by WCPFC, and IATTC as well. Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for key areas of responsibility and interaction, and SG60 and SG80 are met. However, as there seems to be some ambiguity related so certain responsibilities, SG100 is not met.

b Consultation processes			
Guide post	The management system includes consultation processes that obtain relevant information from the main affected parties, including local knowledge, to inform the management system.	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information and explains how it is used or not used .
Met?	Yes	Yes	No

Rationale

WCPFC and IATTC's performances are regularly monitored by NGOs, such as International Seafood Sustainability Foundation, Oceana, Pew Foundation and WWF. Article 21 of the WCPF Convention promotes the objective of transparency in decision-making and other activities of the Commission. Representatives from intergovernmental organizations and NGOs with matters relevant to the Convention are to be permitted to participate in meetings of the Commission and subsidiary bodies as observers. Such observers "shall be given timely access to pertinent information subject to the rules and procedures which the Commission may adopt". The rules of procedure providing for such participation are not to be "unduly restrictive".

In fact, the observer participation has increased so much in WCPFC that in the WCPFC paper “Review of observer participation” produced at the 13th regular session described that it has approved 57 non-State observers – 16 IGOs and 41 NGOs so far with the numbers increasing, thus need to consider some restriction and participation fee charges. In WCPFC12 NGO observers constituted 17 % of the total number of participants.

Reflecting these, WCPFC appears to have dealt relatively wide range of topics in its resolutions and CMMs compared to other RFMOS. Resolution 2018-01 Resolution on Labour Standards for Crew of Fishing Vessels are clearly reflecting the interest of NGO stakeholders, which recommendation paper attached in the resolution, reflecting the concerns of WWF and OSA International (WCPFC 2018-01), other resolutions such as ones on Non-target Fish Species, (2005-03), Aspirations of Small Island Developing States and Territories (2008-01), Climate Change as it relates to the Western and Central Pacific Fisheries, CMMs on Safe handlings of seabirds, sea turtles, etc. also appear to have reflected variety of local and international organizations’ concerns through the consultation process. The Rules of Procedures established for other parties’ participation, environmental NGOs input, integrating local knowledge such as from SIDS, demonstrates that the management system is actively seeking and accepting relevant information. The management system considers and responds to the information obtained. This meets SG80 requirements. The SG 100 requirements are not met because there is no evidence that explanations are provided of how information has been used or not used.

At IATTC there are 31 accredited NGO observers as of 2016 (WCPFC 13-2016033, Review of Observer Participation in the WCPFC). NGOs such as ISSF have participated in IATTC Review Committee, among other committees, and making wide range of recommendations, such as increase of transparency, capacity building, etc. The IATTC , similarly to WCPFC, convenes ordinary and extraordinary meetings periodically, and regularly seek and accept relevant information, including those of stakeholders, although it is not clearly reported how the information has been considered or not. The meetings minutes are available on both RFMO’s websites to demonstrates consideration of the information obtained in the management.

At the national level, the Japanese Fisheries Policy Council regularly seek and accept information on fisheries management, including local knowledge to incorporate into management measures. The council meeting gathers representatives from industry, academia, scientific organizations, and government. There is a process to apply for observers but is not open for all interested parties to attend. Attendance is by appointment. The FA regularly undertakes both formal and informal consultation with fishing industry stakeholders and other groups. The council discussion minutes are available online. The government interacts throughout the year with industry stakeholders that provide the parties opportunities to inform the management system.

Within the NOTFA, the Study Group for Skipjack Fisheries Issues meet twice a year (May-June and December) to discuss the possible management actions, with participation of the administration and scientists. The government intervention accelerates the active participation of NOTFA members in decision-making of management plan and mechanism for implementation within the association. Rules agreed between members are reported are then formally reported to the Fisheries Agency for approval as a fisheries management plan. Through these opportunities, fishermen have opportunities to meet and directly ask FA officials to express their opinion, although the minutes are not available to public.

Thus, both at RFMO and within Japanese governance, it is considered that the management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained. Therefore, it meets SG60 and SG80. However, at both levels, the management system does not always demonstrate consideration of the information and explains how it is used or not used, therefore SG100 is not met.

c Participation			
	Guide post	The consultation process provides opportunity for all interested and affected parties to be involved.	The consultation process provides opportunity and encouragement for all interested and affected parties to be involved, and facilitates their effective engagement.
Rationale	Met?	Yes	No

The WCPFC offers clear language in the treaty that includes an article on transparency (Article 21 of the Convention) and very clear observer rules (Rule 36 of the Rules of Procedure) that invite all affected and interested parties to be involved. However, the WCPFC reports also show the limited transparency for observers requesting information and some sessions are held behind closed doors, despite some formal request from NGOs. Therefore, the whole process is not open to the entire public.

In 2014, the WCPFC received an official joint letter from accredited observer NGOs pointing to an erosion of transparency and limited access to some meetings closed for participation. ISC recently adopted restrictive rules for observer participation and high participation fees for observers were discussed in the 2016 document of WCPFC13-2016-OP07.

The IATTC accepts stakeholders such as fishing industry representative, NGOs, and other affected or interested individuals. Similar to the WCPFC, there are established guidelines for observer participation at IATTC.

MAFF is responsible for domestic implementation of the RFMO CMMs. JFA makes an announcement of RFMO meeting outcomes in its HP and makes the necessary arrangements with industries and science bodies for implementation. Official letters are sent to relevant FCs or prefectural government to inform them, and if necessary, consulting meetings are held to coordinate the implementation.

At the Japanese national level, the Fisheries Policy Council is held to discuss important stock management decisions by consultation processes that regularly seek and accept relevant information. The council normally consists of government staff, science research staff, representatives from fisheries industry or cooperatives, appointed experts from academia and in addition, observers are also allowed to request attendance, although they are not usually given any opportunity to comment at the meetings. In contrast, internal meetings and coordination among the selected official members are frequently held and opinions are coordinated internally.

In 2017, WWF Japan was invited to the policy discussions prior to ISC for the first time, with public comments invited online by the Japanese government. This implies that there is a tendency to improve the opportunity for participation for all interested and affected parties to be involved. However, it is difficult to say that such participation is encouraged at both international and national level.

SG60 and SG80 are met. It is not clear to what extent the system facilitates effective engagement, however, so SG100 is not met.

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥ 80
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	80
Condition number (if relevant)	-

PI 3.1.3 – Long term objectives

PI 3.1.3		The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Fisheries Standard, and incorporates the precautionary approach		
Scoring Issue		SG 60	SG 80	SG 100
a	Objectives			
Guide post	Long-term objectives to guide decision-making, consistent with the MSC Fisheries Standard and the precautionary approach, are implicit within management policy.	Clear long-term objectives that guide decision-making, consistent with MSC Fisheries Standard and the precautionary approach are explicit within management policy.	Clear long-term objectives that guide decision-making, consistent with MSC Fisheries Standard and the precautionary approach, are explicit within and required by management policy.	
Met?	Yes	Yes	P	

Rationale

At national level, the Fisheries Basic Act (2001) and the recently revised Fisheries Act (1949, revised in 2018) requires conservation and management of fisheries resources to ensure its sustainable use as a component of marine ecosystem, in accordance with the UN Convention on the Law of the Sea (UNCLOS), which Japan ratified in 1996.

For the straddling stocks, Japan ratified the Straddling Stocks Agreement (formally, the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks) in 1996. This agreement allows Japan to manage the resources within the international frameworks and requires application of precautionary approach and ecosystem-based approach to the stocks that are managed by RFMOs.

Japan formally accepted the 1992 UN Convention on Biological Diversity. Most recently Japan's Basic Act on Biodiversity (No. 58 of June 6, 2008) clearly states the legal objective of conservation and sustainable use of biodiversity.

Japan has been going through a long-awaited fisheries management reform in the past several years. In 2018, the fisheries law had been amended for the first time in the past 70 years, and the promulgation of the new law to amend the partial Fisheries Law is in December 2020. The Article 1, the Objectives of the law includes establishment of measures for conservation and management of fisheries resources and ensuring sustainable use of fishery resources (<https://www.maff.go.jp/ji/law/bill/197/attach/pdf/index-3.pdf>). The amended Fisheries Law requires that fisheries resources to be managed based on MSY, with target and limit reference point (article 12) for the managed species with stock assessment or estimated numerical target for resources without stock assessment. Therefore, after December 2020, long-term objectives or sustainable fisheries is explicit with the Fisheries law and required by the management policy.

WCPFC Article 2 states that the convention's objective is to ensure effective management, long-term conservation and sustainable use of highly migratory stocks in the WCPFC, in a manner compatible with both the LOSC and the USFSA. WCPFC article 5 and 6 set out principles for conservation and management and application of precautionary approach respectively. (Article 5 of the WCPFC Convention states ".....members of the Commission shall....:
(a) adopt measures to ensure long-term sustainability of highly migratory fish stocks in the Convention Area and promote the objective of their optimum utilization;.....
(c) apply the precautionary approach.)

Additionally, WCPFC explicitly states that article 5 should also be applied to areas under national jurisdiction within the Convention area where highly migratory stocks may be found. IATTC Antigua Convention also explicitly states that it is "committed to ensuring the long-term conservation and the sustainable use of fish stocks covered by this Convention". CMM2014-06, which applies to both species with binding requirement states "For each harvest strategy, the Commission shall determine agreed conceptual management objectives for that fishery or stock", which appears to require objectives to be determined.

Based on the above, SG60 and SG80 are met. At both the national and regional level management objectives, including the application of the precautionary approach, are explicit in policy and legislation and consistent with MSC Principles and Criteria but while long-term objectives consistent with the precautionary approach are explicit within management policy, it is difficult to agree that the SG100 requirements are fully met in practice, as shown in e.g. the examples for bigeye and especially bluefin tuna, where management action has not been sufficiently precautionary to prevent the stock becoming overfished as indicated in the latest assessment. A partial score at SG100 is given for this scoring issue.

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	More information sought / Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	90
Condition number (if relevant)	-

PI 3.2.1 – Fishery-specific objectives

PI 3.2.1		The fishery-specific management system has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2		
Scoring Issue		SG 60	SG 80	SG 100
a		Objectives		
Guide post	Objectives , which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are implicit within the fishery-specific management system.	Short and long-term objectives , which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery-specific management system.	Well defined and measurable short and long-term objectives , which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery-specific management system.	
Met?	Skipjack: Yes NP Albacore: Yes	Skipjack: Yes NP Albacore: Yes	Skipjack: No Albacore: No	

Rationale

WCPFC has determined its general policy to develop and implement a harvest strategy approach for key fisheries and stock in the WCPO and Harvest Strategy Workplan by December 2020 (2014-06 CMM). This is a solid long-term objective written explicitly on documents (non-measurable). Limit Reference Points (LRP) and tentative target reference points (TRP) (2015-06 CMM on target reference point for skipjack tuna) are set for skipjack, and only LRP is set for NP albacore resources. At the moment, development of MSE has been underway for both skipjack and North Pacific Albacore resources.

	Skipjack	NP Albacore
Principle 1	WCPFC has now have measurable but tentative target set out for skipjack.	Although LRP is set, the objective is less clear and non-measurable.
TRP	<p>Interim TRP: CMM 2015-06 set Interim TRP set as 50 %BF=0 to be until further reviewed (at the latest by 2019.)</p> <p>There have been several reviews through the Commission and subsidiary body meetings. SC15, SC16, SC17 reviewed Current and projected stock status to inform</p>	<p>The management objective for the North Pacific albacore fishery is to maintain the biomass, with reasonable variability, around its current level in order to allow recent exploitation levels to continue and with a low risk of breaching the limit reference point.</p> <p>(The TRP for this stock will be determined following a comprehensive analysis under a management strategy evaluation (MSE) approach.)</p>

	<p>TRP. CMM 2018-01 (Interim objectives for Bigeye, Skipjack, and Yellowfin Tuna) confirmed the interim TRP of skipjack as unchanged, until further review.</p> <p>The latest confirmation:</p> <p>Interim TRP: 50 %BF=0 with approximately 85 % probability (considering only variance within the model) (WCPFC 2019a).</p>	
LRP	LRP: 20%SSBcurrent F=0	LRP: 20 %SSBcurrent F=0
	WCPFC Harvest Strategy (https://www.wcpfc.int/harvest-strategy), CMM 2015-06	WCPFC 14 Summary Report, 2017 (link below), WCPFC Harvest Strategy (https://www.wcpfc.int/harvest-strategy)

For the objectives consistent with Principle 2, WCPFC has short and long-term objectives using the Ecosystem Approach to Fisheries Management and the Precautionary Approach. A variety of CMMs are adopted at WCPFC, such as listed below (IATTC adopted the same CMMs through its cooperation scheme):

- 2010-07: CMMs for sharks, and guidelines for safe release of encircled whale sharks as at Dec 2015; Best handling practices for safe release of mantas and mobulids as at Dec 2017; Best handling practices for safe release of sharks (other than whale sharks and mantas/mobulids) as at Dec 2018. 2014-05 is another CMMs for sharks and be replaced by CMM 2019-04;
- 2011-03: CMMs to address impact of purse seine fishing activity on cetaceans;
- 2017-04: CMM on Marine Pollution;
- 2018-01: CMM for bigeye, yellowfin and skipjack tuna in the Western and Central Pacific Ocean;
- 2018-03: CMM to mitigate the impact of fishing for highly migratory fish stocks on seabirds AND Safe handling and release guidelines for seabirds as at Dec 2019;
- 2018-04: CMM of Sea Turtles (replaces CMM 2008-03 on 1 January 2020).

The objectives that are consistent with Principle 2 are explicitly set at RFMO level to meet SG80.

At national level FA follows the RFMO decisions. Japan's marine biological resources management policy (MAFF, 2017) states that Japan manages skipjack resources through introduction and implementation of management measures through working with/ compliant with WCPFC decision, in addition, establishment of voluntary measures at each fishery cooperatives. The same policy (MAFF, 2017) does not state specific management objective for albacore resources, but it is considered that RFMO objective replaces their management objective based on Our Counties' Marine Biological Resources Management Policy.

NOTFA has set a long-term objective to protect and sustainably use skipjack resources. To achieve this, members have discussed and agreed upon self-management regulations, including the maximum volume of landings (50,000 tons per year) and open/closed season every year. NOTFA has also set a resources management plan, which

will be considered as a short-term objective, for which the members must stop fishing three times in July. In addition, each vessel must stop operations at least 10 days per year (this can be at any time of the year). These management measures are monitored by the prefectural level by the local cooperatives. NOTFA members have also begun to discuss the self-management of albacore resources, but progress is slow. The members are trying to manage albacore together with tuna long-liners which are also targeting albacore.

For objectives relevant to P2, both species meet SG60 and SG80, but as they are not “demonstrably consistent”, therefore SG100 is not met.

For objectives consistent with P1, for both Skipjack and albacore, objectives are somewhat explicitly set, although for albacore it is less clear than skipjack, SG60 and SG80 is met. Skipjack’s objective is now explicit and measurable, and demonstrably consistent in the past reviews; however, it is yet an interim target and not “well defined” such as in the later plan of defining the HS and HCR through MSE, thus SG100 is not met. For Albacore, there is no measurable TRP therefore SG100 is not met.

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	More information sought / Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	80
Condition number (if relevant)	-

PI 3.2.2 – Decision-making processes

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery		
Scoring Issue		SG 60	SG 80	SG 100
a	Decision-making processes			
	Guide post	There are some decision-making processes in place that result in measures and strategies to achieve the fishery-specific objectives.	There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.	
	Met?	Yes	Yes	

Rationale

For skipjack resources management, the scientific committee conducts stock assessments and provides scientific advice through its reports to the WCPFC annual meeting in December. Conservation and management measures are adopted by member's consensus. If consensus cannot be reached, voting, grounds for appealing decisions, conciliation and review are all part of the established decision-making process, as described in the Article 20 of the Convention. The SC conducts assessments annually, reflecting concerns with status of stocks or uncertainty in the assessments. Procedures and stock assessment methodology for the assessments are now fine-tuned amongst CCMs of the WCPFC. All management measures apply equally inside EEZ and on high seas. Flag states enforce management measures on their own vessels and coastal states within their own EEZ.

A similar process is used for North Pacific albacore with the ISC forming the key, joint WCPFC and IATTC reference group. ALBWG conducts stock assessments for the ISC. External reviews have been carried out for the ISC. Between IATTC and WCPFC CMMs are harmonized so that measures applied for management are consistent, pursuant to the Article 22(4) of the WCPFC Convention that provides for cooperation with the IATTC regarding stocks that occur in the Convention Areas of both organisations. At the IATTC, the ISC Albacore Working Group provides scientific recommendation by consensus, to be adopted at the Commission. The decision-making processes of stock assessment at WCPFC and IATTC are well established and documented.

From Japan, Fishery Agency staff and industry representatives attend the WCPFC to represent Japan's interests. Before the WCPFC meetings, FA holds meetings with fisheries associations to consult industry perspectives and forms a consolidated opinion for Japanese delegates. When a WCPFC decision is made, the Japanese government is responsible for its implementation as a member, by preparing necessary legislation and regulations as needed.

Within Japan, to implement the decision of the RFMO to restrict fishing efforts at current levels, license (permits) controls are conducted. This is easily attainable, as the numbers of vessels are declining.

A decision-making process that results in measures and strategies to achieve the fishery-specific objectives are established in the management of this fishery. SG60 and SG80 are met.

b Responsiveness of decision-making processes			
Guide post	Decision-making processes respond to serious issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take some account of the wider implications of decisions.	Decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.	Decision-making processes respond to all issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.
Met?	Yes	Yes	No

Rationale

WCPFC and IATTC follows decision making processes established within their system, with committees supporting Commissions decision making on consensus. Scientific Committee provides scientific advice for WCPFC with support from ISC and SPC for skipjack and albacore resources. When serious and other important issues are identified at SC, recommendations are presented to the Commission. TCC deals with issues such as compliance monitoring, IUU prevention and make recommendations to WCPFC to discuss both serious and important matters. At WCPFC, discussions are made in transparent and adaptive manner, and are brought in timely manner within the international meeting schedules and frameworks, although the agreements require members' consensus. Agreed measures on research, monitoring, evaluation and consultation are made into CMMs and resolutions at WCPFC and IATTC.

CMM 2014-06 commits WCPFC to the development of formal harvest strategies and harvest control rules, applies to NP albacore as well as skipjack and the other tropical stocks. The work has been underway for both skipjack and NP albacore resources and there are continuous efforts presented in the meeting records to make progress and respond to important issues. At the WCPFC 13 in December 2016, the concern of economic viability due to the declining CPUE for southern albacore stocks was presented by SPC Oceanic Fishery Program. Although the stock is not currently overfished, this important issue was responded at WCPFC15 and the commission adopted an interim TRP for SP Albacore with an objective to reach no later than 20 years. This demonstrates that WCPFC responds to serious and important issue presented to the Commission. SG80 is met.

Most of the decision-making processes at WCPFC and IATTC respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation. However, it is hard to say that WCPFC responds to all serious and important issue, with an example of failing to maintain Pacific Bluefin tuna stock by adopting necessary CMMs in a timely and precautionary manner to prevent stock depletion in the past, although adaptive measures has been agreed. SG60 and SG80 are met but SG100 is not met at this time.

c	Use of precautionary approach	Guide post	Decision-making processes use the precautionary approach and are based on best available information.
Met?	Yes		

Rationale

The WCPFC requires members of the Commission to apply the precautionary approach as described in Annex 6 and Annex II. Specifically, the Convention requires that the Commission be more cautious when information is uncertain unreliable or inadequate. Originally, the United Nations Fish Stocks Agreement provided a formal basis for the Precautionary Approach to fisheries management, and WCPFC and IATTC make explicit mention of these codes in their conventions.

In practical terms, the scientific obligations to Precautionary Approaches are to determine the status of the stock(s) relative to limit and target reference points, to predict outcomes of management alternatives for reaching the targets and avoiding the limits, and to characterise the uncertainty in both cases. A convenient framework to conduct management evaluations is through the use of harvest control rules, for which managers agree on specific management actions under their control which are evoked according to levels of stock status relative to predefined reference points (Bruyn et al, 2013).

SC provides scientific advice, based on the best available information and precautionary approach, to the WCPFC annual meeting. At the annual meeting however, the adoption the CMMs is based on the member's consensus. Both for skipjack and North Pacific Albacore, stock assessments use a range of precautionary assumptions, in consideration of model uncertainties, in an effort to depict stock status in relation to the LRP and TRP, although for albacore only TRP is currently set.

CMM 2014-06, committing WCPFC to the development of formal harvest strategies and harvest control rules, applies to NP albacore as well as skipjack and the other tropical stocks. The work to develop the harvest strategy has, however, been delegated to the Northern Committee and NP albacore does not feature in the associated WCPFC harvest strategy workplan. Like WCPFC, the Northern Committee have agreed a harvest strategy workplan for NP albacore (see WCPFC 2017; Attachment I). The workplan originally planned that the MSE work (to establish a TRP and 'other elements of harvest strategies') should end in 2020 but as already noted, it is now planned that the second stage be completed in 2020-21 (it is not clear how many stages are foreseen).

For the management of North Pacific skipjack and albacore, however, the stocks are generally considered at healthy level and there are continuous efforts presented in the meeting record to precautionary manage the stocks in principle. SG80 is met.

d Accountability and transparency of management system and decision-making process				
Guide post	Some information on the fishery's performance and management action is generally available on request to stakeholders.	Information on the fishery's performance and management action is available on request , and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.	Formal reporting to all interested stakeholders provides comprehensive information on the fishery's performance and management actions and describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.	
Met?	Yes	Yes	No	

Rationale

At the RFMO level, recommendations from research, monitoring and evaluation, and performance reviews are formally published. Likewise, reports of the plenary sessions of meetings are published and are publicly available. WCPFC and IATTC maintain publicly accessible websites where meeting minutes and reports from the commission and subsidiary bodies are posted and freely available for download. These provide a high level of public access and transparency that shows how scientific information is used to inform management actions which are then monitored for effectiveness and discussed at the Commission. However, some information such as observer reports or compliance review reports that shows actual fisheries performance can be limited for access and it does not provide comprehensive information on the fishery's performance and management actions.

At national level, stakeholders are able to request a range of information on the performance of the fishery and management actions either by directly asking to FA or through FCA or by attending formal advisory committee meetings (including attendance as an observer). Explanation may be limited depending on the type of information, especially compliance monitoring and at-sea and port surveillance activities. Formal reporting to all interested stakeholders, with comprehensive information on the fishery's performance and management actions is not yet available in Japan and this information is usually internally circulated within the industry. The minutes of the Fishery Policy Council are available for review online. Especially for this fishery, most of the information are readily available and explanations are also provided. However, comprehensive information on the fishery's performance is not available to all interested stakeholders, and no formal reporting is provided from this particular fishery.

Thus, considering the regional situation, SG60 and SG80 are met but not SG100.

e Approach to disputes				
Guide post	Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by	The management system or fishery is attempting to comply in a timely fashion with judicial decisions arising from any legal challenges.	The management system or fishery acts proactively to avoid legal disputes or rapidly implements judicial decisions arising from legal challenges.	

		repeatedly violating the same law or regulation necessary for the sustainability for the fishery.		
Met?	Yes	Yes		No

Rationale

The WCPFC dispute mechanism is set out in Article 31 of the Convention. The WCPFC has a consensus-based decision-making process, with provision for a two-chambered voting process requiring a 75 % majority in both chambers if all efforts to reach a decision by consensus have been exhausted. This is in fact a proactive measure to avoid member's disputes on decision. WCPFC (the Commission) has not been subject to any court challenges so far. However, Medley (2020) points out the issues facing the WCPFC, which could lead to challenges, are just now coming to the forefront.

The Japanese management system has well-established decision-making mechanisms for administrative and legal appeals and has in place legal and other frameworks to respond to judicial decisions in a timely fashion. The Fishery Policy Council is held to discuss issues in a timely fashion to comply with RFMO decisions or judicial decisions arising from any legal challenges, thus avoiding disputes by consulting with industry and cooperatives. In this manner, it is rare for the issues to develop into legal challenges in Japan. At local level, fisheries cooperatives, including NOTFA are well established to achieve broad agreement, coordinating among fishermen, administrations, and other numerous stakeholder groups. Thus, at Japan and local level, the fishery meets SG60 and SG80, but with the lack of evidence that shows the fishery management system acts proactively to avoid disputes, SG100 is not met.

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	More information sought / Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	80
Condition number (if relevant)	-

PI 3.2.3 – Compliance and enforcement

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with		
Scoring Issue		SG 60	SG 80	SG 100
a	MCS implementation			
	Guide post	Monitoring, control and surveillance mechanisms exist, and are implemented in the fishery and there is a reasonable expectation that they are effective.	A monitoring, control and surveillance system has been implemented in the fishery and has demonstrated an ability to enforce relevant management measures, strategies and/or rules.	A comprehensive monitoring, control and surveillance system has been implemented in the fishery and has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules.
	Met?	Yes	Yes	No

Rationale

Both the WCPFC and IATTC have strategies to improve compliance through vessel registration, catch and effort monitoring and diplomatic or other pressures applied to nation states. Compliance information is sourced through port monitoring, observer programs and the vessel monitoring systems.

The WCPFC's Compliance Monitoring Scheme (CMS) (CMM 2010-03) was first implemented in 2011 for the following purposes:

- a) "To assess CCM's compliance with their obligations;
- b) To identify areas in which technical assistance or capacity building may be needed to assist CCMs to attain compliance;
- c) To identify aspects of CMMs which may require refinement or amendment for effective implementation;
- d) To respond to non-compliance through remedial options that include a range of possible responses that take account of the reason for and degree of noncompliance, and include cooperative capacity-building initiatives and, in case of serious noncompliance, such penalties and other actions as may be necessary and appropriate to promote compliance with CMMs and other Commission obligations; and e. monitor and resolve outstanding instances of non-compliance. An independent review to determine the effectiveness of Compliance Monitoring Scheme was conducted in 2018. The review concluded the following "the current system is fundamentally sound, and achieves its overall objectives, as well as stacking up well against other compliance monitoring systems, including those of other RFMOs. It is robust and comprehensive. It appears to be

having positive effects upon overall compliance. However due to its comprehensive nature and its (still increasing) size and scope, as well as the demands it places on participants, it is at risk of collapsing under its own weight unless those demands can be reduced". The review recommended several improvements associated with these concerns including: improving the effectiveness of information collection and storage; reducing volume of material produced; ensuring clarity of CMMs; assisting under-resourced members to implement WCPFC requirements effectively; introducing systems to improve the perceived fairness of treatment between fleets and members; (WCPFC, 2018c).

The Technical and Compliance Committee (TCC) meets in on an annual basis with the purpose of reviewing member compliance against the WCPFC CMMs and measures (and how these are implemented by members) and reporting these findings to the WCPFC. The TCC also makes recommendations to the WCPFC to further strengthen the adoption of CMMs. The most recent meeting was conducted in September 2020 and meeting reports are publicly available through the WCPFC website (WCPFC 2020c). The TCC reports measure compliance based on data provided by its members. Data sources include catch and effort data, catch data, infringement reports (e.g. for adherence to spatial and temporal closures), observer programme outputs, IUU vessel lists and VMS data (WCPFC 2020c). The TCC and CMS also collect data to review member compliance against CMMs on reducing the mortality of protected or bycatch species. Historically, the WCPFC did not make this information publicly available but began publishing compliance information (for each member) in 2013 (WCPFC 2013).

All vessels are required to use VMS for fishing for highly migratory species in the WCPO south of 20°N and east of 175°E and install an Automatic Location Communicator (ALC). Boarding and inspecting of vessels is routinely conducted throughout the Convention Area (WCPFC 2006) and an IUU vessel list is maintained (WCPFC 2020c). However, the lack of transparency around infractions and surveillance and enforcement activities is known to undermine evaluation of compliance (Gilman et al. 2013). Another important MCS element is the boarding and inspection of fishing vessels on the high seas by patrol vessels registered with the Commission by CCMs. These patrol vessels conduct routine operations throughout the Pacific Ocean. Aerial patrols are also made by countries adjacent to fishing grounds.

The Commission's regional observer program objective is to achieve 5 % coverage of the effort in each fishery by 30 June 2012 for vessels operating in high seas areas but this does not include pole and line vessels.

The Inter-American Tropical Tuna Commission (IATTC) has a compliance-monitoring plan, which collects information from member nations related to the compliance and enforcement of IATTC measures. Where compliance or enforcement issues are detected, the IATTC requires a plan of action to be produced to specify how members will improve compliance. The Commission also allocates sanctions and incentives to improve member compliance (IATTC 2011).

At the national level, the FA is responsible to implement decisions at RFMOs. A 5-yearly licensing mechanism is strictly maintained as a main measure of resource management for this fishery. The JFA requires that pole and line vessels carry active VMS while fishing or cruising. At WCPFC area, daily report with 6 hours interval report from VMS is required. JFA also conduct at-sea inspection with their own vessels, but details are not available. There is no violation in the past 5 years with pole and line albacore tuna and skipjack fishery. Pole and line fishery does not require observer coverage by RFMOs, therefore there are no observers on board. JFA explained that within 30 days of returning to port, the vessels are required to submit the catch reporting format with JFA's designated format, including bycatch report on Page 2. This data is consolidated and analysed at FRA, and the total catch by species, fishing efforts, and bycatch data are reported to WCPFC as required. SG60 and SG80 are met.

As pointed in PI 3.1.2, the fishery was not compliant with the data entry rule (entering zero when no bycatch) and Kochi FC was generally skipping submission of page 2 (bycatch information). This demonstrates a non-compliance of bycatch and ETP species reporting, and JFA was not aware of this until asked at the site visit. Therefore, it is

hard to say that a MCS system has been consistently implemented and has demonstrated an ability to enforce relevant management measures, strategies and/or rules for this fishery, therefore SG100 is not met.

b	Sanctions		
Guide post	Sanctions to deal with non-compliance exist and there is some evidence that they are applied.	Sanctions to deal with non-compliance exist, are consistently applied and thought to provide effective deterrence.	Sanctions to deal with non-compliance exist, are consistently applied and demonstrably provide effective deterrence.
Met?	Yes	Yes	No

Rationale

At regional level, although conservation measures are set by RFMOs, enforcement responsibility resides with member States. Although WCPFC maintains the MCS scheme and conducts member performance reviews, so far there has been no application of trade sanctions against non-compliant Member States (Medley and Powers 2015).

At national, Japanese level, sanctions are issued through the Ministerial Order on Designated Fisheries Permit and Control, based on the Fisheries Law and the Law on Marine Resources Protection for violation of regulation on fishery permits and relevant conditions, vessel capacity, catch reporting, surveillance compliance, VMS, transhipment and landing of fish, etc. The sanctions are either imprisonment, fines, permit removals or suspensions, confiscation of catch, boat or gear, etc. or combination of these.

In the case of pole-and-line fishing, the fishery is considered to have no incentives for non-compliance (personal comment NOTFA), and there has been no record of violation in the past 5 years, except for one Warning Notice. Two years ago, one vessel failed to respond to the inspector's radio calls to stop the vessel. The vessel did not notice the call while they were busy fishing. WCPFC reported the case to the Fisheries Agency. The vessel was given a verbal warning. A verbal warning could be escalated to further sanctions if the infringement occurs again. Sanctions to deal with non-compliance exist, and although there is no case of application for the fishery, it is thought to provide effective deterrence. There is limited evidence to demonstrate the consistent application of sanctions and effectiveness. SG60 and 80 are met but SG100 is therefore not met.

c	Compliance		
Guide post	Fishers are generally thought to comply with the management system for the fishery under assessment, including, when required, providing information of importance to the effective management of the fishery.	Some evidence exists to demonstrate fishers comply with the management system under assessment, including, when required, providing information of importance to the effective management of the fishery.	There is a high degree of confidence that fishers comply with the management system under assessment, including, providing information of importance to the effective management of the fishery.

	Met?	Yes	Yes	No
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Rationale

WCPFC and IATTC's CMS review demonstrates that management regulations are generally complied with by fishers. Especially for the pole and line fishery, there no compliance issues have been identified at neither Commission. The fishery's practice is being generally simple and considered as an environmentally friendly method by the Japanese government, and there is little incentive for non-compliance from the fishers. The number of operators requesting a licence has been constantly declining due to the dwindling industry in Japan, which reflects less competition than before.

Some evidence exists that fishers comply with the management system, and they provide information of importance such as fishery permits, logbooks, catch records, cooperation with fishery cooperatives of the fishery under assessment to the authorities, thus meeting both SG60 and SG80.

However, at site visit it was found that Kochi Katsuo FC do not generally submit bycatch information report (2nd page of official catch reporting format), under the belief that "pole and line fishery is environmentally friendly method and do not have bycatch". Nango FC submits both page 1 and 2 of the format as required, however most of the format is left blank, instead of inserting "0" for reporting of no bycatch, as instructed by JFA and annotated on the format as filling instruction. JFA requires daily catch report (target species catch and bycatch information) with the format, and the use of this format is pre-agreed through industry meetings, and guided to NOTFA through a JFA official notice (personal correspondence with JFA, 2020 October 20). There is a lack of compliance in the use of this format, and JFA report the results of bycatch reported by this form, to WCPFC as member's compliance requirements, after the formats are analysed by FRA. Furthermore, as detailed in section 6.7.8, regarding Pacific Bluefin Tuna (PBT) overall compliance of NOTFA for the PBT catch allocation requirement by JFA was not well confirmed at the site visit (remote) as clear evidence could not be provided. Therefore, SG100 is not met.

d	Systematic non-compliance	
	Guide post	There is no evidence of systematic non-compliance.
	Met?	Yes

Rationale

There is no evidence of systematic non-compliance in the fishery. The pole and line fishery also does not come with much incentive for non-compliance, under the nature of the gear and methods used for fishing. Catch documents, logbooks and VMS are reviewed at the time of licence renewal. There have been no serious cases reported non-compliance concerning the fishery under assessment. **The guidepost is met.**

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	80
Condition number (if relevant)	-

PI 3.2.4 – Monitoring and management performance evaluation

PI 3.2.4		There is a system of monitoring and evaluating the performance of the fishery-specific management system against its objectives There is effective and timely review of the fishery-specific management system		
Scoring Issue		SG 60	SG 80	SG 100
a	Evaluation coverage			
Guide post	There are mechanisms in place to evaluate some parts of the fishery-specific management system.	There are mechanisms in place to evaluate key parts of the fishery-specific management system.	There are mechanisms in place to evaluate all parts of the fishery-specific management system.	
Met?	Yes	Yes		No

Rationale

WCPFC has mechanisms in place to evaluate the management system through regular committee meetings and working groups where member countries needs to report their performance to the Commission. The WCPFC Secretariat submits a report on compliance of members with the reporting provisions of the Commission (CMM 2013-02). Progress with implementation of CMMs is monitored through the reporting, and the members Annual Reports to the Commission. The compliance of requirements by each member has been monitored through Compliance Monitoring Scheme review Panel. Although this is designed to evaluate key parts of the management system, not all parts of the fishery-specific management system is being evaluated.

Scientific stock assessment procedures and methodology for the assessments are fine-tuned among members and cooperating non-members of the WCPFC, through workshops and working papers which present various peer-review opportunities and external reviews (e.g. Ianelli et al, 2012), before presented to the WCPFC SC meeting. A similar process is used for North Pacific albacore with the ISC being a science provider for WCPFC and IATTC reference group.

Japanese pole and line fishery performance has been reviewed at the time of license renewal, catch reporting, daily VMS monitoring by FA officials through satellite tracking. Catch numbers are regularly monitored by NOTFA under their obligation to guide member fishers. However, monitoring and evaluation in the Japanese management system take place within its respective measure only, and it appears there is lack of an integrated analysis, or cross-check system to effectively evaluate strength and weakness of fishery management performance. In fact, the instruction of catch reporting format (requiring bycatch report inserting any numbers or zero) was found to be not complied by most of tuna fishermen and awareness of bycatch reporting among fishermen is still very low generally in Japan. Although Minister-issued Notice of Compliance Requirement to Tuna Fisheries clearly informing the fishers following WCPFC and other RFMO's decisions, the weakness has not seem to be addressed in the past. This (entering zero in format when not encountering bycatch or ETP) may not considered as key parts of the management, thus SG80 is met.

WCPFC and IATTC's performances are regularly monitored by NGOs, such as International Seafood Sustainability Foundation, Oceana, Pew Foundation and WWF.

Based on the above, the team concludes that, both nationally and internationally, there are mechanisms in place to evaluate key parts of the fishery-specific management system, but not all parts of the management-system. Therefore SG60 and SG80 are met, SG100 is not met.

b Internal and/or external review			
Guide post	The fishery-specific management system is subject to occasional internal review.	The fishery-specific management system is subject to regular internal and occasional external review.	The fishery-specific management system is subject to regular internal and external review.
Met?	Yes	Yes	No

Rationale

WCPFC is subject to regular internal review as demonstrated by the various committees and working groups that meet regularly and report their findings to the Commission. The Compliance Monitoring Scheme (the CMS Scheme) was established by CMM 2010-03 with subsequent revision and improvements, to review members compliance with established CMMs. During 2019, a new CMM for the CMS Scheme was implemented and in 2020/21 CMM for the CMS Scheme (CMM 2019-06) will be implemented (WCPFC 2020). SG60 is met.

WCPFC14 also established an Intersessional Working Group on the Review of the Compliance Monitoring Scheme (CMS IWG). The tasks of the CMS IWG will be to facilitate consideration of the Report from the Independent Review of the CMS and develop a proposed CMM for the Compliance Monitoring Scheme for consideration at WCPFC15 (2018) (WCPFC 2020). The latest 2019 final compliance monitoring report, Appendix 2 summarises 2018 activities of members' compliance status for CMM and data provision (WCPFC 2019). However, the external review is not regularly conducted, therefore it has a regular internal and occasional external review.

IATTC is subject to regular internal review. This is demonstrated by the various committees and working groups that meet regularly and report their findings to the Commission and which are published. The IATTC has carried out an external performance review in 2016. This implies that the RFMO now meets SG80 with respect to occasional external review.

Scientific stock assessment has its own internal and external review system consisted of several layers of regular meeting processes to form its decision-making, including making member states and stakeholders.

Japan received compliance review in 2019 from WCPFC and the report is available on WCPFC TCC 15 Summary Report. This is considered as occasional external review. Other than this, no response was made to the interview on availability of internal and external review for management system under assessment by JFA. However, Management plan of NOTFA is submitted as a part of obligation within co-management system, and it is reviewed by MAFF for approval. There is no external review of the management plan. At the license renewal process of every 5 years, fishery is subject to internal review by submitting all fishery plans, catch history, capacity, etc. Therefore, fishery is subject to regular internal review, and occasional external review.

Overall, SG60 and SG80 are met but SG100 is not met.

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	80
Condition number (if relevant)	-

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8 Appendices

Appendix 1 Assessment information

Appendix 1.1 Small-scale fisheries

Unit of Assessment (UoA)	Percentage of vessels with length <15m	Percentage of fishing activity completed within 12 nautical miles of shore
UoA 1 and 2	0 %	30 %

Appendix 2 Evaluation processes and techniques

Appendix 2.1 Site visits

The site visit was held remotely, from the 14th to the 17th September 2020. The individuals met during the site visit and their roles in the fishery are listed in Table 28.

Table 28. List of attendees at the remote meetings.

Name	Position	Type of consultation
Makoto Suzuki	Client representative, JOPFSC	Client representation
Katsuhide Nakata	President of JOPFSC	Client representation
Yoshihiro Notomi	NOTFA	
Koji Saito	Katsuura Fisheries Cooperative	Traceability
Yasushi Usui	Kesennuma Fisheries Cooperative	Traceability
Daisuke Ochi	Fisheries Research Center	RBF workshop
Hidetaka Kiyofuji	Fisheries Research Center	RBF workshop
Uematsu Shuhei	WWF Japan	RBF workshop
Maekawa Satoshi	WWF Japan	RBF workshop
Yasuko Suzuki	Birdlife	RBF workshop
Fumiya Takahashi	Fisheries Agency of Japan	Principle 3
Koji Iwakiri	Nango Fisheries Cooperative	
Yuki Muraura	Nango Fisheries Cooperative	
Masaya Sakanoue	Kochi Katsuo Fisheries Cooperative	
Yoko Tamura	CU UK	
Jo Gascoigne	CU UK	
Johanna Pierre	CU UK	
Beverley O’Kane	CU UK	
Cora Seip-Markensteijn	CU UK	

Appendix 2.2 Stakeholder participation

The information obtained during the site visit has been incorporated throughout the main report; however key points are summarised below:

- NOTFA and Kochi and Miyazaki Cooperatives: Information about traceability from capture to 1st point of sale, details on fishing operations, gear use, bait use, bycatch avoidance tactics, ETP interactions, gear loss
- Katsuura and Kesenuma Cooperatives (landing sites): Information about traceability from capture to 1st point of sale
- Fisheries Research Center: Information on stock assessment, and other data collection regarding (tropical) tuna, information on interactions with other species and potential by-catch (with a focus on seabirds)
- Environmental NGOs (WWF, Birdlife): contribution to RBF workshop and provision of additional data on seabird interactions (see also section 8.2.4).
- Fishery Agency: Information about the management and implementation of the fishery (operations, data gathering and analysis, management structures, decision making process and responsibilities, management plans, regulations, enforcement etc

Information was provided through emails, during the site visit calls and again through email exchanges afterwards.

Appendix 2.3 Evaluation techniques

a) Media announcements: CU UK selected the MSC as main media outlet. The MSC press release targeted a wide range of stakeholders within the sustainable seafood industry, ensuring that key stakeholders were notified of this fishery's announcement. MSC Japan, in cooperation with Control Union Japan (a sister-company of CU UK), also published a separate press release about the assessment.

Aside from the general communication to stakeholders about the assessment, the team also reached out to a few stakeholders directly, to ensure their participation during the site visit. This was done by team member Yoko Tamura in Japanese.

b) Methodology for information gathering: Review of data and documentation, interview of stakeholders.

c) Scoring process: Scoring was agreed by the team via skype and email correspondence. Consensus was reached for all scores.

The scores were decided as follows:

How many scoring issues met?	SG60	SG80	SG100
All	60	80	100
Half	FAIL	70	90
Less than half	FAIL	65	85
More than half	FAIL	75	95

Note that where there is only one scoring issue in the SG, the issue can be partially scored – in this case the team used their judgement to determine what proportion of it was met, e.g. at the 100 level, a small part met = 85, about half met = 90, nearly all met = 95.

d) Decision rule for reaching the final recommendation: The decision rule for MSC certification is as follows:

- No PIs scores below 60;
- The aggregate score for each Principle, rounded to the nearest whole number, is 80 or above.
- The aggregate score for each Principle is the sum of the weighted score of each Performance Indicator within that Principle.

e) Scoring elements: The set of scoring elements considered in the assessment is listed in Table 25.

f) Use of the RBF

The use of the RBF was announced at the same time as the announcement of the initial assessment and site visit.

The interactions of this fishery with seabirds (ETP species) cannot be analytically determined, due to a lack of fishery-specific data. Following FCP v2.1 7.7.3, a Productivity Susceptibility Analysis (PSA) was needed to score this scoring element in PI 2.3.1.

During the site visit, a separate call to conduct the RBF workshop was held. Participants to the RBF workshop are listed in Table 28, and also included the client representatives and full CU UK team.

Appendix 3 Peer review reports

Peer Reviewer A

Summary of Peer Reviewer General Comments

Question	Yes/ No	Peer Reviewer Justification (as given at initial Peer Review stage). Peer Reviewers should provide brief explanations for their 'Yes' or 'No' answers in this table, summarising the detailed comments made in the PI and RBF tables.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)
Is the scoring of the fishery consistent with the MSC standard, and clearly based on the evidence presented in the assessment report?	Yes	<p>There is a lot of information in the report, but often it is not clearly referenced at key scoring points, therefore some important scoring statements appear unsubstantiated. This does leave the reader with the impression that some scores are poorly justified.</p> <p>There was one issue where a scoring outcome of less than 60 was quite possible, and therefore warrants further scrutiny and either a change of score or a clearer rationale. The Japanese anchovy bait fishery is a main primary species. The stock appears to be badly depleted and declining. The UoA does not have any management in place to ensure that it does not hinder recovery (other than there being a finite number of vessels). I have also highlighted that a higher level of bait is apparent if the 3 % of catch is used as a basis for the calculation.</p>	<p>Thank you. We have tried to clarify scoring statements to address the issue. The specific comments relating to Japanese anchovies are addressed in the PI comment responses.</p>

Question	Yes/ No	Peer Reviewer Justification (as given at initial Peer Review stage). Peer Reviewers should provide brief explanations for their 'Yes' or 'No' answers in this table, summarising the detailed comments made in the PI and RBF tables.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)
<p>Are the condition(s) raised appropriately written to achieve the SG80 outcome within the specified timeframe? [Reference: FCP v2.2, 7.18.1 and sub-clauses]</p>	Yes	<p>Principle concern with the conditions relates to the impression that client action alone (regardless of whether it achieves its aims) might result in a score increase. In fact, it is only with evidence of a successful outcome of action (of the client and others) that a score will change. This nuance is very important. It appears this relates to the harmonised conditions.</p> <p>The condition related to 2.3.3 refers to the 2.3.1 guidepost in the timeline as being the requirement for a score increase to 80.</p>	<p>The milestone text in the 1.2.1, 1.2.2 and 2.3.3 condition has been updated to address this, thank you.</p>
<p>Is the client action plan clear and sufficient to close the conditions raised? [Reference FCR v2.0, 7.11.2-7.11.3 and sub-clauses]</p>		<p>No client action plan available for review at this reporting stage.</p>	n/a
<p>Enhanced fisheries only: Does the report clearly evaluate any additional impacts that might arise from enhancement activities?</p>	NA	<p>Although the fishery occasionally fishes on FADs, it does not deploy FADs, so reasonable to not give consideration to FADs as an enhancement. It should be clarified whether the catch profile includes consideration of the different catch profile at FADs, which would impact on scoring. By contrast, if FADs are not deployed by UoA (and this is assured) then no need to consider impact of FADs on habitats or ecosystem.</p>	<p>The catch landed from around FADs is not distinguishable from unassociated catch in the catch profile. Specific comments on the team's evaluation of FADs are addressed at the relevant PIs.</p>

Question	Yes/ No	Peer Reviewer Justification (as given at initial Peer Review stage). Peer Reviewers should provide brief explanations for their 'Yes' or 'No' answers in this table, summarising the detailed comments made in the PI and RBF tables.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)
Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.	NA	There remains some debate about whether best to provide a full explanation in the report chapters and only a more brief explanation in the scoring rationale (or vice versa). In the view of this peer reviewer, the clarity of the audit is greatly enhanced where clear reference is made in the scoring rationale to any evidence which is relied upon for scoring. There are many cases where relevant information (i.e. relevant WCPFC CMMs) are crucial to the scoring, and although referenced in the chapter, are not mentioned in the scoring rationale.	The challenge always is to keep both sections of the report (background and scoring tables) legible. Where possible/needed we have added references to the relevant background section.
Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.	NA	Still a couple of references to this being the ACDR, in the Exec. Sum.	Thank you, this has been amended.

Question	Yes/ No	Peer Reviewer Justification (as given at initial Peer Review stage). Peer Reviewers should provide brief explanations for their 'Yes' or 'No' answers in this table, summarising the detailed comments made in the PI and RBF tables.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)
Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.	NA	<p>Further clarification could helpfully be provided about the exact applicable management, for both stocks. For example, the report states that the main management measure for Skipjack is CMM 2017-01, but from the WCPFC website it is evident that this is no longer in force: https://www.wcpfc.int/conservation-and-management-measures/past .</p> <p>And for N Albacore, the Exec summary refers to the main management as the IATTC and WCPFC CMMs but with no mention of the WCPFC 2017 Interim Harvest Strategy.</p>	<p>There was a couple of rogue mentions of 2017-01 left, one of which was in the Executive Summary - these have been corrected.</p> <p>Regarding the albacore interim harvest strategy, the problem is that it is not applied in any way - in practice, the management measures which are actually in effect are the two measures mentioned. This has been clarified in the Exec Summary.</p>
Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.	NA	<p>The management of the 2 stocks is surprisingly complex and key documents are difficult to find on IATTC or WCPFC website. Having a very simple explanation of which documents are in force is useful. Table 13 in the Skipjack P1 report section is useful (although it'd be even better if these were hyperlinks). A similar table for albacore would be useful (including linking to the deeply buried interim harvest strategy).</p>	<p>The history of management of NPA is less complex than skipjack so a table explaining the history is a bit redundant. I agree that the interim harvest strategy is difficult to find, but it is pointed out fairly clearly in the background section 6.4.6 (gives reference and tells you that it is Attachment H). Hyperlinks are fairly 'vulnerable' in word, so any provided might not have worked, or have broken once the website was updated. We are looking into a new referencing program to fix this for future assessment.</p>
Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.	NA	<p>In Principle 1: My main concern is that some of the rationale is so complex that it has little or no chance of being understood by anyone other than a stock assessment specialist. It would be beneficial for audit transparency if it could be written with a wider readership in mind.</p>	<p>The subject matter in the SG are complex and highly technical. We appreciate your comment and will endeavour to write the rationales for the understanding of the wider readership</p>

Question	Yes/ No	Peer Reviewer Justification (as given at initial Peer Review stage). Peer Reviewers should provide brief explanations for their 'Yes' or 'No' answers in this table, summarising the detailed comments made in the PI and RBF tables.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)
Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.	NA	In Principle 3 it is a little confusing when it jumps from WCPFC to IATTC. The IATTC only applies to one UoA. It might have been clearer to score the 2 UoAs separately in P3, given this difference in the management regime. There appear to be sufficient differences in the management for separate scoring.	The distinction between albacore and skipjack has been made in the scoring table under PI 3.2.1, though the overall outcome remains the same for both UoAs
Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.	NA	In Principle 3 the audit evidence would be clearer if more direct reference could be made to specific articles of RFMO conventions, national legislation or of CMMs. Often these documents clearly set out the evidence to unambiguously support a particular SI, but this has not been referred to.	As noted under the Principle 3 PIs, links and references have been added where needed.
Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.	NA	Referencing: the referencing and links provided in Principle 2 scoring tables were clear. The abridged references provided in P1 and P3 were harder to navigate.	We have amended this.

Summary of PI Comments

PI	UoA Stock	Has all available relevant information and/or rationale been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
1.1.1		Yes	Yes	NA	Reference for the stock assessment should be clarified as there are now multiple WCPFC 2019 references.	Apologies - normally we use referencing software that sorts all this out, but a helpful recent Windows update removed it all from my computer and I have not so far succeeded in reinstalling it, much to the (justified) irritation of my colleagues. The reference is WCPFC 2019a which is the SC15 report; and this has been adjusted throughout.	Accepted (no score change, change to rationale)
1.1.2		NA (PI not scored)	NA (PI not scored)	NA			

PI	UoA Stock	Has all available relevant information and/or rationale been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
1.2.1	WCPO Skipjack tuna	Yes	Yes		SId: Since there is no formally adopted harvest strategy, it is difficult to argue that it is reviewed. The rationale even states that is only a component of the strategy that is reviewed. However, due to the less than 80 score elsewhere in the PI, this does not currently influence scoring. CMM 2018-01 (etc.) makes clear that it is a measure not a strategy "Pending the establishment of harvest strategies..... the purpose of this measure is". Therefore the review of the CMM is not a review of the harvest strategy.	You are not the first to query this (see comment from IISF) so it has been changed to 'not met'.	Accepted (non-material score reduction)
1.2.1	WCPO Skipjack tuna	Yes	Yes	No	The milestone for the condition indicates that the score will increase to 80 if the client provides evidence of actively working to ensure that harvest strategy is adopted. But it should be clarified that a score increase to 80 will only be achieved following the adoption of the harvest strategy.	The milestone has been changed to make sure that the SG80 guidepost is clearly referenced.	Accepted (no score change, change to rationale)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
1.2.2	WCPO Skipjack tuna	Yes	Yes	No	The milestone for the condition indicates that the score will increase to 80 if the client provides evidence of actively working to ensure that HCR is adopted. But it should be clarified that a score increase to 80 will only be achieved following the adoption of the HCR.	The milestone has been changed to make sure that the SG80 guidepost is clearly referenced.	Accepted (no score change, change to rationale)
1.2.3	WCPO Skipjack tuna	Yes	Yes	NA			
1.2.4	WCPO Skipjack tuna	Yes	Yes	NA			

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
1.1.1	WCPO Skipjack tuna	Yes	No (scoring implications unknown)	NA	Very complex rationale. It would be helpful to introduce key terms like 'h' and ensure these are also in the glossary. Is it the case that there is a high degree of certainty that MSY is met, but not PRI?	The rationale for Sla was re-written several times which I admit did not help with coherence. I have largely rewritten it, explained h and added some sub-headings to guide the reader through the argument. Hopefully, it now reads better.	Accepted (no score change, change to rationale)
1.1.2	WCPO Skipjack tuna	NA (PI not scored)	NA (PI not scored)	NA			

1.2.1	North Pacific Albacore	Yes	No (scoring implications unknown)	NA	<p>Sla: Another very complex rationale. Can it be explained more simply and clearly?</p> <p>Scoring appears inconsistent with Skipjack, where the lack of HCR meant that, by definition, the harvest strategy was incomplete.</p> <p>I eventually managed to find the interim strategy contained in WCPFC14 (2017). It is not clear why this is separate from CMM2019-03 - which does not claim to be a management strategy (it is a commitment to not increase catches, to share data and to review the stock assessment). It is clear that there is still the intention to introduce a harvest strategy for N. Albacore (under the commitments within CMM 2014-06) but this is not yet in place.</p>	<p>I reviewed the rationale, which seemed fairly coherent. The issue maybe as you have rightly point out, the situation is complex so it is hard to explain it in a non-complex way. I reordered the rationale a bit and added some sub-headings which might help.</p> <p>I do not disagree that the scoring is inconsistent with skipjack - there is no requirement from MSC to harmonise scoring across stocks, so this situation exists with agreed scores across several stocks (e.g. harmonised scores for 1.2.3 are inconsistent across the WCPO tuna stocks). The score here and the score for skipjack are agreed harmonised scores and difficult to change without starting a long-winded harmonisation process. Since we argued (unsuccessfully) for a higher score for this PI</p>	Accepted (no score change, change to rationale)
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PI	UoA Stock	Has all available relevant information and/or rationale been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
						<p>for skipjack, we have retained it here since it is the agreed score anyway.</p> <p>This is unsatisfactory, I agree, but at the same time, cross-referencing scores between different assessments on the same stock is already a nightmare, without starting to cross-reference across different stocks in similar situations.</p> <p>Otherwise, regarding the interim strategy etc. your interpretation is correct.</p>	

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
1.2.2	North Pacific Albacore	Yes	Yes	No	By the completion of milestone 1, it does not appear that the HCR will be in place, therefore the score will not have changed (furthermore a score of 70 is not possible given that there are 3 SIs).	There are only two SIs at SG80 so if one is met and one is not met, the score is 70. The score at the end of milestone 1 is still 70, so the reviewer is correct about no change in score.	Not accepted (no change)
1.2.3	North Pacific Albacore	Yes	Yes	NA			
1.2.4	North Pacific Albacore	Yes	Yes	NA			

2.1.1	North Pacific Albacore	Yes	No (material score reduction expected to <60)	Yes	<p>It would be very useful to see the catch profile, showing percentages of catch (including bait) and a discussion of the accuracy of these figures (including any implications of FADs). Without this it is difficult to comment on the categorisation of main / minor. Key question is what are the measures in place that are expected to ensure that the UoA does not hinder recovery and rebuilding of anchovy? The stock is badly depleted, the biomass is declining and the UoA has not introduced any measures in response. According to table 10 the UoC tonnage in 2018 was 19,510t for skipjack and 8,394t for albacore (=27,904t). 3 % of this would be 837t. As the catch also includes minor species and the UoA includes other eligible fisheries, the eventual UoA catch will presumably be higher than this? This is different to (and much higher than) the calculation provided (was the 91,999 buckets figure just for the UoC?). The only measure appears to be the overall number of vessels in the UoA - which does not seem like much of a measure!</p>	<p>The three data sets used have been added to the report as tables. As discussed in 6.5.3, these datasets feature different combinations of vessels/timeframes. Catch caught from FADs is not distinguished in the available catch records. Overall, the team considers that the combination of catch data for the vessel groups and timeframes available effectively demonstrates which species should be assessed as main and minor. We have edited the text in various places to clarify the scope and constraints of the datasets used. Table 10 was a remnant from the pre-assessment, apologies for not picking up on the discrepancies between the data presented. This has been amended.</p> <p>The depleted state of the anchovy stock underpins the decision</p>	Accepted (no score change, additional evidence presented)
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					<p>to evaluate it as main for this assessment, despite the amount used being below 5 % (2.9 %, as shown in the UoA catch data table and rounded to 3 % in the text). The reviewer is correct that the only 'measure' in place is the number of vessels in the UoA and therefore the capacity constraint on bait usage. The decision that SG60 was met was based on the proportion of the stock used as bait by the assessed fishery, and considering GSA3.4.6: "<i>....even if the total catch of a species is clearly hindering recovery, UoA catches of less than 30 % of the total catch of a species may not normally be influential in hindering a recovery in a marginal sense, i.e., nothing the UoA does would be likely to change the situation. On the other hand, catches of more than 30 % might be influential, such that if the UoA took</i></p>	
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					<p><i>action to reduce its catches, the stock might well start to recover."</i></p> <p>We note that Table SA8 of the MSC Fisheries Standard describes that "measures" and a "partial strategy" need not have been designed specifically to address impacts on a particular component. Further, Table GSA3 notes that <i>"For a "partial strategy", specific measures may not have been designed to manage the impact on that component specifically, but if such a measure/ measures are effective in assisting the UoA to achieve the SG80 level for the primary or secondary species Outcome PI then this could be considered as a management measure under the primary or secondary species Management Strategy PI."</i> The scale of the UoA operates indirectly to restrain bait use.</p>	
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PI	UoA Stock	Has all available relevant information and/or rationale been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
2.1.1	North Pacific Albacore	Yes	No (non-material score reduction expected)		Based on current scoring rationale, it is unclear why the Japanese anchovy scores 70, as only Sla applies. This may change the PI score.	Thanks to the reviewer for pointing out this error in the scoring summary, which has now been rectified (Japanese anchovies score 60). As two of three (i.e. most) main primary species meet SG80, the PI score remains at 75.	Accepted (non-material score reduction)
2.1.2	Both (WCPO Skipjack & North pacific Albacore)	Yes	No (material score reduction expected to <80)	NA	Logic for Japanese anchovy does not fit with scoring of 2.1.1. As noted above, the only measure to limit impact on the depleted anchovy is the finite number of vessels in the UoA. This is not a partial strategy (indeed rationale even says it is not a partial strategy). A condition is required here, which could tie-in with condition for 2.1.1.	This rationale has been expanded considerably, to clarify and better support the scoring.	Accepted (no score change, additional evidence presented)

2.1.3	Both (WCPO Skipjack & North pacific Albacore)	No (scoring implications unknown)	Yes	NA	<p>It would be helpful to have a discussion of the quality of the catch profile information provided by the 3 datasets referred to in 6.6.2. Without this, it is difficult to conclude that it provides a high degree of certainty. Does the data show the difference in catch profile when fishing at FADs? The overall number of vessels in the UoA (as opposed to the UoC) is also undefined (due to other eligible fishers), so the exact catch of the UoA is not known.</p>	<p>Three tables have been added to show the catch information (see section 6.6.3). Catch taken around FADs cannot be differentiated in the datasets available. Therefore, catch is considered as a whole (i.e. associated and unassociated catch together), for the UoAs. As noted above, three sources of catch information have been tabulated in the report.</p> <p>The number of vessels in the UoC are the 19 vessels as defined in table 4. Any vessels that might join the certificate as 'other eligible fishers' are included in the dataset covering the NOTFA vessels, with the NOTFA catch information 2008-2018 shown in Table 20. As it is difficult to judge the addition of new vessels to the certificate fully beforehand, we have included the caveat that they can't use the MSC</p>	Accepted (no score change, additional evidence presented)
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PI	UoA Stock	Has all available relevant information and/or rationale been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
						certificate unless they have provided the CAB with catch and bait use data. Upon receiving these, the CAB will carry-out a gap-analysis to determine if the fishing practices are similar enough to be included in the certificate, or if a scope extension is needed.	

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
2.2.1	Both (WCPO Skipjack & North pacific Albacore)	No (scoring implications unknown)	No (scoring implications unknown)	NA	Swordfish appears to have reference points, therefore not clear why it is a secondary species. Table 22 also states that it is not data deficient. Any non-ETP birds would be secondary main.	While a stock assessment is available for swordfish, there appears to be no management in place where the fishery operates that is linked to maintaining the stock status at limit or target reference points (required to assign this species to the "Primary" category, MSC FS SA3.1.3.3). The team's understanding is that the seabirds assessed are ETP.	Not accepted (no change)

PI	UoA Stock	Has all available relevant information and/or rationale been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
2.2.2	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	NA	Scoring OK. Shark finning could presumably be monitored at the point of landing - is this done? Reference should be made to the WCPFC CMMs which apply to secondary species.	Monitoring of shark fins could be undertaken at landing. Vessels notify ports ahead of landing, which would enable inspections to occur. Fisheries cooperatives maintain detailed records of product landed to them. Government officials do not appear to routinely monitor landings. WCPFC CMM2019-04 relating to sharks is referred to in the text, while it only applied after the site visit (from 1 November 2020) and therefore was not in force at the site visit.	NA (No response needed)

PI	UoA Stock	Has all available relevant information and/or rationale been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
2.2.3	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	NA	A more thorough explanation of how catch information is provided would give the impression of a more robust scoring exercise. Any non ETP birds would be secondary main - is there information on these?	The team's understanding is that all seabirds assessed during the site visit were ETP and none qualify as secondary (see Appendix 8). Catch information is tabulated (see the tabular additions to section 6.6.2), with data sources described.	NA (No response needed)

2.3.1	Both (WCPO Skipjack & North pacific Albacore)	No (scoring implications unknown)	No (scoring implications unknown)	NA	S1b: A quick search on IUCN redlist for the area of the fishery shows that there are other potential ETP species - including birds, mammals and reptiles.	The team concurs that other ETP species occur in the area in which the fishery operates. However, the fishing method is highly selective, such that the gear cannot catch some of these species. Hooks are not baited, which reduces the attractiveness of the gear to non-target species. During the site visit, quantitative and qualitative information on ETP captures was sought from stakeholders (and the RBF process conducted for seabirds, as per Appendix 8). The team notes the lack of quantitative information on seabird captures and set a condition at 2.3.3 in response. The available information (including stakeholder input) did not identify any other ETP at risk of interacting with the fishery. The team applied the RBF to species known, or considered to be possibly	Not accepted (no change)
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PI	UoA Stock	Has all available relevant information and/or rationale been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
						affected by, the UoA. Species considered to be unaffected by the UoA were not evaluated. The team notes MSC FCP G7.7.3.3 on data-deficient scoring elements: " <i>For Principle 2, scoring elements are the different species or different habitat types being affected by the fishery.</i> "	

2.3.2	Both (WCPO Skipjack & North pacific Albacore)	No (scoring implications unknown)	Yes	NA	<p>Sla: Reference is made to the management of impact on shark species, but it is unclear if these are considered to be ETP. No mention is made of CMMs for birds (which are ETP) or turtles (which may be ETP):</p> <ul style="list-style-type: none"> • CMM2018-04 • CMM2018-03 	<p>CMM2018-03 focuses on longline fishing, rather than pole and line fishing methods that are the focus of this assessment. Attachment N to this CMM, which has relevance to hook fisheries, is referred to in section 6.6.6 and scoring issue 2.3.2(e). CMM2018-04 is listed in section 6.6.6, while not considered to have specific relevance to the pole and line fishery under assessment. ETP sharks are not known to be caught in the fishery. Under 2.3.2(e), a shark-based example was provided purely to show how the management body reviews and seeks to address ETP impacts. This has been deleted, deemed unhelpful if it is causing confusion.</p>	Accepted (no score change, additional evidence presented)
2.3.2	Both (WCPO Skipjack & North pacific Albacore)	No (scoring implications unknown)	No (non-material score reduction expected)	NA	"Slc: If the evidence of interactions is "qualitative", then can this provide "objective" basis for confidence? A score of 60 would tie in with the statement elsewhere in the report that "Reporting of incidental captures (including null reports when there are no captures) of seabirds, marine mammals,	An "objective basis for confidence" is defined in the MSC FS at Table SA8: <i>"Objective basis for confidence", as used at the SG80 level in the P2</i>	Not accepted (no change)

					<p>turtles, sharks, and tunas is required although this currently appears not to be in place in the fishery". And given that, in SIE it states "The efficacy of rapid removal of any non-target species from hooks as reported, cutting the fishing line if the hook cannot be readily removed, and use of the horns for deterring attending seabirds are unknown".</p>	<p><i>management PIs (Management Strategy Evaluation scoring issue) refers to the levels of information required to evaluate the likelihood that the management partial strategy will work.</i></p> <ul style="list-style-type: none"> • <i>The SG80 level requires expert knowledge augmented by some information collected in the area of the UoA and about the specific component(s) and/or UoA;</i> <p><i>and Table GSA3:</i></p> <ul style="list-style-type: none"> • <i>At the SG80 level, an "objective basis of confidence" may exist where information augmenting the expert knowledge has been collected in a sound manner, but might be opportunistically collected rather than collected as part of a systematic monitoring program or a research project targeted on the specific component. How extensive the more</i> 	
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PI	UoA Stock	Has all available relevant information and/or rationale been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
						<i>specific information is may vary, but it should be appropriate to the scale and intensity of the UoA.</i> The team considers that the requirement for an objective basis for confidence has been met.	
2.3.2	Both (WCPO Skipjack & North pacific Albacore)	Yes	No (score increase expected)	No	Sle: This justification provides clear reference to relevant management measures and makes clear that these are reviewed. These apply to the UoA, so there is a case for SG80 being met. Is the issue that the UoA is failing to comply with CMM requirements (as rationale implies) or that the UoA is not doing a review (as condition implies)?	Regular review of alternative measures to minimise mortality of ETP species is undertaken by the management body. Findings of these reviews are not considered by the UoA, and therefore, would not be subject to implementation.	Not accepted (no change)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
2.3.3	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	NA	Sla: Rationale would be improved by stating at the outset that only the part of the SG related to RBF is scored, then giving some detail about the availability of quantitative data to score the productivity attributes.	The text has been edited to reflect the reviewer's suggestion.	Accepted (no score change, change to rationale)
2.3.3	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	No	Slb. Year 3 milestone requires that "known direct effect of the UoAs are highly likely not to hinder recovery ETP species" (Score: 80). This statement is from 2.3.1b (which was already scored at 80). In fact, the milestone for the condition to result in a score increase to 80 should relate to the SI / SG which was not met - i.e.Information is adequate to measure trends and support a strategy to manage impacts on ETP species.	The text has been updated; "Information is adequate to measure trends and support a strategy to manage impacts on ETP species" has been added as suggested.	Accepted (no score change, change to rationale)
2.4.1	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	NA	If FADs are not deployed by UoA (and this can be confirmed) there is no need to look at impact of FADs here.	The team considers that FADs must be addressed as these are part of the UoA fishing strategy and operation (while not placed by the UoA).	Not accepted (no change)

2.4.2	Both (WCPO Skipjack & North pacific Albacore)	Yes	No (non-material score reduction expected)	NA	SIb: SG100 makes clear reference to "testing" so this should be referred to in rationale.	The word 'testing' has been added. The definition of testing is provided in the MSC-MSCI Vocabulary as follows: <i>"The involvement of some sort of structured logical argument and analysis that supports the choice of strategy. In the context of fishery, it can include the use of experience from analogous fisheries, empirical testing (for example practical experience of performance or evidence of past performance) and simulation testing (for instance using computer-intensive modelling such as management strategy evaluation)."</i>	Accepted (no score change, change to rationale)
2.4.3	Both (WCPO Skipjack & North pacific Albacore)	Yes	No (score increase expected)	NA	As noted above, if UoA does not deploy FADs (and this can be assured) then no need to consider habitat impact of FADs.	The team considers that FADs must be addressed as these are part of the UoA fishing strategy and operation (while not placed by the UoA).	Not accepted (no change)
2.5.1	Both (WCPO	Yes	Yes	NA			NA (No response)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
	Skipjack & North pacific Albacore)						needed)
2.5.2	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	NA			NA (No response needed)
2.5.3	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	Yes			NA (No response needed)

PI	UoA Stock	Has all available relevant information and/or rationale been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
3.1.1	Both (WCPO Skipjack & North pacific Albacore)	No (change to rationale expected, not to scoring)	Yes	NA	Sla: Further reference should be made to the first part of the SI - the need for an effective national legal system - as most of the evidence focusses on the 2nd part of the SI - the mechanism for cooperation with other parties. Reference to the national system (i.e. the Fisheries Law (1949) and the Fisheries Basic Act (2001) should be added as evidence of an effective national system.	the Fisheries Basic Act (2001) was included in both Chapter description and scoring sheet rational (in 3.1.1a), as well as the Law of Conservation and Management of Marine Living Resources as main legal framework to fulfil MSC principles, but The Japanese Fisheries Law (1949, as revised 2018) was also added. Thanks for the suggestion.	Accepted (no score change, change to rationale)

PI	UoA Stock	Has all available relevant information and/or rationale been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
3.1.1	Both (WCPO Skipjack & North pacific Albacore)	No (change to rationale expected, not to scoring)	Yes	NA	<p>Sla: The fact that northern albacore falls under the remit of 2 RFMOs (WCPFC and IATTC) is relatively unusual. Worth making specific reference to Article 22(4) of the WCPFC Convention that provides for cooperation with the IATTC regarding fish stocks that occur in the Convention Areas of both organizations. And reference this:</p> <p>https://www.iatcc.org/PDFFiles/IATTCInstruments/_English/IATTC_WCPFC-IATTC-Memorandum-of-Understanding-Jun-2006.pdf</p> <p>Consideration should be given to whether this MoU is 'binding' or not. If not, then score would be 80 for N Albacore UoA.</p>	<p>Thank you for the suggestion. The link is now included in the Chapter text and the scoring rational. The MoU for NP albacore exists with WCPFC and IATTC, and under this MOU CMMs are applied to all areas including IATTC's jurisdiction for management, therefore it is also considered binding for NP albacore.</p>	Accepted (no score change, change to rationale)

3.1.2	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	NA	Sla: Some of the rationale is not directly relevant to the question. The fact that some flag states do not understand their responsibilities is probably beyond the remit of this SI. Likewise, the fact that some of the bycatch information was not submitted correctly (better addressed elsewhere - P2 information PIs).	Flag states information was inserted specifically to respond stakeholder's comment (request) received from ISSF after ACDR's announcement. Though the bycatch forms (or the not filling out of these forms) has its impact on P2-information PIs), the fact that these forms are not filled out and that this has gone undetected points to an issue where parties are not fully aware of their roles (the responsibility of JFA for checking the catch report, and FC who are responsible for guiding the fishers to ensure compliance appear to be not understood well) and has been cited as a reason why SG100 is not reached.	Not accepted (no change)
3.1.2	Both (WCPO Skipjack & North pacific Albacore)	No (material score reduction expected to <80)	No (material score reduction expected to <80)	NA	Slb & c: A lot of the focus in the rationale is on the decision-making process, which is not the focus of either Slb or c. Most of the evidence presented relates to meetings of committees (which may have some industry representation). Allowing observers in meetings is not a substitute for an open consultation process which seek views. Although the rationale	Consultation within RFMOs are provided in observer participation Rules of Procedure, and this is well established in both WCPFC and IATTC. The resolutions and	Accepted (no score change, change to rationale)

PI	UoA Stock	Has all available relevant information and/or rationale been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
					states that local knowledge is sought and accepted, there is insufficient evidence of this. There is little evidence of consultation processes on either the WCPFC or the IATTC website. Do they have open consultations before new resolutions? Does the Japanese Ministry of Fisheries ever do public consultations which could be referred to here? Clear reference to a consultation process (including for local knowledge) should be made to support an SG80 score.	CMMs reflect variety of stakeholders interest, shown by the attached paper in WCPFC resolution papers, produced by NGOs such as WWF, ISSF, Oceana, etc. The justification was revised to demonstrate this in detail.	

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
3.1.3	Both (WCPO Skipjack & North pacific Albacore)	No (scoring implications unknown)	No (scoring implications unknown)	NA	<p>This SI is about whether objectives exist and whether they are required by management policy. It is not about how objectives are applied in practice. So overfishing in the bluefin or bigeye need not influence scoring.</p> <p>Article 5 of the WCFPC Convention states "".....members of the Commission shall....: (a) adopt measures to ensure long-term sustainability of highly migratory fish stocks in the Convention Area and promote the objective of their optimum utilization;.....(c) apply the precautionary approach.</p> <p>This appears to require that objectives are set, which goes some way to indicating SG100 is met.</p> <p>Another piece of evidence of objectives being required is in CMM2014-06 which states ""For each harvest strategy, the Commission shall determine agreed conceptual management objectives for that fishery or stock"".</p> <p>The requirement is less apparent in the IATTC Convention.</p> <p>The justification as currently written, does not make clear why partial scoring has been used.</p>	<p>WCPFC article 5 and 6 were explicitly referred in the scoring rational, although the actual language was not cited. Now these citations were included. The scoring rational was amended to make this clear.</p>	Accepted (no score change, change to rationale)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
3.2.1	Both (WCPO Skipjack & North pacific Albacore)	No (scoring implications unknown)	No (scoring implications unknown)	NA	Rationale should make reference to both P1 and P2 objectives.	This has been included in more detail.	Accepted (no score change, change to rationale)
3.2.1	Both (WCPO Skipjack & North pacific Albacore)	No (scoring implications unknown)	No (scoring implications unknown)	NA	There is no objective set for Northern Albacore. There are a number of management documents (CMM2019-03 and IATTC measures (73rd, 85th and 93rd meetings). But none of these state objectives. Justification should more clearly set out why score is justified for Northern Albacore.	Thank you for your comment. Now reflected in justification.	
3.2.1	Both (WCPO Skipjack & North pacific Albacore)	No (scoring implications unknown)	No (scoring implications unknown)	NA	The references provided should include the key documents related to the 2 species of the UoA: i.e CMM 2015-06;CMM 2019-03. The clearest reference to objectives for Northern Albacore is on page 160 of this document: https://www.wcpfc.int/system/files/WCPFC14%20Summary%20Report%202017_%20Issued%2016%20March%202018_complete.pdf	Thank you for your comment. Now reflected in justification.	Accepted (no score change, change to rationale)

3.2.2	Both (WCPO Skipjack & North pacific Albacore)	Yes	No (scoring implications unknown)	NA	S1b: As this is a 'fishery specific' SI justification should focus on the UoA stocks, not other stocks. The slow response to the serious issue identified in 2014-06 (the need for harvest strategy) could be discussed here. This does not appear to be a timely response. Has this score been harmonised with other tuna fisheries?	Thank you for your comment. Pacific Bluefin Tuna is relevant as P2 species of this specific fishery. The response of 2014-06 is based on the consensus including scientific data consideration, and it is not necessarily to be too untimely, considering the relatively stable status of the stock. Harmonisation of the UoA stocks (including the need for harvest strategy) has taken place under P1. PI 3.2.2 is fishery-specific and full harmonisation across other tuna fisheries within the WCPO has not been undertaken, though rationales for similar fisheries (e.g. Ishihara marine product albacore and skipjack pole and line, and Japanese Pole and Line Skipjack and Albacore Fishery) reach the same conclusions.	Accepted (no score change, change to rationale)
3.2.2	Both (WCPO	Yes	Yes	NA	S1d: This states that the RFMO websites provide a high level of public access and transparency. But the	Thank you for your comment. Now reflected	Accepted (no score

PI	UoA Stock	Has all available relevant information and/or rationale been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
	Skipjack & North pacific Albacore)				information provided is incredibly difficult to navigate, with vital bits of information (such as the interim strategy for N.Albacore) often being deeply buried in reports from a few years ago. This is worthy of comment - and possibly a recommendation.	in justification. No recommendation has been issued on this point, the information is available through the RFMO and although an easier to navigate website and reporting format would be preferable, we do not feel that the fishery under assessment should work on this.	change, change to rationale)
3.2.3	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	NA			

PI	UoA Stock	Has all available relevant information and/or rationale been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response	CAB Response Code
3.2.4	Both (WCPO Skipjack & North pacific Albacore)	No (material score reduction expected to <80)	No (material score reduction expected to <80)	NA	S1b asks if the fishery-specific management system is subject to review. This means, is the overall management of N Albacore and skipjack subject to review. Justification should address this question. Reviews of compliance, are really reviews of parts of the fishery-specific management system, so belong in S1a.	Fishery-specific management at RFMO level and Japan, and Fishery cooperative level are assessed and explained in the justification. We believe the justification was not limited to review of compliance, it covered stock assessments, various committees and working groups, and entire management system of the fisheries under assessment.	Not accepted (no change)

Summary of RBF Comments

PI	RBF Scoring	RBF Information	Peer Reviewer Justification (as given at initial Peer Review stage)	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report – PCDR)	CAB Response Code
1.1.1					
2.1.1					
2.2.1					
2.3.1	Yes	Yes	To improve clarity Slb and the final summary for 2.3.1 could give clearer reference to the species which were included in the RBF process and the scoring outcome. A hyperlink to appendix 8 would also be useful. Was the score capped at 80 because not all ETP species were considered?	A link to Appendix 8 has been added. The score emerges as 95 from the RBF scoring worksheet, being calculated from the productivity and susceptibility scores using the MSC's methodology.	Accepted (score increased)
2.3.1	Yes	Yes	First sentence of Appendix 8.1 states RBF was announced for 2.4.1 - presumably should this be 2.3.1?	Yes, thank you.	Accepted (no score change, change to rationale)
2.3.1	Yes	Yes	A number of species were not included in the RBF (i.e. storm petrels as well as all non-bird ETPs), because interaction was "considered unlikely". However, it is really the function of the RBF to make this determination. In particular the reason for the lack of inclusion was often because of selectivity, which could have been scored with RBF. This would have given a stronger empirical basis for why some ETP species are more at risk than others.	The team applied the RBF to species known, or considered to be potentially affected by, the UoA. Species considered to be unaffected by the UoA were not evaluated. The team notes MSC FCP G7.7.3.3 on data-deficient scoring elements: For Principle 2, scoring elements are the different species or different habitat types being affected by the fishery.	Not accepted (no change)

PI	RBF Scoring	RBF Information	Peer Reviewer Justification (as given at initial Peer Review stage)	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report – PCDR)	CAB Response Code
2.3.1	Yes	Yes	In the MSC Guidance to the fisheries Certification Process, Table GPF8 appears to indicate that where bait is used encounterability is "High". This principle could apply to a lesser extent to birds (as bait is only briefly available to them). Was this considered? Some bird species did score 2 for encounterability, but most scored 1, but it is not clear why.	The bait example was not explicitly considered when assigning encounterability scores. Birds may encounter the gear as it passes through the air, or when it is in the water. Without bait on the hooks used in the fishery, hooks are not expected to be attractive to birds. Higher encounterability scores were assigned to species spending most time where the UoA operates. Therefore, these species were considered more likely to encounter the gear in use. This text has been added in the report.	Accepted (no score change, change to rationale)
2.4.1					
2.5.1					

Peer Reviewer B

Summary of Peer Reviewer General Comments

Question	Yes/No	Peer Reviewer Justification (as given at initial Peer Review stage). Peer Reviewers should provide brief explanations for their 'Yes' or 'No' answers in this table, summarising the detailed comments made in the PI and RBF tables.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)
Is the scoring of the fishery consistent with the MSC standard, and clearly based on the evidence presented in the assessment report?	Yes	Overall, the Assessment Report provided most detailed information for the fishery and evaluation process. The background information provided was helpful to be used to score the issues/principle indicators. Overall, the rationales for justifying each scoring issue were clear and conclusions were sound. All the scoring guideposts were justified and only those fully met against the MSC Standard (Version 2.01) were scored. Some comments I made were given in the PI comment and RBF comment tables. I recommend the team check and improve the report accordingly.	Thank you. We have made some amendments based on your comments, see the relevant Pls.
Are the condition(s) raised appropriately written to achieve the SG80 outcome within the specified timeframe? [Reference: FCP v2.2, 7.18.1 and sub-clauses]	No	Most of the conditions raised were appropriately written and milestones were measurable toward achieving the SG80. However, I found a couple of milestones for the conditions raised were not clearly stated. Please see the PI comments accordingly.	Thank you, this has been addressed where you made the PI comment.
Is the client action plan clear and sufficient to close the conditions raised? [Reference FCR v2.0, 7.11.2-7.11.3 and sub-clauses]		Note: Include this row for assessments completed against FCR v1.3 and v2.0, but not for FCP v2.1/v2.2 (in which the client action plan is only prepared at the same time as the peer review). Delete this text from the cell for FCR v1.3/v2.0 reviews or delete the whole row if FCP v2.1/v2.2.	
Enhanced fisheries only: Does the report clearly evaluate any additional impacts that might arise from enhancement activities?	NA		

Question	Yes/No	Peer Reviewer Justification (as given at initial Peer Review stage). Peer Reviewers should provide brief explanations for their 'Yes' or 'No' answers in this table, summarising the detailed comments made in the PI and RBF tables.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)
Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.		<p>Background information for minor secondary species was poor. The team showed that minor secondary species except for SWO were data-deficient (Table 22) but were not scored against Risk Based Framework considering "Status in relation to biologically-based limits". However, the biologically based limits for those minor secondary species were not shown. So, it was hard to look into their stock status and the impact of UoA. In addition, actually I wonder whether some of the minor secondary species could be considered using RBF, as I understand that those species were likely not in-depth investigated and documented.</p>	<p>The team took the decision not to conduct a Productivity Susceptibility Analysis for minor secondary species, as per MSC FCP PF4.1.4. These species comprised less than 1 % of the reported total catch and except for the swordfish, information on biologically based limits was not available.</p>

Summary of PI Comments

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
1.1.1	WCPO Skipjack tuna	Yes	Yes	NA	Scoring agreed.		NA (No response needed)
1.1.2	WCPO Skipjack tuna	NA (PI not scored)	NA (PI not scored)	NA	Scoring not required.		NA (No response needed)
1.2.1	WCPO Skipjack tuna	Yes	Yes	Yes	Scoring agreed. SI(a): In addition to the point of harmonisation, since the deadline for adopting a formal HCR has been postponed by WCPFC, the Guide post for SG80 "the elements of the management strategy work together to achieve management objectives" has not been fully met. Thus, SG80 was not met.	It is true that it has been postponed several times; this has been noted in the rationale.	Accepted (no score change, change to rationale)
1.2.2	WCPO Skipjack tuna	Yes	Yes	Yes	Scoring agreed.		NA (No response needed)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
1.2.3	WCPO Skipjack tuna	No (non-material score reduction expected)	No (non-material score reduction expected)	NA	SI(a): As showed in 6.3.4 of the report, "Standardised Catch per Unit Effort (CPUE) is mainly evaluated from pole-and-line fisheries, which a concern for the assessment since the proportion of catch taken by these fisheries is shrinking and their catch may no longer be large enough for robust statistical standardisation in some areas.", thus the abundance index for the whole SKJ stock area /or main area was likely not in place. SA2.6.3 (Fisheries Standard v2.01) stated that teams shall interpret "a comprehensive range of information" and "all information" at the SG100 level to include information provided by a strategic research plan. Here, the strategic research plan seems not available. Therefore the SG100 is likely not met.	This is a good point that made us review the rationale for Sla carefully. Our interpretation of MSC's requirements here is not that SG100 requires a document called 'strategy research plan' per se, but it does require a strategic approach to research addressing more than just the immediate gaps highlighted by a given stock assessment. We think that this situation is met here but it is certainly true that	Accepted (no score change, change to rationale)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
						the rationale needed improving to make this clear. We hope that it is now more convincing.	
1.2.4	WCPO Skipjack tuna	Yes	Yes	NA	Scoring agreed.		NA (No response needed)
1.1.1	North Pacific Albacore	Yes	No (score increase expected)	NA	SI(a): There appear to be inconsistency in the score with the rationale description. The last sentence of the Rationale said "This suggests a 'high degree of certainty' (MSC quantitative definition given above) that the stock is above the PRI.", which should result in "SG100 met".	We agree - Score changed.	Accepted (score increased)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
1.1.2	North Pacific Albacore	NA (PI not scored)	NA (PI not scored)	NA	Scoring not required.		NA (No response needed)
1.2.1	North Pacific Albacore	Yes	Yes	NA	Scoring agreed.		NA (No response needed)
1.2.2	North Pacific Albacore	Yes	Yes	Yes	Scoring agreed.		NA (No response needed)
1.2.3	North Pacific Albacore	Yes	Yes	NA	Scoring agreed.		NA (No response needed)
1.2.4	North Pacific Albacore	Yes	Yes	NA	Scoring agreed.		NA (No response needed)
2.1.1	Both (WCPO Skipjack & North pacific Albacore)	Yes	No (change to rationale expected, not to scoring)		SI(a): The stock status description for Pacific Sardine as a minor primary species (page 90) was not adequate to conclude that spawning stock biomass is above the PRI and SG100 was met, e.g. although it seemed that the 1996 spawning biomass was used as PRI or proxy, the stock being highly likely above the PRI was not evident (e.g. lack of comparison in probability).	Probabilities provided from the stock assessment report have been added to the rationale.	Accepted (no score change, change to rationale)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
2.1.1	Both (WCPO Skipjack & North pacific Albacore)			No	<p>Comment on the milestones: I think the current milestones were less specific and deterministic, which may hinder the achievement of objective. Switch the use of bait is not easy practice for the fishery. In addition, if the decline of Japanese anchovy stock was mainly attributed to being used as bait, an alternative bait species would face the similar issue.</p> <p>It is evident that species like Japanese anchovy is highly influenced by environmental changing. The small proportion of bait use compared with the total catch of Japanese anchovy is most likely not causing the decline of the stock. Therefore, an explicit milestone leading to SG80 is to reduce the total catch of Japanese anchovy, which will provide measurable evidence of stock recovery. I also suggest a research project combined with management strategy be set up to test the impact of bait use on stock status. Presumably this impact would be very low and the use as bait should not hinder its rebuilding or recovery.</p>	<p>The condition reflects the PI, in that it can be closed out through evidence of recovery (improvement in stock status) or a demonstrably effective strategy to ensure MSC UoAs collectively do not hinder recovery and rebuilding. The form of that strategy is up to the client. It is not the CAB's role to direct the client to take a certain path of action to address conditions.</p> <p>However, that path could include</p>	Not accepted (no change)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
					<p>research, if that is what the client decides to do.</p> <p>The team recognises the importance of environment for this species. Nonetheless, stock status being below PRI without evidence of recovery, and without a demonstrably effective strategy, results in the requirement for the condition.</p> <p>The team notes FCP 7.18.1.2, requiring that the CAB: "shall draft conditions to</p>		

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
						<i>follow the narrative or metric form of the Performance Indicator Scoring Guideposts used in the final tree."</i>	
2.1.2	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	NA	Scoring agreed.		NA (No response needed)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
2.1.3	Both (WCPO Skipjack & North pacific Albacore)	Yes	No (scoring implications unknown)	NA	SI(a): According to Fisheries Standard v2.01, SA3.6.2, The team shall report the catch and UoA-related mortality of all main species taken by the UoA together with a description of the adequacy of the information, including identifying data sources used and indicating whether they are qualitative or quantitative. And, SA3.6.3.1, That higher quality information shall be required to demonstrate adequacy as the importance, or difficulty, of estimating the true impact of the UoA on a species in relation to its status increases. Therefore, the current rationale for meeting SG100 was not adequate and more demonstration is needed to justify the score. e.g. Since only one year of quantitative bait information is available to estimate the impact of the UoA on Japanese anchovy, it needs demonstration that the one year data is representative or annual variation should be small, otherwise the one-year data would be biased.	Tabulated catch information has been added, from the three data sources on which the report is based (Tables 19 - 21). The last paragraph in section 6.6.4.1 addresses the representativeness comment. The team considered, based on the information available from this and other comparable fisheries, that bait use information is representative. Naturally, if the fishery progresses to certification, this would be	Accepted (no score change, additional evidence presented)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
						monitored on an ongoing basis.	
2.2.1	Both (WCPO Skipjack & North pacific Albacore)	Yes	No (scoring implications unknown)	NA	SI(b): for the minor secondary species, only swordfish was addressed. It is hard to review other species' status.	Information on minor secondary species status relative to biologically based limits was not available (except	Not accepted (no change)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
						for the swordfish). To score at SG100, the team would have been required to use the RBF. This was not done, following FCP PF4.1.4: <i>The team may elect to conduct a PSA on "main" species only when evaluating PI 2.1.1 or 2.2.1.</i>	
2.2.2	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	NA	Scoring agreed.		NA (No response needed)
2.2.3	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	NA	Scoring agreed.		NA (No response needed)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
2.3.1	Both (WCPO Skipjack & North pacific Albacore)	NA (PI not scored)	NA (PI not scored)	NA	Scoring not required for SI(a) and SI(c). Refer to Table RBF comments for SI(b).		NA (No response needed)
2.3.2	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	No	Scoring agreed. Comment on the milestones: The milestones was less measurable and specific. e.g., the appropriate measures to be implemented was not specific and it is hard to see if it will be achieved.	The client fishery must evaluate which measures are appropriate for their operation. If, among the measures identified, there are none that are appropriate for the client fishery, this would need to be explained (e.g. what was considered, and why it was not appropriate). If no measures are identified, methods used to	Not accepted (no change)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
						try to identify measures would need to be explained. The CAP would set out how the client intended to address the requirements of the condition.	
2.3.3	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	No	Scoring agreed. Comment on the milestones: The milestones was less measurable and specific. e.g., the data collection plan to fit the data gap was not clear. The team need show what was the data gap and how the gap will be fit in the timeframe.	The text of this milestone has been updated, thank you.	Accepted (no score change, change to rationale)
2.4.1	Both (WCPO Skipjack & North pacific Albacore)	No (non-material score reduction expected)	No (non-material score reduction expected)	NA	SI(a) and SI(c): The rationale for scoring the impact on Commonly encountered habitat status and Minor habitat status seemed not clear enough, e.g., although gear lost issue was mentioned both in SI(a) and SI(c), it was not clear which habitat was impacted due to the gear lost. According to Fisheries Standard v2.01,SC3.13.1: assessment teams shall interpret 'habitat' to include, but not be limited to: a. Water quality, b.	The only commonly encountered habitat is pelagic waters. Minor habitats were identified as those affected by FADs, and any other habitats affected	Not accepted (no change)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
					Access of wild fish to spawning habitat, and c. Quality of stream habitat.	by gear lost. No VMEs are known to interact with the fishery. We set out the habitat definitions used in section 6.6.7. (We note that the habitat interpretation in the review comment is taken from the default assessment tree for salmon fisheries, and would not apply in this case).	

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
2.4.2	Both (WCPO Skipjack & North pacific Albacore)	No (change to rationale expected, not to scoring)	No (change to rationale expected, not to scoring)	NA	SI(b): meeting SG100 requires that Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the UoA and/or habitats involved. However, the current rationale seemed not showing how the testing is.	The word 'testing' has been added to the rationale. The definition of testing is provided in the MSC-MSCI Vocabulary as follows: <i>"The involvement of some sort of structured logical argument and analysis that supports the choice of strategy. In the context of fishery, it can include the use of experience from analogous fisheries, empirical testing (for example practical experience of performance or evidence of past performance) and</i>	Accepted (no score change, change to rationale)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
						<i>simulation testing (for instance using computer-intensive modelling such as management strategy evaluation).</i> "	
2.4.2	Both (WCPO Skipjack & North pacific Albacore)	No (change to rationale expected, not to scoring)	No (change to rationale expected, not to scoring)	NA	SI(c): meeting SG100 requires that There is clear quantitative evidence that the partial strategy/strategy is being implemented successfully. Although it was said that Quantitative evidence is provided by logbook information, no quantitative results were shown in the Rationale.	Tabulated catch data have been added to the background section. These data show the pelagic species caught. 100 % of vessels are using the pole and line fishing method for all fishing activity, which defines the UoA. Cross-references have	Accepted (no score change, additional evidence presented)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
						been added to the rationale.	
2.4.3	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	NA	Scoring agreed.		NA (No response needed)
2.5.1	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	NA	Scoring agreed.		NA (No response needed)
2.5.2	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	NA	Scoring agreed.		NA (No response needed)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
2.5.3	Both (WCPO Skipjack & North pacific Albacore)	Yes	No (scoring implications unknown)	NA	SI(e): An important component of ecosystem is the food web dynamics which needs to be considered when evaluating the impact of fishery. However, it is not explicitly mentioned in the Rationale that the monitoring of food web is in place. As I know there was a research project years ago in the SPC oceanic program which published several food web studies, but not sure if that research and data collection are continuing. Therefore, the requirement meeting SG100 was not adequately addressed.	The team notes that there are some data gaps on some ecosystem elements, and that not all have been investigated in detail (as per scoring issues (b), (c) and (d). For scoring issue (e), the focus is on whether information is adequate to support a strategy to manage ecosystem impacts. While there are some data gaps recognised in other scoring issues, the team considers that the information	Not accepted (no change)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
						available would enable strategies for managing ecosystem impacts to be developed.	
3.1.1	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	NA	Scoring agreed.		NA (No response needed)
3.1.2	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	NA	Scoring agreed.		NA (No response needed)
3.1.3	Both (WCPO Skipjack	Yes	Yes	NA	Scoring agreed.		NA (No response needed)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
	& North pacific Albacore)						
3.2.1	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	NA	Scoring agreed.		NA (No response needed)
3.2.2	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	NA	Scoring agreed.		NA (No response needed)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
3.2.3	Both (WCPO Skipjack & North pacific Albacore)	Yes	No (score increase expected)	NA	SI(b): The team concluded that SG100 was not met because there was limited evidence to demonstrate the consistent application of sanctions and effectiveness. However, it has been demonstrated that one case of violation was reported and sanctioned. I think the deterrence can be considered effective because there were no frequent violations. i.e., the violation was very few (only once) due to the effectiveness of management measure in place. Thus, SG100 can be considered "met".	Thank you for your input. There was another reviewer comment that suggested lowering the score as "verbal warning is not considered a sanction". In addition, there is limited transparency in the actual situation this case as formal document is not presented (only client's verbal interview). Government does not make monitoring and compliance information available as it is "confidential" information.	Not accepted (no change)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
						Therefore, we consider this remains SG80. The justification was edited to give more details.	
3.2.4	Both (WCPO Skipjack & North pacific Albacore)	Yes	Yes	NA	Scoring agreed.		NA (No response needed)

Summary of RBF Comments

PI	RBF Scoring	RBF Information	Peer Reviewer Justification (as given at initial Peer Review stage)	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
1.1.1 (RBF)	NA (PI not scored using the RBF)	NA (PI not scored using the RBF)			
2.1.1 (RBF)	NA (PI not scored using the RBF)	NA (PI not scored using the RBF)			
2.2.1 (RBF)	NA (PI not scored using the RBF)	NA (PI not scored using the RBF)			
2.3.1 (RBF)	Yes	Yes	(b): Scoring agreed. A typo in the first line of Appendix 8 Risk-Based Framework outputs: "PI 2.4.1" should be "PI 2.3.1".	Thank you, this has now been corrected.	Accepted (no score change, change to rationale)
2.4.1 (RBF)	NA (PI not scored using the RBF)	NA (PI not scored using the RBF)			
2.5.1 (RBF)	NA (PI not scored using the RBF)	NA (PI not scored using the RBF)			

Peer Reviewer C

Summary of Peer Reviewer General Comments

Question	Yes/No	Peer Reviewer Justification (as given at initial Peer Review stage). Peer Reviewers should provide brief explanations for their 'Yes' or 'No' answers in this table, summarising the detailed comments made in the PI and RBF tables.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)
Is the scoring of the fishery consistent with the MSC standard, and clearly based on the evidence presented in the assessment report?	Yes	<p>In general the scores conformed well to both the MSC guidance and the information provided in the report. Issues became complicated at times, though, due to harmonized scores amongst fisheries which were either not explained and/or seemed to be at odds with the score that would naturally flow from the text provided (e.g. 1.2.1 a). With the harmonized scoring background not available for review, and yet further tangling a complex mixture of MSC guidance, CAB and reviewer interpretation, modelling outputs and cross-sector precedents and agreements, it is very difficult to understand what is going on and how it should be evaluated.</p>	<p>There is not a harmonised scoring background - only harmonised scores. We have tried in some places to clarify rationales, based on specific comments from the three PRs that they are confusing - see response to PI comments for details.</p>
		<p>There were a few cases where I felt the scores could be higher and several where I felt the scores should be lower (see PI comments)--the most egregious one of these is the score for the main primary species Japanese anchovy which is used for bait despite appearing to be in danger of stock collapse. It is hard to understand why nothing (e.g. anchovy management measures or a requirement to source other bait) has been done in response to this situation (including (presumably) in pre-assessment).</p>	<p>Specific comments are addressed against the relevant PIs.</p>
		<p>Despite its overall low-impact characteristics, the report did a good job of highlighting what are the key sustainability issues for this fishery: ongoing (extended) development of HS/HCR, unsustainable bait sourcing, and lack of non-target species reporting (despite requirements to do so).</p>	<p>thank you.</p>

Question	Yes/No	Peer Reviewer Justification (as given at initial Peer Review stage). Peer Reviewers should provide brief explanations for their 'Yes' or 'No' answers in this table, summarising the detailed comments made in the PI and RBF tables.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)
Are the condition(s) raised appropriately written to achieve the SG80 outcome within the specified timeframe? [Reference: FCP v2.2, 7.18.1 and sub-clauses]	No	The conditions are on the right track but there are a few refinements that would improve them. The bait sourcing strategy timeline could be more ambitious, especially as a stricter reading of 2.1.1 could have scored the main primary species as below 60, preventing certification (which in effect gives 3 more years of status quo bait sourcing as the condition is currently written).	These comments are addressed at the specific Pls.
		In addition, the condition relating to non-target species data collection could be more refined to focus explicitly on those species expected to interact with the fishery (assuming such conclusions can be supported by some fishery-specific data).	These comments are addressed at the specific Pls.
		Finally, the development of HS/HCR is beyond the control of this fishery and the timing of this development will have implications for a wide range of fisheries. The conditions take account of this as best they can.	True
Is the client action plan clear and sufficient to close the conditions raised? [Reference FCR v2.0, 7.11.2-7.11.3 and sub-clauses]	-	Note: Include this row for assessments completed against FCR v1.3 and v2.0, but not for FCP v2.1/v2.2 (in which the client action plan is only prepared at the same time as the peer review). Delete this text from the cell for FCR v1.3/v2.0 reviews or delete the whole row if FCP v2.1/v2.2.	
Enhanced fisheries only: Does the report clearly evaluate any additional impacts that might arise from enhancement activities?	-	N/A	

Question	Yes/No	Peer Reviewer Justification (as given at initial Peer Review stage). Peer Reviewers should provide brief explanations for their 'Yes' or 'No' answers in this table, summarising the detailed comments made in the PI and RBF tables.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)
Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below, including the codes in Columns A-C.	NA	Text relating to P1 and P2 is generally well-written and edited. Text for P3 suffers from some unclear phrasing and repetition of information in places.	thank you, we have amended P3 where needed to account for this issue.
		Some references do not refer to the latest information, e.g. there are now new WCPFC CMMs for tropical tuna and Pacific bluefin, and the latest Annual Report from Japan to the WCPFC is here: https://www.wcpfc.int/node/45789	There is a cut-off point for incorporating new information into the assessment (otherwise we would never reach the end of it); new information after this point is considered at first surveillance if the fishery is certified.
		The report shows a good command of the relevant information but at times I felt the justification for the scoring would have benefitted from a leaner and more focused argument. In other words, it is sometimes difficult to follow the thread of logic with so much extraneous information being presented.	PRA commented that there was not enough background information in the scoring rationales - different readers (and assessors) have different preferences
		Some of the ETP information for WCPFC is missing, specifically: measures for whale sharks, cetaceans and mobulids, some of which are now superseded by CMM 2019-04. The report's characterization/summarization of this new composite measure is not accurate.	This information was not included because the fishery does not interact with these species. CMM2019-04 was not in effect at the time of the site visit (applying from 1 November 2020), but the description of its content has now been expanded with particular reference to paragraph 17 of the measure.

Summary of PI Comments

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
Performance Indicator (PI)	-	Has all available relevant information been used to score this PI?	Does the information and/or rationale used to score this PI support the given score?	Will the condition(s) raised improve the fishery's performance to the SG80 level?	<p>Peer reviewers (PRs) should provide support for their answers in the left three columns by referring to specific scoring issues and/or scoring elements, and any relevant documentation as appropriate. Additional rows should be inserted for any PIs where two or more discrete comments are raised, e.g. for different scoring issues, allowing CABs to give a different answer in each case. Paragraph breaks may also be made within cells using the Alt-return key combination.</p> <p>Detailed justifications are only required where answers given are one of the 'No' options. In other (Yes) cases, either confirm 'scoring agreed' or identify any places where weak rationales could be strengthened (without any implications for the scores).</p>	<p>CABs should summarise their response to the Peer Reviewer comments in the CAB Response Code column and provide justification for their response in this column.</p> <p>Where multiple comments are raised by Peer Reviewers with more than one row for a single PI, the CAB response should relate to each of the specific issues raised in each row.</p> <p>CAB responses should include details of where different changes have been made in the report (which section #, table etc).</p>	See codes page for response options

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
1.1.1	Skipjack	Yes	No (change to rationale expected, not to scoring)		Comment 1: The text under a) states that according to MSY guidance the reference point should be 75 %B _{MSY} so it is confusing to see 20 %SBF=0 in the summary table. (Scoring can stay at 100)	Apologies - this has been changed	Accepted (no score change, change to rationale)
1.1.1	Skipjack	Yes	No (change to rationale expected, not to scoring)	NA	Comment 2: The text should state whether the scoring used two generation times or at least four years as the basis for the scores. (Scoring can stay at 100)	Since F has been below F _{MSY} for the entire time series, both apply. This has been clarified in the rationale.	Accepted (no score change, change to rationale)
1.1.1	Skipjack	Yes	No (change to rationale expected, not to scoring)	NA	Comment 3: The SI for b) seems to refer to stock condition over a period of time, not just a snapshot, but it seems like 0.44MSY is a point estimate and thus not directly comparable to the SGs. (Scoring can stay at 100)	The situation is that the most recent point estimate of F/F _{MSY} is 0.44, but also that F is estimated to have been below F _{MSY} for the entire time series. Hopefully, this is now clear in the rationale.	Accepted (no score change, change to rationale)
1.1.1	Albacore	Yes	No (score increase expected)	NA	Comment 1: The text supporting SI a) refers to a 5 % confidence interval which I think may be a 95 % CI? In any case it states that there is a high degree of certainty that the stock is above the PRI which would indicate a score of 100 rather	Correct, this was a mistake - sorry.	Accepted (score increased)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
					than 80. This would take the overall score to 100 from 90.		
1.1.1	Albacore	Yes	No (change to rationale expected, not to scoring)	NA	Comment 2: In the summary table column "Current Stock Status relative to RP" it would be clearer to write 33 %-53 %SBF=0 and then since these are above 11.4 % SBF=0, the stock status is above the RP noted to the left in the table. (No change to scoring on this basis)	I added this in as well.	Accepted (no score change, change to rationale)
1.1.2	Skipjack	NA (PI not scored)	NA (PI not scored)	NA			
1.1.2	Albacore	NA (PI not scored)	NA (PI not scored)	NA			

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
1.2.1	Skipjack	Yes	No (scoring implications unknown)		<p>Comment 1: I agree with the scoring for c), d), e) and f) and I understand that the scoring for a) at 60 was based on the harmonization discussions which concluded that the HCR are "missing" and so all elements of the HS cannot be working together. If this is the basis for a) then it needs to be made clearer why b) can score 80 (was this also harmonized?). In particular, there is management, and the stock is above its LRP but this is not due to the HS because it has not been adopted yet (the CAB seems to consider the HS is CMM 2018-01 in some places in the text--but does that meet the MSC definition of an HS?) The testing by SPC is of the CMM (now CMM 2020-10) not the HS. I think the forthcoming HS is likely to work (60) because the current management is working, but it would be difficult to have <u>evidence</u> that it works if it is not in place yet. If a) and b) are to be consistent at 60, the overall score might need to be lower (currently at 70).</p>	<p>CMM 2018-01 is an element of the harvest strategy, along with monitoring, stock assessment etc. - as per the definition at the start of the rationale for Sla. MSC does not require a formal document called 'harvest strategy' necessarily, if the requirements of the SG80s can be met in other ways. Note that under SG80 the harvest strategy 'may not have been fully tested' so full harvest strategy testing (MSE) is not a requirement at SG80.</p> <p>According to MSC (GSA2.4.1): 'Testing' at the 80 level in SI1.2.1b can include the use of experience from analogous fisheries, empirical testing (for example practical experience of performance or evidence of past performance) and simulation testing (for instance using computer-intensive modelling such as Management Strategy Evaluation (MSE))</p> <p>In this case, there is simulation testing (status quo simulations in the stock assessment and testing of management</p>	Not accepted (no change)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
						scenarios by SPC to evaluate the tropical tuna CMMS) and there is also evidence of past performance (stock assessment). So I think SG80 is met.	
1.2.1	Skipjack			Yes	Comment on Condition 1: With regard to the condition, the ability to reach 80 depends on an action by the WCPFC. I agree that the client can assist and advocate so I think the condition is appropriate but this is an issue which will affect many certified fisheries and is not under their individual or collective control.	True.	NA (No response needed)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
1.2.1	Albacore	Yes	Yes	NA	Scoring agreed. However the differences between the status of HS and HCR for skipjack and albacore could be more clearly articulated so that the reason why SKJ scores 60 and ALB scores 80 for SI(a) would be easier to understand. This seems to be have been a harmonization issue, but it appears that both SKJ and ALB have management measures which respond to the status of the stock, but ALB was scored at 80 but SKJ only at 60. This is confusing.	You are not wrong. Please see comment on the same issue from PRA, with my response: I don't disagree that the scoring is inconsistent with skipjack - there is no requirement from MSC to harmonise scoring across stocks, so this situation exists with agreed scores across several stocks (e.g. harmonised scores for 1.2.3 are inconsistent across the WCPO tuna stocks). The score here and the score for skipjack are agreed harmonised scores and difficult to change without starting a long-winded harmonisation process. Since we argued (unsuccessfully) for a higher score for this PI for skipjack, we have retained it here since it is the agreed score anyway. This is unsatisfactory, I agree, but at the same time, cross-referencing scores between different assessments on the same stock is already a nightmare, without starting to cross-reference across different stocks in similar situations. Unfortunately both are agreed harmonised scores; harmonising	Accepted (no score change, change to rationale)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
						between stocks is not required under P1, which has led to some discrepancies, although if it were required, the situation would become totally unmanageable. But I'm not that keen to highlight the discrepancy explicitly in the rationales.	
1.2.2	Skipjack	Yes	No (change to rationale expected, not to scoring)		Comment 1: According to the MSC Fisheries Standard "available" HCR can be "expected to reduce the exploitation rate as the point of recruitment impairment is approached" (required for 60) when "an agreement or framework is in place that requires the management body to adopt HCRs before the stock declines below B_{MSY} ." Noting that the HCR is "available" (though "missing" from the HS), technically there is no particular deadline by which WCPFC must adopt an HCR (and they can always extend the process if there is no agreement). Is the argument that the stock has always been above B_{MSY} and is not declining so in this spirit 60 is met? This should be more explicitly argued, particularly as the rather fluid	I see what the reviewer means - I had not thought about this timeframe issue quite carefully enough, perhaps. Since the stock assessment projections (combined with the very low estimate of B_{MSY} relative to B_0) mean that the stock is predicted to remain above B_{MSY} indefinitely, this is not really an issue here but definitely something to bear in mind. I have added a sentence to clarify this. The timeframe for adopting a HCR is set in this case by the requirements around condition setting, along with a series of harmonisation and variation agreements.	Accepted (no score change, change to rationale)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
					timeline does not seem to be set with this in mind (or otherwise I would expect to see an argument comparing to other UoAs).		
1.2.2	Skipjack			Yes	Comment on Condition 2: With regard to the condition, please see comment on Condition 1 (under 1.2.1).	Yes, true	NA (No response needed)
1.2.2	Albacore	Yes	Yes		Scoring agreed. Note that for 1.2.2 the same scores are given for both SKJ and ALB whereas for 1.2.1 the scores were different (and the stock conditions and management situations are very similar). As noted above for SKJ this should be clarified.	See response to Alb 1.2.1 above	Not accepted (no change)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
1.2.2	Albacore			Yes	Comment on Condition 3: Please see comment on Condition 1 (under 1.2.1)	Yes, true	NA (No response needed)
1.2.3	Skipjack	Yes	Yes	NA	<p>Scoring agreed. It would be useful to clarify how the terms "harvest strategy" and "harvest control rule" are being applied here. For example, is the HS taken to be the current management measure? and what does the "available" HCR consist of? It is difficult to evaluate the SIs when this is not made clear. Regardless, I suggest the scoring for SI b) is a bit harsh as this is an extremely information- and scientific resource-rich fishery, but overall I think a score of 90 is fair and appropriate.</p>	<p>MSC's definition of a harvest strategy is provided in full at the start of the rationale for 1.2.1a; I think it is fairly clear? It includes the current CMM as the main element. I agree in Slb it is difficult to get your head round what information is required to support the HCR when the HCR is purely notional - and to be honest I am not sure I can help clarify this further.</p> <p>Regarding the scoring, the reviewer has a point - perhaps in reality the fishery is part way between 80b and 100b, but to score 100 SG100 has to be met in full. I think the most significant problem in terms of data is the lack of a really robust abundance index, which is perhaps not made all that clear in the rationale - I have tinkered with it a bit so hopefully it reflects the reality of the situation more clearly.</p>	Accepted (no score change, change to rationale)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
1.2.3	Albacore	Yes	Yes	NA	Scoring agreed. Please see comment on 1.2.3 for SKJ regarding making a clear argument about defining the management information needs (by defining what is considered the HS and HCR). As there have been several scientific papers recently about IUU activity in the North Pacific it might be useful to consider IUU removals more explicitly in the argument.	See response above re first point. PRC kindly provided some references under separate cover, but they relate specifically to chub mackerel, saury and other small pelagics fished with lights, so does not really give us much to go on here; so we haven't changed the analysis. But it is worth keeping an eye on publications relating to Global Fishing Watch - I will bear this in mind.	Not accepted (no change)
1.2.4	Skipjack	Yes	Yes	NA	Scoring agreed.		NA (No response needed)
1.2.4	Albacore	Yes	Yes	NA	Scoring agreed. It is true that the ALB assessment has been externally reviewed whereas the SKJ assessment has not. However, the ALB score is higher because of this even though the external peer took place many years ago on a version of the model that is no longer used. Although this is consistent with MSC guidance, it does not represent a material difference in the quality of the assessments between the two fisheries.	Presumably, an external review can be considered to expire after a certain amount of time, and what that amount of time should be is a good question. In this case, the team agreed that this review is no longer really relevant, and we reduced the score for S1e to 80.	Accepted (non-material score reduction)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
2.1.1	Skipjack & Albacore	Yes	No (scoring implications unknown)		Comment 1: I agree that the score for skipjack should be 100 and N. Pac ALB should be 80. But I don't understand why in the table these are combined to be 80. Is this a typo that should read 90?	Thank you for picking up this error. An additional line has been added to the scoring element table and the scoring, now consistent with the elements' SG panel scores, is shown. The overall PI score is unchanged.	Accepted (no score change, change to rationale)
2.1.1	Skipjack & Albacore	Yes	No (material score reduction expected to <60)		Comment 2: For Japanese anchovies, the text states that 60 is met and 80 is not met, but the table gives the score as 70. To score 60 the case needs to be made that there are measures in place to avoid hindering anchovy recovery. The argument is made that because the bait demands of the fishery are low compared to the total removals 60 is achieved. It seems not true that "more than twice as much Pacific sardine is used as bait compared to anchovy" as elsewhere in the report 2019 bait figures are given as 460t anchovy and 145t Pacific sardine. Since the stock status of anchovy is dire, there is no recovery plan and the fishery continues to use them as bait when another, more healthy species (Pacific sardine) could be used, this does not seem to be an innocuous situation. I think the highest	The scoring table has been updated to 60 and the anchovy/sardine typo corrected, thank you. The measure in place is recognised to be purely operational and an indirect control, while it will be effective in restraining the extent of the impacts. The depleted state of the stock is reflected in the team's decision to classify Japanese anchovies as main primary species	Accepted (non-material score reduction)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
					score that could possibly be given is 60 and perhaps not even 60 since current bait demand of the fishery does not seem to be a measure per se, nor one that prevents hindering recovery.		
2.1.1	Skipjack & Albacore	Yes	Yes		Comment 3: Scoring Agreed for the Minor Primary Species.		NA (No response needed)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
2.1.1	Skipjack & Albacore			No	Comment on the Condition: Yes, the condition requiring the development of a bait strategy is appropriate, but this could be done now rather than by Year 3. In fact, another bait species that is above the PRI is already being used and it seems important to identify now why that species is not being used more (see contradiction identified above re: bait amounts by species). I agree that the bait demands of the fishery are constrained and low compared to the total removals of the anchovy stock but anchovy is already below the PRI. Certifying continued usage (status quo) would continue to damage the anchovy population for 3 more years while a bait strategy is developed that could be adopted now (or at least sooner).	The team notes that the timeframe for addressing this condition could be shorter, and as with all conditions, encourages addressing them in the shortest practicable timeframe. In setting the timeframe, the team has considered the client fishery's need to develop and implement their approach, e.g. setting up alternative supply arrangements for bait (if/as required), or, developing and implementing management changes at a stock level (which would require consultation with the government management agency, and an implementation timeframe). If actions to address the condition are taken in a shorter timeframe, obviously the condition could be closed out in a shorter timeframe, as appropriate.	Not accepted (no change)
2.1.2	Skipjack & Albacore	Yes	Yes	NA	Comment 1: Scoring Agreed. However, in some cases the logic for scoring 60 and then 80 is not presented separately and the text just skips to "100 not met" (e.g. 2.1.1 a) YFT and BET).	Scoring at SG60 and SG80 is not presented for minor species in 2.1.2(a) because these are specifically addressed only at SG100. For (b), SG60 and SG80 refer to measures and partial strategies, which explicitly apply to main species in (a), and minor species are considered at	NA (No response needed)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
						the SG100 level. Similarly in (c), SG80 applies to the measures/partial strategy, which are identified at (a) for main species. The strategy relates to minor species.	
2.1.2	Skipjack & Albacore				Comment 2: Although I agree the scoring for Japanese anchovy, this is because of the reference to Table GSA3: " <i>For a "partial strategy", specific measures may not have been designed to manage the impact on that component specifically, but if such a measure/ measures are effective in assisting the UoA to achieve the SG80 level for the primary or secondary species Outcome PI then this could be considered as a management measure under the primary or secondary species Management Strategy PI.</i> " This sets a very low bar which I agree is met here. But "effective in assisting" could be almost anything, even in this case, including maintaining the status quo which from a glass-half-full perspective is assisting, but from a glass-half-empty is a minor but detrimental effect. The measure is the constrained scale of the fishery, not the	The comment is noted and agreed by the team. Additional text has been added to the rationale to support the scoring. The condition regarding a "demonstrably effective strategy" is highlighted in 2.1.1, which is also expected to address the point raised here (i.e. with the requirements for a demonstrably effective strategy being more stringent than a partial strategy).	Accepted (no score change, change to rationale)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
					bait use of the fishery (which could be further constrained but is not).		
2.1.3	Skipjack & Albacore	Yes	Yes	NA	Scoring is agreed. I would suggest that rationale for scoring lower due to a lack of observer coverage should be strengthened. Most primary species are retained (or bait) so observer coverage would not assist much except in the case of Pacific bluefin (i.e. avoiding inadvertent catch, stopping fishing if caught, reporting all PBF catch, etc.) If this is the logic used, please make it clearer.	Edits have been made to clarify this.	Accepted (no score change, change to rationale)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
2.2.1	Skipjack & Albacore	Yes	Yes	NA	Scoring agreed.		NA (No response needed)
2.2.2	Skipjack & Albacore	No (scoring implications unknown)	No (scoring implications unknown)	NA	My inclination is to agree that shark finning is highly unlikely to occur in this fishery because in general pole&line catch few sharks. However, I am puzzled by the reference to "low levels of shark captures documented in this fishery" when other parts of the document indicate that the fishery has not been reporting its bycatch. If it is correct that sharks are not recorded then there might be more doubt about whether any incidentally caught sharks are finned (especially given the market for shark fins in Japan). The information here should be rationalized with the rest of the document.	Tables of fishery catch data have been added which are expected to help clarify this point (Tables 19, 20, 21). Prior to the time series shown in Table 19, shark catch was recorded in fishery data for 2005 (1 tonne recorded) and 2009 (2 tonnes recorded). (The requirement to report shark bycatch to the government is not being met, though the fishery provided its own records).	Accepted (no score change, change to rationale)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
2.2.3	Skipjack & Albacore	No (scoring implications unknown)	No (scoring implications unknown)	NA	<p>It seems inconsistent to award a score of 90 here and to raise a condition on the lack of non-target species reporting under P3. In other words, if non-target species information has not been reported by this fishery then the information score for secondary species would be lower wouldn't it? I find it surprising that no quantitative catch data at all is presented in this assessment. Is there really zero reported? Or is it that the true bycatch is severely under-reported? If there could be a bit more discussion on what exists and what it is likely to represent (e.g. only some vessels or cooperatives are reporting) it would provide some further confidence that the CAB has looked into this issue.</p>	<p>Three tables of catch data have been added (Tables 19 - 21). The score of 90 partially arises from the lack of main secondary species (i.e. a score of 80 is reached by default). The fishery is not meeting government reporting requirements, but catch composition information is available from other sources, which are used to inform the scoring here.</p>	Accepted (no score change, change to rationale)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
2.3.1	Skipjack & Albacore	Yes	No (change to rationale expected, not to scoring)	NA	Comment 1: It could be argued that prohibitions on retention of certain species under WCPFC (e.g. silky, oceanic whitetip, whale shark, mobulids, sea turtles, seabirds and marine mammals) are, in effect, zero catch limits. Under such an argument there would need to be some data presented to show that the amount of catch (or retained catch) of these species is very low (as I expect). As mentioned above under other comments, the state of the data pertaining to this issue (i.e. bycatch, ETP) should be presented/discussed.	Three tables of catch data have now been added (Tables 19 - 21). No quantitative information is available on seabird captures, though these are known to occur (hence the use of the RBF). Areas of the background text have been edited to clarify the ETP context.	Accepted (no score change, additional evidence presented)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
2.3.1	Skipjack & Albacore	No (scoring implications unknown)	No (scoring implications unknown)	NA	Comment 2: The only ETP species which are considered here are seabirds. I suspect this is probably the main concern with regard to pole and line fisheries but there should be a better screening of the other potential ETP species (see preceding comment) in the report text in order to conclude that there might only be direct or indirect effects to seabirds. For example, although large sharks would not be expected to interact with the gear, juvenile sharks might. Again, if there are some (any) data on interactions with the fishery this would be useful to present and discuss. In general I do not feel that Section 6.6.6 does a good job of spotlighting that seabirds are the only issue of concern (i.e. recurring mentions of sharks send a mixed message).	As above, background material has been augmented and edited to address this issue.	Accepted (no score change, additional evidence presented)
2.3.2	Skipjack & Albacore	Yes	Yes		Comment 1: Scoring Agreed for SI a), b) and d).		NA (No response needed)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
2.3.2	Skipjack & Albacore	No (scoring implications unknown)	No (scoring implications unknown)		Comment 2: for SI c) I am inclined to believe that " <i>ETP interactions are infrequent, qualitatively described as limited to seabirds, and the gear does not effectively capture larger ETP</i> ". However, there is no evidence presented from the UoA specifically (e.g. X years of catch data were reviewed and so no occurrences of interactions with X, Y and Z) and this weakens the argument considerably. As mentioned in other comments there should be a more expansive discussion of what, if any, data are available from this fishery.	There are no quantitative data available on seabird captures. Three tables of catch information have been added to the background section (Tables 19, 20, 21). These comprise the recent years from longer time series of information.	Accepted (no score change, additional evidence presented)
2.3.2	Skipjack & Albacore	No (score increase expected)	No (score increase expected)		Comment 3: A score of 60 seems rather harsh. I agree that there is no evidence of the UoA taking up any of the recommendations of WCPFC for safe release. But if the argument made throughout the report holds (i.e. that there are few, if any, interactions with any ETP other than seabirds)--and can be supported with some data/discussion--its not clear why the fishery would need to concern itself with safe release for all ETP.	The team took a precautionary approach to this scoring issue, considering the information currently available as inadequate to conclude that seabird bycatch is negligible (i.e. following GSA3.5.3).	Not accepted (no change)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
2.3.2	Skipjack & Albacore			Yes	Comment on the Condition: The condition would be appropriate to raise performance to the 80 mark. However, I think it could be refined further with a better screening in this report of what ETP issues are actually likely for this fishery. For example, if seabirds are the only real issue, as reflected in 2.3.1, then the condition could be made more specific with regard to what needs to be done for incidental catches of seabirds (e.g. review and action the latest WCPFC advice, request/receive training on seabird mitigation and safe release from Birdlife International, etc.)	The team notes FCP 7.18.1.2, requiring that the CAB: " <i>shall draft conditions to follow the narrative or metric form of the Performance Indicator Scoring Guideposts used in the final tree.</i> " While this limits the extent to which the condition itself can be amended, we have edited the rationale to emphasise seabirds and remove the shark reference (provided for context on how the management body does things, but is clearly not useful if it only creates confusion).	Accepted (no score change, change to rationale)
2.3.3	Skipjack & Albacore	Yes	Yes		Scoring agreed. However, the entire ETP section should be rationalized so that there is an initial screening (based on as much evidence as possible) of what species interact with the fishery. If only seabirds are the concern (as seems to be the case) then all references should be to seabirds without miscellaneous references to sharks or other species (and when it says the RBF was applied that should be explicitly referred to as for seabirds (only)).	We have made various changes through the background text and 2.3.x scoring rationales to address this.	Accepted (no score change, change to rationale)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
2.3.3	Skipjack & Albacore			Yes	Comment on the Condition. The condition should be able to raise performance to the 80 mark. However, I would advise here, as for Condition #5, to refine and focus the mitigation and monitoring on those species which actually interact with the fishery.	We note the FCP requirement to draft conditions in accordance with the narrative of the relevant PI (FCP 7.18.1.2). However, to clarify, we have highlighted seabirds specifically in the scoring issue rationale.	Accepted (no score change, change to rationale)
2.4.1	Skipjack & Albacore	Yes	Yes	NA	Scoring agreed. Suggest adding some reference to why the absence of VMEs leads to not scoring, rather than scoring and receiving high marks for not affecting VMEs. (I searched for guidance on this and did not find any).	VMEs are not scored in accordance with SA3.13.1: <i>The team shall assess the habitats component in relation to the effects of the UoA on the structure and function of the habitats impacted by the UoA.</i> There are no VMEs identified to be impacted, therefore this scoring issue is not scored.	NA (No response needed)
2.4.2	Skipjack & Albacore	Yes	Yes	NA	Scoring agreed.		NA (No response needed)
2.4.3	Skipjack & Albacore	Yes	Yes	NA	Scoring agreed.		NA (No response needed)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
2.5.1	Skipjack & Albacore	Yes	No (non-material score reduction expected)	NA	Given that the UoA is contributing, albeit in a very small way, to the depletion of the Japanese anchovy, I think that that is an ecosystem impact that warrants less than a perfect score of 100. Out of concern for ecosystem balance it might be expected that bait sourcing would have already recognized the anchovy decline and begun more sourcing from other, more stable bait species populations.	We note the definition of "serious or irreversible harm", which is the key threshold for scoring: <i>Table SA8: For the ecosystem component, this is the reduction of key features most crucial to maintaining the integrity of its structure and functions and ensuring that ecosystem resilience and productivity is not adversely impacted. This includes, but is not limited to, permanent changes in the biological diversity of the ecological community and the ecosystem's capacity to deliver ecosystem services.</i> We have also added additional rationale, reflecting that the anchovy is one of a complex of small pelagic fish (SPF) that occur around the Japanese archipelago, and while ecosystem indicators show that the Kuroshio Current system is largely dependent on the mid-trophic level species such as SPFs, large-scale fluctuations of biomass in these species (e.g. anchovy and Japanese sardine) highlight that there is some resilience to perturbations in the system. Predators	Accepted (no score change, additional evidence presented)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
						tend to be generalists (based on the information available), further reducing the likelihood of the UoA disrupting ecosystem elements to the point of serious or irreversible harm.	
2.5.2	Skipjack & Albacore	Yes	Yes	NA	Scoring agreed. I am glad to see the issue of vessel waste disposal practices being addressed here.		NA (No response needed)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
2.5.3	Skipjack & Albacore	Yes	Yes	NA	Scoring agreed. I would just point out that perhaps 100 might be possible under 2.5.3 c) on the basis that if the impacts of the UoA on the various ecosystem components are said to be not understood it rather undermines the assessments made under the rest of Component 2. I do not feel strongly about it, but perhaps the score of 80 could justifiably be raised. I am also concerned about the cumulative effects of the continued use of anchovy as bait, but I think the main concern about this issue should be expressed under 2.1.1.	The team concurs that the issues highlighted here also arise in other PIs (e.g. the lack of data on seabird interactions). The matter of some information being available from within the WCPFC area (or stock range), for example, but not locally relative to the fishery also contributed to the scoring here.	NA (No response needed)
3.1.1	Skipjack & Albacore	Yes	Yes	NA	Scoring agreed.		
3.1.2	Skipjack & Albacore	Yes	Yes	NA	Scoring agreed.		

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
3.1.3	Skipjack & Albacore	Yes	Yes	NA	Scoring agreed. Two suggestions for the rationale. Earlier in the document the point was made that Japan's new fisheries law commits it to the precautionary principle. If this is true, the point could usefully be made again here. Also, the discussion seems to conflate the management framework with its implementation. As few management systems are likely to be implemented perfectly it seems harsh to lower the score due to implementation.	Thank you for your input, and the implementation part of the consideration is now deleted from the scoring rational. New Fisheries Law detail is not included, but it does not use the word "precautionary approach or principle" although there are areas that the concept is applied, so the Fisheries White Paper that explicit stated use of precautionary approach is left in the rational.	Accepted (no score change, change to rationale)
3.2.1	Skipjack & Albacore	Yes	No (scoring implications unknown)	NA	Scoring is generally agreed but the emphasis of the logic is misplaced. The argument here focuses on "demonstrably consistent" and I think the objectives are demonstratively consistent. However, 100 also requires "well-defined and measurable" objectives and I think this is where 100 may not be met because in several cases the objectives are still evolving and not yet measurable.	Thank you for your comment. The justification edited with more focus of "well-defined" requirement.	Accepted (no score change, change to rationale)
3.2.2	Skipjack & Albacore	Yes	Yes	NA	Comment 1: Scores agreed without comment for a), b) and d).		NA (No response needed)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
3.2.2	Skipjack & Albacore	Yes	Yes	NA	Comment 2: for c) Score agreed. The system is set up to invoke the precautionary principle and use the best available science, however, as hinted in the text, this does not always occur in practice (but this is difficult to document objectively, and the standard is only that it be used not "always used"). It could also be argued that without fully developed HCRs/management procedures the precautionary approach is not fully implemented. Nevertheless, 80 seems to be met.	Thank you for comments. However HCRs /management procedures not in place is not always the evidence of lack of precautionary approach not fully implemented. The justification is left as was.	Not accepted (no change)
3.2.2	Skipjack & Albacore	Yes	No (scoring implications unknown)	NA	Comment 3: for c) This might be better dealt with as N/A? If it has to be scored I think it meets 100. The fact that it has avoided dispute procedures until now means that it must be acting to resolve such issues. It is always possible to say that disputes are just around the corner and this has been said many times before in the history of the WCPFC. (Also Bruyn et al. 2012 reference is not provided).	There was a strong stakeholder comment that argued it should not meet SG100, using reference to Medley (2020). Reference to Bruyn et al, 2013 now included.	Not accepted (no change)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
3.2.3	Skipjack & Albacore	Yes	Yes	NA	Comment 1: Scores agreed for SIs a), c) and d).		NA (No response needed)
3.2.3	Skipjack & Albacore	Yes	No (material score reduction expected to <80)	NA	Comment 2: I think a lower score might be warranted for SI b) as I don't consider a verbal warning to be a sanction. Also, given the lack of transparency in the compliance monitoring process it would be difficult to confirm that sanctions are consistently applied. The situation described appears to more accurately fit the 60 SG.	Thank you for your input. Justification revised to include mode detail. Score remains with 80. In the case of pole-and-line fishing, there has been no record of violation in the past 5 years, except for one Warning Notice. Two years ago, one vessel failed to respond to the inspector's radio calls to stop the vessel. The vessel did not notice the call while they were busy fishing. WCPFC reported the case to the Fisheries Agency. The vessel was given a verbal warning only, however fisheries cooperative appeared to have well noted this issue. Verbal warnings can also be escalated to written warnings/ fines if the issue persists. Sanctions to deal with non-compliance exist, and although there is no case of recent application for the fishery, there seems little incentives for violation the current monitoring framework provided by cooperation	Accepted (no score change, change to rationale)

PI	UoA Stock	Has all available relevant information been used to score this PI? (Yes/No)	Does the information and/or rationale used to score this PI support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Peer Reviewer Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
						among fisheries cooperatives, prefecture, national government and WCPFC is thought to provide effective deterrence. There is limited evidence to demonstrate the consistent application of sanctions and effectiveness. SG60 and 80 are met but SG100 is therefore not met.	
3.2.4	Skipjack & Albacore	Yes	Yes	NA	Scoring agreed.		NA (No response needed)

Summary of RBF comments

PI	RBF Scoring	RBF Information	Peer Reviewer Justification (as given at initial Peer Review stage)	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
1.1.1 (RBF)	NA (PI not scored using the RBF)	NA (PI not scored using the RBF)			
2.1.1 (RBF)	NA (PI not scored using the RBF)	NA (PI not scored using the RBF)			

PI	RBF Scoring	RBF Information	Peer Reviewer Justification (as given at initial Peer Review stage)	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
2.2.1 (RBF)	NA (PI not scored using the RBF)	NA (PI not scored using the RBF)			
2.3.1 (RBF)	Yes	Yes	RBF Comment 1: In Appendix 8, the reference should be to 2.3.1, not 2.4.1.	This has been corrected, thank you.	Accepted (no score change, change to rationale)
2.3.1 (RBF)	Yes	Yes	RBF Comment 2: Suggest adding the IUCN Redlist Category to Table 35 (since this is directly relevant to the MSC criteria)	The IUCN RedList and Japanese Red Data Book classifications have been added for reference.	Accepted (no score change, change to rationale)
2.3.1 (RBF)	Yes	Yes	RBF Comment 3: Why are the average max size and average size at maturity the same for all species in Table 36?	For seabirds, information available is usually presented as mean or range of (adult) size. Juvenile seabirds are broadly the same size as adults from when they fledge, which also limits the contrast between the two descriptors.	NA (No response needed)
2.3.1 (RBF)	Yes	Yes	RBF Comment 4: In Table 37 there is a need to show the species in the first column and explain why certain species have different encounterability (i.e. what is considered to be the depth range of the gear?)	Birds may encounter the gear as it passes through the air, or when it is in the water. Without bait on the hooks used in the fishery, hooks are not expected to be attractive to birds. Higher encounterability scores were assigned to species spending most time where the UoA operates. This explanation has been added to the text at 8.1.	Accepted (no score change, change to rationale)
2.3.1 (RBF)	Yes	Yes	RBF Comment 5: In Table 38, in some cases Black-tailed gull life history parameters are unknown; shouldn't these be scored more conservatively? (e.g. 3 rather than 1)	With limited information available on this species, but a significant body of information available on some congeneric species, the team considered it reasonable to use congeneric proxies here.	Not accepted (no change)

PI	RBF Scoring	RBF Information	Peer Reviewer Justification (as given at initial Peer Review stage)	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
2.3.1 (RBF)	Yes	Yes	RBF Comment 6: Also in Table 38, some justification should be provided for mapping "ground nester" as score=2 "demersal egg layer". Ground nesting poses some risks to vulnerable life stages and might be considered high risk.	The categories available in the RBF are limited to broadcast spawner, demersal egg layer, or live bearer. The species are not broadcast spawners or live-bearers, and demersal egg-layer is the best fit to their habits, i.e. laying eggs on the ground. The point made is accepted, while the RBF process is applied as prescribed in the FCP.	Not accepted (no change)
2.4.1 (RBF)	NA (PI not scored using the RBF)	NA (PI not scored using the RBF)			NA (No response needed)
2.5.1 (RBF)	NA (PI not scored using the RBF)	NA (PI not scored using the RBF)			NA (No response needed)

Appendix 4 Stakeholder input

Upon the publication of the ACDR, a formal submission was received from ISSF. The submission and team response are shown below. Stakeholder input as part of the RBF is discussed in section 8.2.4.

ISSF submission

The International Seafood Sustainability Foundation (ISSF) is a global partnership among the tuna industry, science and WWF, the global conservation organization. ISSF's mission is to undertake science-based initiatives for the long-term conservation and sustainable use of tuna stocks, reducing bycatch and promoting ecosystem health. The below comments were received on the 4th September 2020, following publication of the Announcement Comment Draft Report (ACDR).

General comments

General comments	Evidence or references	CAB response to stakeholder input	CAB Response Code
<u>General: Table 9 incomplete</u> Table 9 "Performance Indicator Scores" (p.18) is missing PI scores.	NA	This has been amended.	Accepted (no score change)
<u>Traceability</u> According to the ACDR, not all vessels from the cooperatives under assessment are part of the UoC: " <i>The Japan Offshore Pole-and-line Tuna Fishery Sustainability Council (JOPFSC) was established in November 2019 for this full-assessment. JOPFSC consists of 19 vessels – 7 vessels from Kochi Katsuo Fisheries Cooperative (FC) (Kochi) and 12 vessels from Nango Fisheries Cooperative (Miyazaki), see Table 4. There are also several vessels in Kochi and Miyazaki which have not joined the assessment. All currently non-participating members of the cooperatives in</i>	NA	We do not see where ISSF specifically sees this as a risk. No transshipment occurs within this fishery. All vessels carry VMS, which can be used to verify no-transshipments. The catch from the vessels is processed at the landing sites (sorted, weighed etc) vessel by vessel, so no risk of mixing exists at that point either.	Not accepted (no score change)

General comments	Evidence or references	CAB response to stakeholder input	CAB Response Code
<p><i>Kochi and Miyazaki are included as 'other eligible fishers', with the caveat that they can't use the MSC certificate unless they have provided the CAB with catch- and bait use data."</i></p> <p>ISSF is concerned there may be a risk of mixing catches from these vessels with catches from the UoC. We recommend said risk is assessed and described in the Traceability section of the report.</p>			
<p>HS advocacy actions</p> <p>According to the ACDR preliminary scores, the CAB will likely set a condition towards implementation by WCPFC and IATTC of robust Harvest Strategies for Western Pacific skipjack and North Pacific albacore. As regards the Client Action Plan to meet these conditions, ISSF would like to suggest specific actions for the Client to consider:</p> <p>1) Publicly support the high-level appeals for RFMOs developed by global NGOs that are participants in the NGO Tuna Forum (noting that JOPFSC did not sign onto the Forum's global RFMO appeal letter in 2019 that was sent directly to RFMOs; (https://www.wcpfc.int/node/44923). For 2020, the global appeal letter was focused on key asks for each RFMO this year. We note that JOPFSC did not sign the letter this year. This letter that contains the Forum's high-level appeal to the tuna RFMOs, along with all the logos of current and new company signatories, will be a living public statement of support available on the NGO Tuna Forum's website. (https://ngotunaforum.org/global-tuna-advocacy-appeal/)</p> <p>JOPFSC should publicly support the high-level appeals for RFMOs developed by the global NGO Tuna Forum and attach its logo to the living statement of support. In order</p>	<ul style="list-style-type: none"> - https://www.wcpfc.int/node/44923 - https://ngotunaforum.org/global-tuna-advocacy-appeal/ - https://iss-foundation.org/what-we-do/influence/position-statements 	<p>Thank you for the suggestions. We will make the client aware of this. However, we cannot make these prescriptive suggestions with regards to the Client Action Plan.</p>	Not accepted (no score change)

General comments	Evidence or references	CAB response to stakeholder input	CAB Response Code
<p>to be included in the 2020 version, please contact Mr. Robin Teets (robin.teets@ariastategies.com).</p> <p>In 2020, companies will also have the opportunity to engage in other direct RFMO advocacy tactics to demonstrate market support for specific tuna sustainability asks. NGO participants in the NGO Tuna Forum will be reaching out to market partners with these opportunities in the coming months.</p> <p>2) Advocate for accelerated progress on the adoption and implementation of Harvest Strategies and Harvest Control Rules through WCPFC and IATTC, such as through continued direct engagement with national delegations to WCPFC and IATTC. ISSF also encourages JOPFSC to directly engage in the WCPO MSC Alignment Group and the Group's advocacy initiatives for harvest strategies and other priorities.</p> <p>3) Urge the Japan delegation at WCPFC and IATTC to take a strong public position on advancing harvest strategies as part of the deliberations WCPFC and IATTC will undertake virtually this year and at future in-person meetings, including by making proposals for management objectives and accelerated MSE in the IATTC and the development of harvest strategies including harvest control rules, in the WCPFC, and to underscore that the MSC has established hard deadlines for P1 conditions for certified tuna fisheries, which for WCPO skipjack HS is by 2021 and for NP albacore HCR is 2023. If these deadlines are not met, the corresponding WCPO skipjack and NP albacore MSC certifications will be suspended.</p> <p>4) Have meetings, calls or other direct contact with all other relevant WCPFC and IATTC delegations where</p>			

General comments	Evidence or references	CAB response to stakeholder input	CAB Response Code
<p>JOPFSC has business interests to advocate for the adoption of Harvest Strategies and HCR; and</p> <p>5) Publicly support ISSF Position Statements that contain detailed asks on Harvest Strategies and Harvest Control Rules to the virtual sessions of the WCPFC and IATTC in 2020 and future in-person meetings of both the WCPFC and IATTC, and document that support (e.g. by submitting a letter or some other communication citing the Position Statement).</p>			
<p>Letter(s) of support</p> <p>Include letter of support from national fisheries agencies in Public Comment Draft Report.</p> <p>According to the ACDR preliminary scores, the CAB will likely set conditions for WCPO skipjack and NP albacore regarding PIs 1.2.1 (Harvest Strategy) and 1.2.2 (Harvest control rules & tools). Taking into account that the national government (i.e. FAJ, MAFF) will have a relevant role in the action plan for this condition, ISSF is concerned that, without a letter of support from them, there is no clear expectation that the Client Action Plan included in the PCDR will achieve its objectives.</p> <p>In PCDRs from other tuna fisheries that have obtained MSC certification in recent years, the evidence of government support and involvement presented consisted of a letter from the national fisheries agency or ministry of fisheries stating their conformity and commitment to the milestones and actions described in the Client's Action Plan (see for example the Final Report of the Solomon Islands longline albacore and yellowfin tuna fishery (P.279)).</p>	<p>'Final Report of the Solomon Islands longline albacore and yellowfin tuna fishery: https://cert.msc.org/FileLoader/FileLinkDownload.aspx/GetFile?encryptedKey=+qi2N83wZ9VnJ8Ep4QpeFEJ+aZOZ23KSTEFgoorNggDjrCzt+pTxDh47ZcdaRb6A</p>	<p>No consultation is required on the condition regarding PI 1.2.1 and 1.2.2, since WCPFC have already expressed their intention of undertaking this process (see CMM 2014-06 and current harvest strategy workplan).</p> <p>As members of the WCPFC and IATTC, the Japanese government are committed to the implementation of Harvest Control Rules and LRP. This commits all parties, including Japan, to progress towards implementation of HCR.</p> <p>However, following the example of the Ishihara marine products albacore and skipjack pole and line fishery, we have made the client aware and asked to liaise with MAFF, to keep pursuing conservation and management measurement through CMM2014-06 at WPFC level.</p>	<p>Not accepted (no score change)</p>

PI	Input summary	Input detail	Evidence / references	Suggested score change	CAB response to stakeholder input	CAB response code
1.2.1 - Harvest strategy (SKJ)	The independent report by Medley et al. (2020) indicates that the fishery would not meet SG100 for SI 1.2.1.d.	The independent report by Medley et al. (2020) indicates that the fishery would not meet SG100 for SI 1.2.1.d. 1.2.1.d: "According to CMM 14-06, a formal harvest strategy for bigeye, yellowfin and skipjack should be put in place by WCPFC, with provision for periodic review (see 14-06, Annex 1, para. 9). This has, however, not yet been achieved. Meanwhile, the existing harvest strategy, currently set out in 2018-01, has been more or less the same for several years; although it is not clear that improvement is required as a matter of urgency. SG100 is not met."	Medley et al. (2020)	80	Peer Reviewer A made the same comment, so we have decided to change the score as advised to 'not met'. Note it makes no difference to the score of the PI overall.	Accepted (non-material score reduction)
1.2.1 - Harvest strategy (NP ALB)	The independent report by Medley et al. (2020) indicates that the fishery would not meet SG80 for SI 1.2.1.a, nor SG100 for 1.2.1.d and that, as a result, the overall PI score would be less than 80.	The independent report by Medley et al. (2020) indicates that the fishery would not meet SG80 for SI 1.2.1.a, nor SG100 for 1.2.1.d and that, as a result, the overall PI score would be less than 80. 1.2.1.a: "(...) In the longer term it does not seem that the current management measures to implement the harvest strategy can be argued to be likely to achieve stock management objectives (maintain biomass above the LRP), since there is currently no means of controlling catches directly and no means of enforcing the requirements on fishing effort at regional level. There is a commitment to introduce another CMM should biomass fall below the LRP, but not necessarily in the circumstances of increased probability of biomass falling below the LRP in the future. On this basis, taking into account the usual definition of an LRP (i.e. that biomass should be maintained above this level with a high probability), there is not clear evidence that the harvest strategy will continue to meet this objective. SG80 is not met. In order to improve this score, the harvest strategy need to be improved such that i) it takes into account the risk of the stock falling below the LRP, and ii) such that there is evidence that tools can be put in place to implement the strategy, if required." 1.2.1.d: "CMM 2005-03 was reviewed annually by the Northern Committee, and was replaced by CMM 2019-03 with small changes. The harvest strategy overall is currently undergoing review by WCPFC's Northern Committee, following the requirements of CMM 2014-06. They have proposed an interim harvest strategy which sits alongside existing measures (see above). The development of a TRP and HCR is part of MSE work currently underway by ISC. This process is, however, incomplete; the existing harvest strategy (i.e. CMM 2019-03 and C-05-02) has not been updated for quite some time, although some elements such as reporting have been improved. For the moment, SG100 is not met. "	Medley et al. (2020)	70	This scoring is agreed harmonised scoring between CABs. It was agreed several years ago but since neither the harvest strategy nor the stock status have gone backwards since then, presumably the intent is that it remain at least at this level. We agree, however, that as for 1.1.1a, this SI has not always been scored consistently in MSC assessments – in this case between stocks (where there is no requirement for cross-harmonisation). MSC are currently conducting a review of this question (specifically, whether this SI can score 80 when, as the comment notes, a HCR and tools to control exploitation rates are not actually in place). We have tried in other context to reopen review of previously agreed harmonised scores, and it has not been successful, so while acknowledging some uncertainties here, we retain this scoring in place until the results of MSC's review provide clarification. As for 1.2.1.d, we think this scoring is a bit harsh – the Northern Committee reports show quite extensive discussion about the changes needed to 2005-03. We agree that once the MSE is complete this will provide a much more thorough review, but MSC do not require the harvest strategy review to take the form of an MSE, nor do they require that changes made in response to review be major.	Not accepted (no score change)
1.2.2 - Harvest control rules and tools (NP ALB)	The independent report by Medley et al. (2020) indicates that the fishery would not meet SG60 for PIs 1.2.2.a and 1.2.2.c and that, as a result, the overall PI score would be less than 60 ("Fail"):	The independent report by Medley et al. (2020) indicates that the fishery would not meet SG60 for PIs 1.2.2.a and 1.2.2.c and that, as a result, the overall PI score would be less than 60 ("Fail"). 1.2.2.a: "At SG60, MSC allows a harvest control rule to be 'available' rather than 'in place' if the requirements summarised below are met (for full list see SA2.5.2, 2.5.3): <ul style="list-style-type: none">• Stock biomass has not previously been reduced below the MSY level, or has been maintained at that level for a recent period of time ... and is not predicted to be reduced below B_{MSY} within the next 5 years;• HCRs are effectively used in other stocks by the same management body or an agreement or framework is in place requiring the management body to adopt HCRs before the stock declines below B_{MSY}. The second of MSC's requirements for scoring an 'available' HCR is met for North Pacific albacore by WCPFC CMM 2014-06. In terms of the first, the first difficulty is to evaluate what estimate of B_{MSY} to use. The ISC stock assessment provides an estimate which is low relative to SSBO (see 1.1.1); if this estimate is used, biomass is not predicted to drop below this level. If the MSC proxy of 2xLRP is used (i.e. 40 %SSBF=0), biomass is projected to drop to ~this level by 2025 based on constant	Medley et al. (2020)	<60	In harmonisation discussions between CABs on WCPFC tuna stocks, it was recently agreed that in scoring this SI, we should rely on the guidance GSA2.2.3.1: In the case where either B_{MSY} or the PRI are analytically determined, those values should be used as the reference points for measuring stock status unless additional precaution is sought. (...) In the case where B_{MSY} is analytically determined to be lower than 40 %BO (as in some highly productive stocks), and there is no analytical determination of the PRI, the default PRI should be 20 %BO unless $B_{MSY}<27$ %BO, in which case the default PRI should be 75 % B_{MSY} . It is not true to say that catch is not likely to reduce from recent levels – see Table 16 of the report. The average catch for 2002-4 was ~98,000 t, dropping to 81,000 in 2014 and 58,000 in 2016. For 1.2.2.c: As noted in the rationale, to score SG60 as met here, MSC	Not accepted (no score change)

PI	Input summary	Input detail	Evidence / references	Suggested score change	CAB response to stakeholder input	CAB response code
	result, the overall PI score would be less than 60 ("Fail").	<p>fishing intensity, but below this level by 2020 based on constant catch. The estimate of B_{MSY} from the stock assessment is low relative to unfished biomass and is therefore not a precautionary target. Although the harvest strategy is predicated on constraining fishing effort, there are no stock-wide measures in place to do this; the harvest strategy relies on individual countries taking action for their fleets. The most recent stock assessment, however, estimates that in order to maintain F at the level requirement for the stock biomass to be kept above the LRP, some reduction in catch is required from present levels. Since there is no evidence at the moment that this can be achieved, there is not really a good reason to expect that the harvest strategy can reduce the exploitation rate as the LRP is approached. Therefore, SG60 is not met."</p> <p>1.2.2.c: "Under SA2.5.5, in order to conclude that 'available' HCRs are 'effective' (SG60), MSC requires evidence of i) the use of effective HCRs in other stocks or fisheries under the same management body; or ii) a formal agreement or framework with trigger levels which will require the development of a well-defined HCR. It also requires consideration of current exploitation rates in relation to biological reference points and the agreed trigger level (guidance for SA2.5.6: 'evidence that current F is equal to or less than F_{MSY} should usually be taken as evidence that the HCR is effective'). For the moment, it is not clear that there are any tools in place to control fishing capacity, despite the requirements of C-05-02 and CMM 2019-03; fishing capacity appears to have been restrained by relatively higher levels of recruitment than in previous decades. WCPFC have a formal framework for the development of an HCR (CMM 2014-06); for this stock it should be implemented by the Northern Committee. The NC have proposed an interim harvest strategy to WCPFC (see above), which includes a trigger level ($SSB < LRP$) for the development of a more effective CMM (including rebuilding timeframe), meanwhile ISF are working on a MSE to put in place a TRP and HCR, and the NC also have this in their 2019-2021 workplan (see WCPFC NC 2018 report, Attachment G). IATTC do not have such a formal commitment in place for this stock, but so far, management has been coordinated between the two RFMOs and there is no reason to suppose that this will not continue. Catches have been falling recently (9 % lower in 2018 from 2017). The stock is highly likely above the LRP (20 % SBcurrent, $F=0$). However, there are no convincing tools in place at present to achieve a catch reduction should this become necessary. While the ISC notes that catches have been falling, some countries expressed concern in the Northern Committee about declining CPUEs, as well as an unreported increase in Chinese effort on the stock. In this situation of increased risk to the stock under the current management regime, it is not appropriate to consider that 'available' tools will be effective in constraining F to appropriate levels, so SG60 is not met."</p>			require: i) a formal agreement to develop a HCR and ii) evidence that exploitation rates are appropriate (i.e. that $F \leq F_{MSY}$). Both these conditions are met for NP Albacore.	
1.2.4 - Assessment of stock status (NP ALB)	<p>The independent report by Medley et al. (2020) indicates that the fishery would not meet SG100 for SI 1.2.4.e and that, as a result, the overall PI score would be less than 100.</p> <p>1.2.4.e: "The stock assessments report is internally reviewed by International Scientific Committee for Tuna and Tuna-like Species in the North Pacific (ISC). The original SS3 stock assessment of North Pacific albacore was externally reviewed in 2011 and recommendations were incorporated into subsequent assessments. However, external reviews have not been conducted regularly since or for the latest stock assessment in 2017, so SG100 is not met."</p>	Medley et al. (2020)	95	The MSC does not specify how recent an external review should be to count. This is harmonised scoring so to change it we would need to seek the views of the other relevant CABs, which would be best done in the context of MSC's ongoing review of P1. We will bear the issue in mind.	Not accepted (no score change)	

PI	Input summary	Input detail	Evidence / references	Suggested score change	CAB response to stakeholder input	CAB response code
3.1.1 - Legal and/or customary framework (IATTC)	The independent report by Medley et al. (2020) indicates that the fishery would not meet SG100 for SI 3.1.1.a at the RFMO level (IATTC) and that, as a result, the overall PI score would be less than 100.	<p>The independent report by Medley et al. (2020) indicates that the fishery would not meet SG100 for SI 3.1.1.a at the RFMO level (IATTC) and that, as a result, the overall PI score would be less than 100.</p> <p>3.1.1.a: (...) The Convention provides an effective framework for co-operation among the parties which exploit tuna stocks that are within the jurisdiction of the convention, meeting SG80. However, the procedures are only binding to the extent that they can be agreed among the parties. Decisions are made by consensus and therefore co-operation is effectively not binding, so SG100 is not met."</p>	Medley et al. (2020)	80	Medley et al. (2020) continues after this quoted sentence, "the national legal system would be a determining factor in this scoring issue." Japan is a member of both WCPFC and IATTC. It is considered that there is an effective national legal system and binding procedures governing cooperation with other parties which delivers management outcomes consistent with MSC Principles 1 and 2.	Not accepted (no score change)
3.1.2 - Consultation, roles and responsibilities (WCPFC and IATTC)	The independent report by Medley et al. (2020) indicates that the fishery would not meet SG100 for SI 3.1.2.a at the RFMO level (both WCPFC and IATTC).	<p>IATTC- 3.1.2.a: (...) Roles and responsibilities are not necessarily well understood in all areas, however IATTC has had a number of problems with Flag States that have not applied appropriate controls to all their vessels, and may not fully understand their responsibilities. This includes Flag States not submitting timely data and not in the correct form, and so on. Some problems in providing basic data on vessels and catches are likely due to a lack of understanding of requirements which appear to be complex or a lack of technical capacity in the responsible institutions. While these problems are not in key areas in the sense that they do not prevent IATTC completing its primary tasks, they nevertheless undermine its overall effectiveness and increase risks to sustainability. For example, stock assessments can only be completed up to the end of the available data series, which in these cases mean stock status estimates are generally a year behind the current year. Hence although the fisheries meet the SG80, they do not meet SG100."</p> <p>WCPFC - 3.1.2.a: (...) Roles and responsibilities are not necessarily well understood in all areas, however. WCPFC has had a number of problems with flag States that have not applied appropriate controls to all their vessels, and it appears that not all vessels understand their responsibilities and in some cases there appear to be conflicts between requirements for confidentiality and the responsibilities to provide information necessary for management, which need to be resolved. This includes members not submitting timely data. The Regional Observer Programme (ROP), despite being overall successful, also has allegations of inappropriate behaviour towards observers on vessels, suggesting fishing entities do not fully understand or comply with their responsibilities. Although most data are available to the Pacific Community (Oceanic Fisheries Programme) (SPC-OFP), which is responsible for stock assessment, not all these data have been entered and made available to the Commission. While these problems are not in key areas in the sense that they do not prevent WCPFC completing its primary tasks, they nevertheless undermine its overall effectiveness and increase risks to sustainability. For example, while stock assessments provide estimates of stock status up to the current year, the Scientific Committee noted that the incomplete submission of data increases uncertainty in the assessments and encouraged all members to provide data in accordance with the WCPFC data rules. Hence although the fisheries meet the SG80, they do not meet SG100."</p>	Medley et al. (2020)	80	Noted. Have revised, with more specific example with Japan government not meeting SG100.	Accepted (material score reduction to 80)

PI	Input summary	Input detail	Evidence / references	Suggested score change	CAB response to stakeholder input	CAB response code
3.2.2 - Decision-making processes (WCPFC C)	The independent report by Medley et al. (2020) indicates that the fishery would not meet SG80 for SI 3.2.2.b, nor SG100 for 3.2.2.e at the RFMO level (WCPFC).	<p>The independent report by Medley et al. (2020) indicates that the fishery would not meet SG80 for SI 3.2.2.b, nor SG100 for 3.2.2.e at the RFMO level (WCPFC).</p> <p>3.2.2.b: (...) However, although overall the decision-making is adequate for most of the stocks being considered and serious issues have been responded to, some important issues have not. The declining SP albacore catch rates comes under 'other important issues' (not yet 'serious' because the stock is above MSY reference points). At a presentation by SPC at the Thirteenth Session of WCPFC in December 2016 concerning the status of the tuna stocks it was stated that the southern albacore stocks were not overfished but that due to the declining CPUE there were concerns over economic viability. WCPFC has not addressed this important issue. It can be shown that regional decision-making processes deal with serious issues identified, in a transparent timely and adaptive manner but not some of the important issues. In particular one of the target species for this assessment, albacore, has shown a steady decline in economic viability over recent years, and WCPFC have not responded in a timely responsive way to halt this decline.</p> <p>Overall the decision-making is adequate for the stocks being considered. It can be shown that it deals with serious but not always important issues for example SP albacore in a transparent, timely and adaptive manner meeting SG60 but does not meet SG80 at this time."</p> <p>3.2.2.e: (...) Given that there are no current outstanding judicial disputes and there are no outstanding international disputes, the management system meets SG80. By resolving disputes through WCPFC meetings (being members of WCPFC and agreeing to abide by WCPFC provisions), the members have avoided legal disputes. However, issues facing WCPFC which could lead to challenges are just now coming to the forefront. Thus, there is no evidence yet of proactive actions, so SG100 is not met."</p>	Medley et al. (2020)	75	<p>PI3.2.2b was not revised due to the following actions taken by WCPFC address the issues concerning a decline in catch rates for SP albacore: WCPFC15 adopted an interim TRP for SP albacore and tasked the OFP of SPC to identify a range of alternative catch pathways and timeframes that achieve (the interim TRP) no later than 20 years.</p> <p>The OFP of SPC at the Sixteenth Regular Session of WCPFC, November 2019, presented working paper WCPFC16-2019-19 "Alternative Trajectories to Achieve the South Pacific Albacore Interim TRP" which examined:</p> <ul style="list-style-type: none"> a) consequences of continued fishing at recent levels for the South Pacific albacore stock. b) alternative stock trajectories to achieving the candidate TRP that included: close the fishery; achieve the TRP in 20 years; achieve the TRP sooner; and achieve the TRP in 20 years minimizing overshoots; and c) Impact of the different South Pacific albacore fishery components (longline and troll) on stock recovery. <p>At the Technical and Compliance Committee (TCC) Fifteenth Regular Session, working paper WCPFC-TCC15-2019-IP15 "Assessment of the number of vessels fishing for South Pacific albacore south of 20°S" was presented. It was concluded that for tuna vessels fishing south of 20°S a high proportion of these vessels have catch that is made up of more than 50 % albacore. Currently, it is difficult to determine the number of vessels fishing for South Pacific albacore until the CCMs decide on the catch proportion that should be used for defining fishing for South Pacific albacore.</p> <p>An Inter-Sessional Meeting to progress the draft "Bridging CMM on South Pacific albacore" and South Pacific albacore Roadmap IWG face-to face meeting are scheduled in 2020.</p> <p>We therefore maintain that most of the decision-making processes at WCPFC and IATTC respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, meeting SG8. However, it is hard to say that WCPFC responds to all serious and important issue, and SG100 is not met.</p> <p>3.2.2e has been amended.</p>	3.2.2b Not accepted (no score change) 3.2.2e Accepted (non-material score reduction)

PI	Input summary	Input detail	Evidence / references	Suggested score change	CAB response to stakeholder input	CAB response code
3.2.3 - Compliance and enforcement						

To be completed at Public Certification Report

Appendix 5 Conditions

Table 29. Condition 1: WCPO Skipjack – Harvest Strategy (UoA 1)

Performance Indicator	1.2.1: There is a robust and precautionary harvest strategy in place
Score	70
Rationale	<p>Scoring issue a (SG80): The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving stock management objectives reflected in PI 1.1.1 SG80.</p> <p>The most recent stock assessment suggests that the stock status and fishing mortality is on the right side of MSY reference points (see 1.1.1). In 2019, SPC evaluated the effect of CMM 2018-01 with projections to 2045 (Pilling et al. 2019). They used 'status quo' (2013-15), optimistic and pessimistic scenarios, but for skipjack all resulted in little change in SB or F, and in all cases the risk of $SB < LRP$ or $F > F_{MSY}$ was negligible; i.e. even under the pessimistic scenario, the stock status as scored in 1.1.1 is not likely to change. Status quo projections presented in the new stock assessment also predict that biomass will be maintained above the LRP with high probability (~5 % for the 5-region model and <5 % for the 8-region model accepted by the SC). Median biomass stabilises at ~40 %$SB_{F=0}$ for the 8-region model (a bit less for the 5-region model), which is well above the MSY level according to the stock assessment. SG60 is met.</p> <p>SG80 requires that management is responsive to the state of the stock. In 2017, the working group charged with developing the Tropical Tuna CMM asked SPC to evaluate the likely consequences of a large set of different management options for yellowfin, bigeye and skipjack stocks. A series of options were evaluated based on the probability of future (2045) biomass and fishing mortality being the wrong side of reference points ($SB < LRP$; $F > F_{MSY}$), with levels of risk defined in a 'traffic light' scale (green: <5 %, orange: 5-20 %, red: >20 %). For skipjack, none of the options resulted in a risk of >5 % of $SB < LRP$ or $F > F_{MSY}$. None of the options correspond directly to CMM 2018-01, but the options with higher risk were less precautionary than 2017-01 or 2018-01 which include FAD closures (SPC 2017).</p> <p>It is also relevant to consider the history of changes to the harvest strategy in relation to perceptions of stock status, to evaluate whether there has been a response to changes in this perception. What is relevant here is not the status of skipjack, since it has always been good, but rather the status of bigeye, since this has varied over time, and since the harvest strategy considers all three tropical species together. Measures to reduce F on bigeye took some time to be agreed, but once introduced, the harvest strategy progressively tightened over the period 2014-2017, with measures only relaxed slightly (in 2017-01, agreed in December 2017) when the perception of stock status was revised and improved in the 2017 assessment.</p> <p>On this basis, the team concluded that the harvest strategy is responsive to the state of the stock.</p> <p>SG80 also requires that the elements of the management strategy work together to achieve management objectives. The elements of the current harvest strategy are: i) monitoring / stock assessment; ii) evaluation of management options; iii) management actions put in place by WCPFC and iv) management actions put in place by PNA. The evaluation of management options is informed by the stock assessment (which is only possible because of monitoring and data collection); WCPFC decision-making is informed by the evaluation of different options. It is also clear that PNA and WCPFC work together;</p>

	<p>the PNA VDS is incorporated into CMM 2018-01 (see Table 1 of the CMM). On this basis, it can be argued that the elements of the harvest strategy work together.</p> <p>The argument for saying that SG80 is not met, is that the HCR is only ‘available’ (see P1 1.2.2) and on this basis one of the elements of the harvest strategy is missing (or at least, not formally in place), hence by definition the elements cannot work together. Under this default scoring, therefore, SG80 is not met.</p>
Condition	WCPO skipjack needs a harvest strategy that is responsive to the state of the stock, with the elements of the harvest strategy (monitoring, stock assessment, harvest control rules and management actions) working together to achieve stock management objectives.
Milestones	<p>The milestones have been aligned with the latest iteration of the WCPFC harvest strategy WCPFC (2017b); Attachment L). <i>It is recognised the Client has limited ability directly to ensure the SG80 are met at each scoring issue. The Client will need to work through MAFF and the JFA.</i></p> <p>Year 1 (2022): the client will provide evidence that it is actively working to ensure that the harvest strategy for WCPO skipjack is adopted and responsive to the state of the stock and that the elements of the harvest strategy work together towards achieving the management objectives reflected in the target and limit reference points. This evidence will include a summary of the actions taken by the client and other relevant parties to achieve this outcome in alignment with the WCPFC 2017 agreed work plan. A harvest strategy has been adopted which is responsive to the state of the stock. (Score: 80)*</p>
Client action plan	Year 1 (2022): Hold at least one meeting (face-to-face or online) with the NOTFA and FAJ to review the progress of meetings at the WCPFC and ensure Japanese involvement in and advocacy for development and implementation of harvest strategy for skipjack at the WCPFC. Obtain proof of adaptation of harvest strategy.
Consultation on condition	No consultation is required since WCPFC have already expressed their intention of undertaking this process (see CMM 2014-06 and current harvest strategy workplan). As members of the WCPFC and IATTC, the Japanese government are committed to the implementation of Harvest Control Rules and LRP. This commits all parties, including Japan, to progress towards implementation of HCR.

* The milestones have been aligned with the latest iteration of the WCPFC harvest strategy WCPFC (2017a), and with the CAB-wide Variation Request (VR) that has been submitted for alignment of P1 conditions and timelines on HMS stocks. It is recognised that the iteration of the harvest strategy used and the alignment with the agreed upon timeline from the VR leaves the client very little time to address the issue.

Table 30. Condition 2: WCPO Skipjack – Harvest Control Rules (UoA 1)

Performance Indicator	1.2.2: There are well defined and effective harvest control rules (HCRs) in place
Score	60
Rationale	<p>Scoring issue a (SG80): Well defined HCRs are in place that ensure that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY, or for key LTL species a level consistent with ecosystem needs.</p> <p>Stock biomass has been above the estimated MSY level throughout the time series, and since the probabilities that $SB < SB_{MSY}$ and $F > F_{MSY}$ are negligible, it is not likely that the stock biomass will fall below this level in the next five years (see PI 1.1.1, 1.2.1a). WCPFC have an agreed, legally-binding framework in place to establish place formal harvest strategies and control rules for their main stocks, including WCPO skipjack (see CMM 2014-06 and associated workplans; see Section 6.3.8). The requirements of SA2.5.2-3 are therefore met for a HCR to be ‘available’. SG60 is met.</p> <p>Since the harvest strategy is not ‘in place’, SG80 is not met.</p> <p>Scoring issue b (SG80): The HCRs are likely to be robust to the main uncertainties.</p> <p>Since a HCR is ‘available’ rather than ‘in place’, it cannot be argued to be robust to the main uncertainties. SG80 is not met.</p> <p>Scoring issue c (SG80): Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.</p> <p>Under SA2.5.5, in order to conclude that ‘available’ HCRs are ‘effective’ (SG60), MSC requires evidence of i) the use of effective HCRs in other stocks or fisheries under the same management body; or ii) a formal agreement or framework with trigger levels which will require the development of a well-defined HCR. It also requires consideration of current exploitation rates in relation to biological reference points and the agreed trigger level (guidance for SA2.5.6: ‘<i>evidence that current F is equal to or less than F_{MSY} should usually be taken as evidence that the HCR is effective</i>’).</p> <p>Taking this last point first, it is clear that $F < F_{MSY}$ (see PI 1.1.1). A formal agreement for the development of a well-defined HCR is provided by CMM 2014-06, with a framework provided by the associated workplan. A trigger level is provided by the agreed limit reference point (20 %$SB_{F=0}$). The recent assessment and a range of projections (see 1.2.1a) provide evidence that the tools in use are sufficiently effective at controlling exploitation rates.</p> <p>Overall, therefore, under the MSC requirements and guidance for ‘available’ HCRs, SG60 is met. SG80 is not met because the HCR itself is only ‘available’.</p>
Condition	WCPO Skipjack needs a harvest control rule that ensures that the exploitation rate is reduced as the PRI is approached and is expected to keep the stock fluctuating around the target level and robust to the main uncertainties. The tools used to implement the HCR should be effective in achieving the required exploitation levels.
Milestones	The milestones have been aligned with the latest iteration of the WCPFC harvest strategy workplan ((WCPFC 2017b)). <i>It is recognised the Client has limited ability directly to ensure</i>

	<p><i>the SG80 are met at each scoring issue. The Client will need to work through MAFF and the JFA.</i></p> <p>Year 1 (2022)*: The client will provide evidence that it is actively working to ensure that well defined harvest control rules are adopted and are taking into account the main uncertainties are in place for WCPO skipjack and that these are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached. This evidence will include a summary of the actions taken by the client and other relevant parties to achieve this outcome in alignment with the WCPFC agreed work plan. A well-defined HCR is in place (Score: 80).</p>
Client action plan	Year 1 (2022): Hold at least one meeting (face-to-face or online) with the NOTFA and FAJ to review the progress of meetings at the WCPFC and to ensure Japanese involvement in and advocacy for development and implementation of a HCR for skipjack at the WCPFC. Obtain proof of HRC to be adapted by WCPFC.
Consultation on condition	No consultation is required since WCPFC have already expressed their intention of undertaking this process (see CMM 2014-06 and current harvest strategy workplan). As members of the WCPFC and IATTC, the Japanese government are committed to the implementation of Harvest Control Rules and LRP. This commits all parties, including Japan, to progress towards implementation of HCR.

* The milestones have been aligned with the latest iteration of the WCPFC harvest strategy WCPFC (2017a), and with the CAB-wide Variation Request (VR) that has been submitted for alignment of P1 conditions and timelines on HMS stocks. It is recognised that the iteration of the harvest strategy used and the alignment with the agreed upon timeline from the VR leaves the client very little time to address the issue.

Table 31 . Condition 3: NP Albacore – Harvest Control Rules (UoA2)

Performance Indicator	1.2.2: There are well defined and effective harvest control rules (HCRs) in place
Score	60
Rationale	<p>Scoring issue a (SG80): Well defined HCRs are in place that ensure that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY, or for key LTL species a level consistent with ecosystem needs.</p> <p>Under SA2.5.2 In scoring issue (a) at the SG60 level, teams shall accept ‘available’ HCRs (instead of HCRs that are ‘in place’) in cases where:</p> <ul style="list-style-type: none"> a. Stock biomass has not previously been reduced below the MSY level or has been maintained at that level for a recent period of time that is at least longer than 2 generation times of the species, and is not predicted to be reduced below B_{MSY} within the next 5 years; or b. In UoAs where B_{MSY} estimates are not available, the stock has been maintained to date by the measures in use at levels that have not declined significantly over time, nor shown any evidence of recruitment impairment. <p>Under SA2.5.3 Teams shall recognise ‘available’ HCRs as ‘expected to reduce the exploitation rate as the point of recruitment impairment is approached’ only in cases where:</p>

	<p>a. HCRs are effectively used in some other UoAs, that are under the control of the same management body and of a similar size and scale as the UoA; or</p> <p>b. An agreement or framework is in place that requires the management body to adopt HCRs before the stock declines below B_{MSY}.</p> <p>According to the most recent stock assessment (2017), NP albacore stock biomass has not previously been reduced below the LRP, nor below SB_{MSY} as estimated by the stock assessment (which is below the LRP), nor below 2xLRP, which is used in PI 1.1.1 as a more precautionary proxy for SB_{MSY}, except for one of the two key sensitivity runs (which, however, the Albacore Working Group do not consider plausible). Status quo projections based on constant effort and constant catch with the base case model suggest that the SB will be maintained above the LRP with high probability.</p> <p>WCPFC have an agreed, legally-binding framework in place to establish formal harvest strategies and control rules for their main stocks, including NP albacore (CMM 2014-06; see Section 6.4.7). SA2.5.3b is therefore met. On this basis, a HCR can be considered to be 'available' for this stock. SG60 is met. Since the harvest strategy is not 'in place', SG80 is not met.</p> <p>Scoring issue b (SG80): The HCRs are likely to be robust to the main uncertainties. The ISC's Albacore Working Group is in the process of developing a MSE for NP albacore, but for now, the HCR (management procedure) is still under development and neither SG80 nor SG100 is met.</p> <p>Scoring issue c (SG80): Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs. SA2.5.6 requires that as part of the evidence that tools are working, '<i>...teams should include current levels of exploitation in the UoA, as measured by fishing mortality rate where available</i>'. Associated guidance (GSA2.5.2-7) notes that current F being '<i>equal to or less than F_{MSY} should be taken as evidence that the HCR is effective</i>'.</p> <p>Under SA2.5.5, in order to conclude that 'available' HCRs are 'effective' (SG60), MSC requires evidence of i) the use of effective HCRs in other stocks or fisheries under the same management body; or ii) a formal agreement or framework with trigger levels which will require the development of a well-defined HCR. It also requires consideration of current exploitation rates in relation to biological reference points and the agreed trigger level (guidance for SA2.5.6: '<i>evidence that current F is equal to or less than F_{MSY} should usually be taken as evidence that the HCR is effective</i>').</p> <p>Taking this last point first, the SS3 base case model in the 2017 stock assessment estimates F/F_{MSY} as 0.60 (0.77 and 0.52 for the key sensitivities), and F is estimated to never have reached F_{MSY}. A formal agreement for the development of a well-defined HCR is provided by CMM 2014-06, with a framework provided by the Northern Committee workplan. A trigger level is provided by the agreed limit reference point (20 %$SB_{F=0}$), as formalised in the interim harvest strategy. Projections suggest that the management objective (status quo effort) is appropriate and is being met.</p> <p>Overall, therefore, under the MSC requirements and guidance for 'available' HCRs, SG60 is met. SG80 is not met because the HCR itself is only 'available'.</p>
Condition	NP Albacore needs a harvest control rule that ensures that the exploitation rate is reduced as the PRI is approached and is expected to keep the stock fluctuating around

	<p>the target level and robust to the main uncertainties. The tools used to implement the HCR should be effective in achieving the required exploitation levels.</p>
Milestones	<p>The milestones have been aligned with the latest iteration of the WCPFC harvest strategy WCPFC (2017b)). It is recognised the Client has limited ability directly to ensure the SG80 are met at each scoring issue. The Client will need to work through MAFF and the JFA.</p> <p>Year 1 (2022): the client will provide evidence that it is actively working to ensure that the harvest strategy for WCPO NP Albacore is responsive to the state of the stock and that the elements of the harvest strategy work together towards achieving the management objectives reflected in the target and limit reference points. This evidence will include a summary of the actions taken by the client and other relevant parties to achieve this outcome in alignment with the WCPFC 2017 agreed work plan. (Score: 70).</p> <p>Year 2 (2023)*: HCR adopted. Harvest strategy in place. (Score: 80)</p>
Client action plan	<p>Year 1 (2022): Hold at least one meeting (face-to-face or online) with the NOTFA and FAJ to review the progress of meetings at the WCPFC and to ensure Japanese involvement in and advocacy for development and implementation of a HCR for albacore at the WCPFC.</p> <p>Year 2 (2023): Hold at least one meeting (face-to-face or online) with the NOTFA and FAJ to review the progress of meetings at the WCPFC and to ensure Japanese involvement in and advocacy for development and implementation of a HCR for albacore at the WCPFC.</p>
Consultation on condition	<p>No consultation is required since WCPFC have already expressed their intention of undertaking this process (see CMM 2014-06 and current harvest strategy workplan). As members of the WCPFC and IATTC, the Japanese government are committed to the implementation of Harvest Control Rules and LRP. This commits all parties, including Japan, to progress towards implementation of HCR.</p>

* The milestones have been aligned with the latest iteration of the WCPFC harvest strategy WCPFC (2017b), and with the CAB-wide Variation Request that has been submitted for alignment of P1 conditions and timelines on HMS stocks.

Table 32. Condition 4 (UoA 1 and UoA 2)

Performance Indicator	2.1.1 The UoA aims to maintain primary species above the point where recruitment would be impaired (PRI) and does not hinder recovery of primary species if they are below the PRI
Score	75
Rationale	<p>Scoring Issue (a): Main primary species are highly likely to be above the PRI (SG80)</p> <p>Japanese anchovy: This species is below the PRI with a declining biomass trajectory. A recovery plan for the stock is not in place, and the fishery does not appear to have a defined strategy to manage bait use. The operational measure in place to ensure that the UoA does not hinder recovery and rebuilding is the scale of the fishery, which limits the amount of bait used. (Anchovy bait used by the UoA comprised approximately 1.5 % of the catch of the anchovy fishery in 2018, and 0.6 % of the stock biomass. However, more than twice as much Pacific sardine is used as bait compared to anchovy, and this ratio may vary over time). In summary, the UoA</p>

	<p>has measures in place that are expected to ensure that it does not hinder recovery and rebuilding. SG60 is met.</p> <p>There is no evidence of recovery for this primary main species. An operational constraint is in place that limits the UoAs' use of this species, i.e. the scale of the fishery limits the amount of bait used. However, this does not comprise a "demonstrably effective strategy", particularly when species-specific bait use information is available for 2019 only. (Prior to 2019, bait information was available from a subset of NOTFA vessels for 2015-2017, as well as comparable fisheries (see section 6.6.4.1)). There are other MSC UoAs in which the Japanese anchovy is used as bait (e.g. Meiho Gyogyo pole and line skipjack and albacore fishery, Ishihara Marine Products albacore and skipjack pole and line fishery). However, at the time of the current assessment, Japanese anchovy was not considered to be a main species for these other MSC fisheries. In summary, the species is below the PRI, there is neither evidence of recovery nor a demonstrably effective strategy in place. SG80 is not met.</p>
Condition	<p>By the end of year 3, evidence shall be available that either regarding the bait source (Japanese anchovy):</p> <ul style="list-style-type: none"> • the stock of Japanese anchovy, as a primary main species, is highly likely to be above the point where recruitment would be impaired (PRI), or, • if below the PRI, there is evidence of stock recovery or a demonstrably effective strategy in place between all MSC UoAs which categorise this species as main, to ensure that they collectively do not hinder recovery and rebuilding. <p>Or Japanese anchovies are no longer classified as a main primary species, and any other main bait species used meet the SG80 requirements.</p>
Milestones	<p>Year 1 (2022): Explore UoA bait sourcing options for which it can be demonstrated that the stocks concerned are highly likely to be above biologically based limits or that the UoA does not hinder their recovery and develop a UoA bait sourcing strategy (score: 75).</p> <p>Year 2 (2023): Implement the UoA bait sourcing strategy that ensures that bait is being sourced from fisheries for which it can be demonstrated that the stocks concerned are highly likely to be above biologically based limits or that the UoA does not hinder their recovery. There is evidence to demonstrate the implementation of the strategy developed in Year 1 (score: 75).</p> <p>Year 3 (2024): Continue to implement the UoA bait sourcing strategy as per year 2. There is evidence to demonstrate the implementation of the strategy developed in Year 1 (score: 75).</p> <p>Year 4 (2025): Evidence is available to demonstrate that either:</p> <ul style="list-style-type: none"> • the stock of Japanese anchovy is highly likely to be above the point where recruitment would be impaired, or, • if below the PRI, there is evidence of stock recovery or a demonstrably effective strategy in place between all MSC UoAs which categorise this species as main, to ensure that they collectively do not hinder recovery and rebuilding. <p>Or Japanese anchovies are no longer a main primary species, and any alternative bait source meets the SG80 requirements. (score: 80)</p>

Client Action Plan	<p>Year 1 (2022): Meet with the FAJ at least once a year (face-to-face or online) to request that the anchovy stock is managed under TAC and to ensure that the stock recovers. Exchange views with FAJ officials and researchers to identify what is preventing the recovery of the anchovy stock. Conduct interviews with members to find out details of how our members are purchasing and using bait.</p> <p>Year 2 (2023): Meet with the FAJ at least once a year (face-to-face or online) to request that the anchovy stock is managed under TAC and to ensure that the stock recovers.</p> <p>Discuss any mitigation, based on information on purchase and use of bait by members, collected in the first year. Develop an action plan based on the discussion.</p> <p>Year 3 (2024): Meet with the FAJ at least once a year (face-to-face or online) to request that the anchovy stock is managed under TAC and to ensure that the stock recovers. Implement the action plan to mitigate impact on anchovy stock.</p> <p>Year 4 (2025): Meet with the FAJ at least once a year (face-to-face or online) to request that the anchovy stock is managed under TAC and to ensure that the stock recovers. Implement the action plan to mitigate impact on anchovy stock. Confirm that the anchovy stock has become a TAC species and that catch quantity is being managed for stock recovery.</p> <p>Purchase and use bait species following the action plan. Develop a report about mitigation.</p>
Consultation on condition	<p>As appropriate to the mechanism by which the condition is addressed, evidence of the commitment to, and implementation of, a demonstrably effective strategy between all MSC UoAs which categorise this species as main, to ensure that they collectively do not hinder recovery and rebuilding.</p> <p><i>As bait purchases are the purview of the client and vessel owners, no consultation is needed to change bait source. However, consultation might be needed in case no alternative bait source can be found and the strategy will need to focus on Japanese anchovies (e.g. consultation with FA, Fisheries Research Agency, other fisheries)</i></p>

Table 33. Condition 5 (UoA1 and UoA2).

Performance Indicator	2.3.2 The UoA has in place precautionary management strategies designed to: meet national and international requirements; ensure the UoA does not hinder recovery of ETP species. Also, the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of ETP species
Score	75
Rationale	<p>Scoring Issue (e): There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of ETP species and they are implemented as appropriate (SG80).</p> <p>UoA-related mortality of ETP would occur as a result of hooking or entanglement in fishing gear, and is expected to be limited in nature and extent as described above (e.g. larger ETP species will not be affected) though quantitative information is not available. Methods for release of ETP to promote survival have been considered by WCPFC and documented. Specifically, CMM2018-03 Attachment N contains recommended best practice for handling and release of seabirds after capture in hook fisheries.</p>

	<p>It appears that regular review of alternative measures to minimise mortality of ETP species is undertaken by the management body (with seabirds being relevant to this fishery). It is less clear how the findings of these reviews are considered by the UoA, and if measures are implemented as appropriate. The efficacy of rapid removal of any non-target species from hooks as reported, cutting the fishing line if the hook cannot be readily removed, and use of the horns for deterring attending seabirds are unknown. SG60 is met. With the information currently available, SG80 is not met.</p> <p>Biennial review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality ETP species, does not appear to take place. SG100 is not met.</p>
Condition	By the third surveillance audit, evidence shall be available of a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of ETP species and implementation of alternative measures as appropriate.
Milestones	<p>Year 1 (2022): A Plan has been developed that describes how the condition will be met. Measures appropriate to implement in the fishery have been identified and the rationale for that appropriateness is documented (Score: 75)</p> <p>Year 2 (2023): There is evidence that the implementation of appropriate measures identified in Year 1 has commenced (Score: 75).</p> <p>Year 3 (2024): There is evidence that the implementation of appropriate measures identified in Year 2 is completed and the condition met (Score: 80)</p>
Client Action Plan	<p>Year 1 (2022): Review international and national measures for interaction with ETP species and develop a plan to implement those measures within the fishery.</p> <p>Year 2 (2023): Implement measures following the plan developed in the first year.</p> <p>Year 3 (2024): Implement measures following the plan developed in the first year, and prepare a summary report for completion.</p>
Consultation on condition	<p><i>Evaluation of management strategies and amending data collection should be consulted on with MAFF and FA, who need the data to fit into the data set as reported to WCPFC.</i></p> <p><i>Letter of support provided by Fisheries Agency – see below</i></p>

Table 34. Condition 6 (UoA1 and UoA2).

Performance Indicator	2.3.3 Relevant information is collected to support the management of UoA impacts on ETP species, including: information for the development of the management strategy; information to assess the effectiveness of the management strategy; and information to determine the outcome status of ETP species.
Score	70
Justification	Scoring Issue (b): Information is adequate to measure trends and support a strategy to manage impacts on ETP species (SG80).

	<p>The mechanism by which ETP interact with the fishery is through interaction with fishing gear. Interactions are understood to occur at low levels for seabirds, and larger ETP species cannot be captured (because of the size of the hooks used in the fishery). Information on the use of barbless hooks and swift release of any captured seabirds in this fishery, together with information from other pole and line fisheries on ETP impacts (Miller et al. (2017), and on safe handling practices to promote post-release survival (WCPFC 2019) is adequate to support measures to manage impacts on ETP species. SG60 is met.</p> <p>There is no information available with which to measure trends in ETP interactions (e.g. seabird catch reports). Therefore, information is not adequate to measure trends and SG80 is not met. Information is also not adequate to support a comprehensive strategy (which involves linked monitoring, analyses, and management measures and responses). SG100 is not met.</p>
Condition	By the fourth surveillance audit, information shall be adequate to measure trends and support a strategy to manage impacts on ETP species.
Milestones	<p>Year 1 (2022): Evaluate current data collection strategy and identify areas of improvement. Develop improved data collection plan. (Score: 70).</p> <p>Year 2 (2023): Implement improved data collection plan. (Score: 70).</p> <p>Year 3 (2024): Continue to implement improved data collection plan. (Score: 70).</p> <p>Year 4 (2025): Continue to implement plan; information is adequate to measure trends and support a strategy to manage impacts on ETP species (Score: 80).</p>
Client Action Plan	<p>Year 1 (2022): In consultation with fisheries agencies, research institutes, experts, and NGOs, consider ways to objectively measure the impact of the pole-and-line fishery on seabirds (e.g., by bringing researchers on board, using apps, etc.) and develop a plan to improve data collection.</p> <p>Year 2 (2023): Start with improved data collection, following the plan.</p> <p>Year 3 (2024): Continue with improved data collection, following the plan.</p> <p>Year 4 (2025): Continue with improved data collection, following the plan. Report how data collection was improved, with newly collected data.</p>
Consultation on condition	<p><i>Evaluation of management strategies and amending data collection should be consulted on with MAFF and FA, who need the data to fit into the data set as reported to WCPFC.</i></p> <p><i>Letter of support provided by Fisheries Agency – see below</i></p>

Appendix 6 Client Action Plan

Fishery name	Kochi and Miyazaki Offshore Pole and Line Albacore and Skipjack fishery
Client name	Japan Offshore pole and Line Tuna Fishery Sustainability Council
Client contact person	Makoto Suzuki
Date of Client Action Plan	March 8, 2021

Table 2 - PI 1.2.1

1	Condition number
	<ul style="list-style-type: none"> - Condition number assigned by the Conformity Assessment Body (CAB).
1	
2	Performance Indicator(s)
	1.2.1: There is a robust and precautionary harvest strategy in place
3	Score
	<ul style="list-style-type: none"> - Draft score as given in the Final Draft Report.
70	
4	Condition(s)
	This should state the condition as set by the CAB and include rationale on how the action(s) is/are expected to improve the fishery's performance.
	WCPO skipjack needs a harvest strategy that is responsive to the state of the stock, with and the elements of the harvest strategy (monitoring, stock assessment, harvest control rules and management actions) working together to achieve stock management objectives.
5	Milestone(s)
	<ul style="list-style-type: none"> - This should include the milestones set by the CAB.

	<p>The milestones have been aligned with the latest iteration of the WCPFC harvest strategy WCPFC (2017b); Attachment L). It is recognised the Client has limited ability directly to ensure the SG80 are met at each scoring issue. The Client will need to work through MAFF and the JFA.</p> <p>Year 1 (2022): the client will provide evidence that it is actively working to ensure that the harvest strategy for WCPO skipjack is adopted and responsive to the state of the stock and that the elements of the harvest strategy work together towards achieving the management objectives reflected in the target and limit reference points. This evidence will include a summary of the actions taken by the client and other relevant parties to achieve this outcome in alignment with the WCPFC 2017 agreed work plan. A harvest strategy has been adopted which is responsive to the state of the stock (Score: 80)</p>		
6	Summary of action plan		
	Hold at least one meeting (face-to-face or online) with the NOTFA and FAJ to review the progress of meetings at the WCPFC and to request that the harvest strategy of skipjack is agreed at the WCPFC.		
Milestone	Action	Roles & Responsibilities	Outputs
Identify milestone	Enter the tasks and actions that you will implement to address the milestone	<p>For each action identify the key lead – the person, group or organisation responsible for completing the action.</p> <p>Identify other entities – other people, groups or organisations who are involved in completing tasks and actions e.g. fisheries management or research agencies, authorities or regulating bodies</p>	Identify what outputs will be presented to the CAB to demonstrate the milestone has been met
Year 1 (2022)	<p>Hold at least one meeting (face-to-face or online) with the NOTFA and FAJ to review the progress of meetings at the WCPFC and ensure Japanese involvement in and advocacy for development and implementation of harvest strategy for skipjack at the WCPFC.</p> <p>Obtain proof of adaptation of harvest strategy.</p>	<p>Key lead: JOPFSC</p> <p>Other entities: NOTFA and FAJ</p>	<ul style="list-style-type: none"> - Emails with NOTFA and FAJ - Meeting minutes

Table 3 - PI 1.2.2

1	Condition number
	<ul style="list-style-type: none"> - Condition number assigned by the Conformity Assessment Body (CAB).
2	2
2	Performance Indicator(s)
	1.2.2: There are well defined and effective harvest control rules (HCRs) in place
3	Score
	<ul style="list-style-type: none"> - Draft score as given in the Final Draft Report.
	60
4	Condition(s)
	This should state the condition as set by the CAB and include rationale on how the action(s) is/are expected to improve the fishery's performance.
	WCPO Skipjack needs a harvest control rule that ensures that the exploitation rate is reduced as the PRI is approached and is expected to keep the stock fluctuating around the target level and robust to the main uncertainties. The tools used to implement the HCR should be effective in achieving the required exploitation levels.
5	Milestone(s)

	<ul style="list-style-type: none"> - This should include the milestones set by the CAB. 		
	<p>The milestones have been aligned with the latest iteration of the WCPFC harvest strategy workplan ((WCPFC 2017b)). It is recognised the Client has limited ability directly to ensure the SG80 are met at each scoring issue. The Client will need to work through MAFF and the JFA.</p> <p>Year 1 (2022): the client will provide evidence that it is actively working to ensure that well defined harvest control rules are adopted and are taking into account the main uncertainties are in place for WCPO skipjack and that these are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached. This evidence will include a summary of the actions taken by the client and other relevant parties to achieve this outcome in alignment with the WCPFC agreed work plan. A well-defined HCR is in place. (Score: 80).</p>		
6	Summary of action plan		
	Hold at least one meeting (face-to-face or online) with the NOTFA and FAJ to review the progress of meetings at the WCPFC and to request that HCR of skipjack is agreed at the WCPFC.		
Milestone	Action	Roles & Responsibilities	Outputs
Identify milestone	Enter the tasks and actions that you will implement to address the milestone	<p>For each action identify the key lead – the person, group or organisation responsible for completing the action.</p> <p>Identify other entities – other people, groups or organisations who are involved in completing tasks and actions e.g. fisheries management or research agencies, authorities or regulating bodies</p>	Identify what outputs will be presented to the CAB to demonstrate the milestone has been met
Year 1 (2022)	<p>Hold at least one meeting (face-to-face or online) with the NOTFA and FAJ to review the progress of meetings at the WCPFC and to ensure Japanese involvement in and advocacy for development and implementation of a HCR for skipjack at the WCPFC.</p> <p>Obtain proof of HRC to be adapted by WCPFC.</p>	<p>Key lead: JOPFSC Other entities: NOTFA and FAJ</p>	<ul style="list-style-type: none"> - Emails with NOTFA and FAJ - Meeting minutes

Table 4 - PI 1.2.2

1	Condition number
	<ul style="list-style-type: none"> - Condition number assigned by the Conformity Assessment Body (CAB).
	3: There are well defined and effective harvest control rules (HCRs) in place
2	Performance Indicator(s)
	1.2.2
3	Score
	<ul style="list-style-type: none"> - Draft score as given in the Final Draft Report.
	60
4	Condition(s)
	This should state the condition as set by the CAB and include rationale on how the action(s) is/are expected to improve the fishery's performance.
	NP Albacore needs a harvest control rule that ensures that the exploitation rate is reduced as the PRI is approached and is expected to keep the stock fluctuating around the target level and robust to the main uncertainties. The tools used to implement the HCR should be effective in achieving the required exploitation levels.
5	Milestone(s)

	<ul style="list-style-type: none"> - This should include the milestones set by the CAB. 		
	<p>The milestones have been aligned with the latest iteration of the WCPFC harvest strategy WCPFC (2017b)). It is recognised the Client has limited ability directly to ensure the SG80 are met at each scoring issue. The Client will need to work through MAFF and the JFA.</p> <p>Year 1 (2022): the client will provide evidence that it is actively working to ensure that the harvest strategy for WCPO NP Albacore is responsive to the state of the stock and that the elements of the harvest strategy work together towards achieving the management objectives reflected in the target and limit reference points. This evidence will include a summary of the actions taken by the client and other relevant parties to achieve this outcome in alignment with the WCPFC 2017 agreed work plan. (Score: 70).</p> <p>Year 2 (2023): HCR adopted. Harvest strategy in place. (Score: 80)</p>		
6	Summary of action plan		
	Hold at least one meeting (face-to-face or online) with the NOTFA and FAJ to review the progress of meetings at the WCPFC and to request that HCR of albacore is agreed at the WCPFC.		
Milestone	Action	Roles & Responsibilities	Outputs
Identify milestone	Enter the tasks and actions that you will implement to address the milestone	<p>For each action identify the key lead – the person, group or organisation responsible for completing the action.</p> <p>Identify other entities – other people, groups or organisations who are involved in completing tasks and actions e.g. fisheries management or research agencies, authorities or regulating bodies</p>	Identify what outputs will be presented to the CAB to demonstrate the milestone has been met
Year 1 (2022)	Hold at least one meeting (face-to-face or online) with the NOTFA and FAJ to review the progress of meetings at the WCPFC and to ensure Japanese involvement in and advocacy for	<p>Key lead: JOPFSC</p> <p>Other entities: NOTFA and FAJ</p>	<ul style="list-style-type: none"> - Emails with NOTFA and FAJ - Meeting minutes

	development and implementation of a HCR for albacore at the WCPFC.		
Year 2 (2023)	<p>Hold at least one meeting (face-to-face or online) with the NOTFA and FAJ to review the progress of meetings at the WCPFC and to ensure Japanese involvement in and advocacy for development and implementation of a HCR for albacore at the WCPFC.</p>	<p>Key lead: JOPFSC Other entities: NOTFA and FAJ</p>	<ul style="list-style-type: none"> - Emails with NOTFA and FAJ - Meeting minutes

Table 5 - PI 2.1.1

1	Condition number
	<ul style="list-style-type: none"> - Condition number assigned by the Conformity Assessment Body (CAB).
4	
2	Performance Indicator(s)
	2.1.1: The UoA aims to maintain primary species above the point where recruitment would be impaired (PRI) and does not hinder recovery of primary species if they are below the PRI
3	Score
	<ul style="list-style-type: none"> - Draft score as given in the Final Draft Report.
	75
4	Condition(s)

	This should state the condition as set by the CAB and include rationale on how the action(s) is/are expected to improve the fishery's performance.
	<p>By the end of year 4, evidence shall be available that either regarding the bait source (Japanese anchovy):</p> <ul style="list-style-type: none"> • the stock of Japanese anchovy, as a primary main species, is highly likely to be above the point where recruitment would be impaired (PRI), or, • if below the PRI, there is evidence of stock recovery or a demonstrably effective strategy in place between all MSC UoAs which categorise this species as main, to ensure that they collectively do not hinder recovery and rebuilding. <p>Or Japanese anchovies are no longer classified as a main primary species, and any other main bait species used meet the SG80 requirements.</p>
5	Milestone(s)
	<ul style="list-style-type: none"> - This should include the milestones set by the CAB.
	<p>Year 1 (2022): Explore UoA bait sourcing options for which it can be demonstrated that the stocks concerned are highly likely to be above biologically based limits or that the UoA does not hinder their recovery and develop a UoA bait sourcing strategy (score: 75).</p> <p>Year 2 (2023): Implement the UoA bait sourcing strategy that ensures that bait is being sourced from fisheries for which it can be demonstrated that the stocks concerned are highly likely to be above biologically based limits or that the UoA does not hinder their recovery. Score: 75. There is evidence to demonstrate the implementation of the strategy developed in Year 1.</p> <p>Year 3: (2024): Continue to implement the UoA bait sourcing strategy as per year 2. There is evidence to demonstrate the implementation of the strategy developed in Year 1 (score: 75).</p> <p>Year 4 (2025): Evidence is available to demonstrate that either:</p> <ul style="list-style-type: none"> • the stock of Japanese anchovy is highly likely to be above the point where recruitment would be impaired, or, • if below the PRI, there is evidence of stock recovery or a demonstrably effective strategy in place between all MSC UoAs which categorise this species as main, to ensure that they collectively do not hinder recovery and rebuilding. <p>Or an alternative bait source has been procured. (score: 80)</p>
6	Summary of action plan
	<ul style="list-style-type: none"> - Request to FAJ that the anchovy stock is managed by TAC scheme to ensure that the stock is highly likely to be above the point where recruitment would be impaired - Review purchasing and using of bait within the client group and develop a plan to mitigate impact on the anchovy stock.

	<ul style="list-style-type: none"> - Implement bait purchasing arrangements such that the UoA does not hinder recovery of the anchovy stock. 		
Milestone	Action	Roles & Responsibilities	Outputs
Identify milestone	Enter the tasks and actions that you will implement to address the milestone	<p>For each action identify the key lead – the person, group or organisation responsible for completing the action.</p> <p>Identify other entities – other people, groups or organisations who are involved in completing tasks and actions e.g. fisheries management or research agencies, authorities or regulating bodies</p>	Identify what outputs will be presented to the CAB to demonstrate the milestone has been met
Year 1	<ul style="list-style-type: none"> - Meet with the FAJ at least once a year (face-to-face or online) to request that the anchovy stock is managed under TAC and to ensure that the stock recovers. - Exchange views with FAJ officials and researchers to identify what is preventing the recovery of the anchovy stock. - Conduct interviews with members to find out details of how our members are purchasing and using bait. 	<p>Key lead: JOPFSC Other entities: FAJ and research centers</p>	<ul style="list-style-type: none"> - Emails with FAJ and researchers - Meeting minutes - Summary of interviews
Year 2	<ul style="list-style-type: none"> - Meet with the FAJ at least once a year (face-to-face or online) to request that the anchovy stock is managed under TAC and to ensure that the stock recovers. - Discuss any mitigation, based on information on purchase and use 	<p>Key lead: JOPFSC Other entities: FAJ</p>	<ul style="list-style-type: none"> - Emails with FAJ - Meeting minutes - Action plan to mitigate impact on anchovy stock

	of bait by members, collected in the first year. Develop an action plan based on the discussion.		
Year 3	<ul style="list-style-type: none"> - Meet with the FAJ at least once a year (face-to-face or online) to request that the anchovy stock is managed under TAC and to ensure that the stock recovers. - Implement the action plan to mitigate impact on anchovy stock 	Key lead: JOPFSC Other entities: FAJ	<ul style="list-style-type: none"> - Emails with FAJ - Meeting minutes
Year 4	<ul style="list-style-type: none"> - Meet with the FAJ at least once a year (face-to-face or online) to request that the anchovy stock is managed under TAC and to ensure that the stock recovers. - Implement the action plan to mitigate impact on anchovy stock - Confirm that the anchovy stock has become a TAC species and that catch quantity is being managed for stock recovery. - Purchase and use bait species following the action plan. Develop a report about mitigation. 	Key lead: JOPFSC Other entities: FAJ	<ul style="list-style-type: none"> - Emails with FAJ - Meeting minutes - Reports

It is agreed under recent political change following the revised Fishery Law that the number of fish stocks managed by TAC must be increased, and anchovy is one of the candidates that will be managed by TAC. This is written in "Road map": <https://www.ifa.maff.go.jp/i/press/kanri/attach/pdf/200930-1.pdf> MSY is clearly stated in the Fishery Law:

Article 12 About objective of resource management, following levels of stock must be determined for stocks that are assessed:

- (i) TRP to realize and maintain, or recover to MSY
- (ii) LRP. If a fish stock become below LRP, a plan must be developed to recover the stock status to TRP.

2. If MSY and/or LRP cannot be determined because of characteristics of the fish stock or accuracy of stock assessment, alternative target must be set, according to trends of stock abundance or fishing pressure and other information.
3. Management year should be determined according to characteristics of the fish stock and fishery.
4. Allocation of quota must be determined according to characteristics of water area and fishing records.

Table 6 - PI 2.3.2

1	Condition number
	- Condition number assigned by the Conformity Assessment Body (CAB).
5	
2	Performance Indicator(s)
	2.3.2: The UoA has in place precautionary management strategies designed to: meet national and international requirements; ensure the UoA does not hinder recovery of ETP species. Also, the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of ETP species
3	Score
	- Draft score as given in the Final Draft Report.
75	
4	Condition(s)
	This should state the condition as set by the CAB and include rationale on how the action(s) is/are expected to improve the fishery's performance.

	By the third surveillance audit, evidence shall be available of a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of ETP species and implementation of alternative measures as appropriate.		
5	Milestone(s) <ul style="list-style-type: none"> - This should include the milestones set by the CAB. 		
	<p>Year 1 (2022): A Plan has been developed that describes how the condition will be met. Measures appropriate to implement in the fishery have been identified and the rationale for that appropriateness is documented. (Resulting score: 75)</p> <p>Year 2 (2023): There is evidence that the implementation of appropriate measures identified in Year 1 has commenced Resulting score: 75</p> <p>Year 3 (2024): There is evidence that the implementation of appropriate measures identified in Year 2 is completed and the condition met. Resulting score: 80</p>		
6	Summary of action plan <p>Review international and national measures for interaction with ETP species, develop a plan to implement those measures within the fishery, and implement the plan to confirm the UoA does not impact on ETP species.</p>		
Milestone	Action	Roles & Responsibilities	Outputs
Identify milestone	Enter the tasks and actions that you will implement to address the milestone	<p>For each action identify the key lead – the person, group or organisation responsible for completing the action.</p> <p>Identify other entities – other people, groups or organisations who are involved in completing tasks and actions e.g. fisheries management or research agencies, authorities or regulating bodies</p>	<p>Identify what outputs will be presented to the CAB to demonstrate the milestone has been met</p>
Year 1 (2022)	Review international and national measures for interaction with ETP species and develop a plan to	<p>Key lead: JOPFSC Other entities: FAJ, FRA, Bird Life International</p>	<ul style="list-style-type: none"> - Meeting minutes - Plan to implement measures

	implement those measures within the fishery.		
Year 2 (2023)	Implement measures following the plan developed in the first year.	Key lead: JOPFSC Other entities: FAJ, FRA, Bird Life International	- Any record of implementation (TBD)
Year 3 (2024)	Implement measures following the plan developed in the first year, and prepare a summary report for completion.	Key lead: JOPFSC Other entities: FAJ, FRA, Bird Life International	- Any record of implementation (TBD) - Summary report

Table 7 - PI 2.3.3

1	Condition number
	- Condition number assigned by the Conformity Assessment Body (CAB).
6	
2	Performance Indicator(s)
	2.3.3 Relevant information is collected to support the management of UoA impacts on ETP species, including: information for the development of the management strategy; information to assess the effectiveness of the management strategy; and information to determine the outcome status of ETP species.
3	Score
	- Draft score as given in the Final Draft Report.
	70

4	Condition(s)		
	This should state the condition as set by the CAB and include rationale on how the action(s) is/are expected to improve the fishery's performance.		
	By the fourth surveillance audit, information shall be adequate to measure trends and support a strategy to manage impacts on ETP species.		
5	Milestone(s)		
	<ul style="list-style-type: none"> - This should include the milestones set by the CAB. 		
	Year 1 (2022): Evaluate current data collection strategy and identify areas of improvement. Develop improved data collection plan. (Score: 70). Year 2 (2023): Implement improved data collection plan. (Score: 70). Year 3 (2024): Continue to implement improved data collection plan. (Score: 70). Year 4 (2025): Continue to implement plan; information is adequate to measure trends and support a strategy to manage impacts on ETP species (Score: 80).		
6	Summary of action plan		
	Develop a plan to improve data collection, in discussion with FAJ, research institute, experts and NGOs, and implement it.		
Milestone	Action	Roles & Responsibilities	Outputs
Identify milestone	Enter the tasks and actions that you will implement to address the milestone	<p>For each action identify the key lead – the person, group or organisation responsible for completing the action.</p> <p>Identify other entities – other people, groups or organisations who are involved in completing tasks and actions e.g. fisheries management or research agencies, authorities or regulating bodies</p>	Identify what outputs will be presented to the CAB to demonstrate the milestone has been met

Year 1 (2022)	<ul style="list-style-type: none"> - In consultation with fisheries agencies, research institutes, experts, and NGOs, consider ways to objectively measure the impact of the pole-and-line fishery on seabirds (e.g., by bringing researchers on board, using apps, etc.) and develop a plan to improve data collection. - 	Key lead: JOPFSC Other entities: FAJ, FRA, Bird Life International	<ul style="list-style-type: none"> - Emails with FAJ - Meeting minutes - Plan to improve data collection
Year 2 (2023)	Start with improved data collection, following the plan.	Key lead: JOPFSC Other entities: FAJ, FRA, BLI	<ul style="list-style-type: none"> - Meeting minutes - Collected data
Year 3 (2024)	Continue with improved data collection, following the plan.	Key lead: JOPFSC Other entities: FAJ, FRA, BLI	<ul style="list-style-type: none"> - Meeting minutes - Collected data
Year 4 (2025)	Continue with improved data collection, following the plan. Report how data collection was improved, with newly collected data.	Key lead: JOPFSC Other entities: FAJ, FRA, BLI	<ul style="list-style-type: none"> - Meeting minutes - Collected data - Progress report

8.1 Letter of support from Fisheries Agency Japan



FISHERIES AGENCY

MINISTRY OF AGRICULTURE, FORESTRY AND FISHERIES, GOVERNMENT OF JAPAN

2-1, 1-Chome, Kasumigaseki, Chiyoda-ku, Tokyo 100-8907 Japan TEL: +81-3-3502-8111 EXT: 6747

18 March 2021

Kochi and Miyazaki
Offshore Pole and Line
Albacore and Skipjack fishery

I am writing to inform you of commitment of the Fisheries Agency of Japan to implement conservation measures for Endangered, Threatened and Protected (ETP) Species, which were adopted by regional fisheries management organizations including the Western and Central Pacific Fisheries Commission (WCPFC).

While recognizing that interactions of Pole and Line Fishery with ETP species, such as sea birds and sea turtles, is negligible, the FAJ understands your willingness aiming at improvements of the data collections for the species and would like to provide you any assistance if required.

Sincerely yours,

Takeshi Miwa
Assistant Director,
International Affairs Division,
Fisheries Agency of Japan

Appendix 7 Surveillance

To be drafted from Client and Peer Review Draft Report

Table 35. Fishery surveillance programme

Surveillance level	Year 1	Year 2	Year 3	Year 4
Level 6	On-site surveillance audit	On-site surveillance audit	On-site surveillance audit	On-site surveillance audit & re-certification site visit

Table 36. Timing of surveillance audit

Year	Anniversary date of certificate	Proposed date of surveillance audit	Rationale
1	e.g. May 2021	May 2022	default

Table 37. Surveillance level rationale

Year	Surveillance activity	Number of auditors	Rationale
e.g.3	e.g. On-site audit	e.g. 1 auditor on-site with remote support from 1 auditor	e.g. From client action plan it can be deduced that information needed to verify progress towards conditions 1.2.1, 2.2.3 and 3.2.3 can be provided remotely in year 3. Considering that milestones indicate that most conditions will be closed out in year 3, the CAB proposes to have an on-site audit with 1 auditor on-site with remote support – this is to ensure that all information is collected and because the information can be provided remotely.

Appendix 8 Risk-Based Framework outputs

8.2 Use of the RBF

Prior to the site visit, the use of the RBF for this assessment to score PI 2.3.1 was announced (FCP v2.1 PF2.3.2). The assessment team prepared and circulated an information document for stakeholders, containing fishery and species information relevant to the proposed application of the RBF to ETP, i.e. specifically for seabirds. This drew on information sources such as included seabird distributions in IUCN RedList entries and ACAP species assessments, field guides and scientific papers. Additional information was collected by the assessment team during site visit interviews, at an online workshop, and from participants after the workshop (see section 8.2.4 below).

Noting that information on seabird bycatch in pole and line fisheries is scarce, a list of species that may interact with the UoA was developed by the assessment team. This was reviewed and refined by stakeholders (at and after the RBF workshop) as below (Table 38). Stakeholders considered that storm petrels were highly unlikely to interact with the fishery (while overlapping in distribution) because the size of hooks was expected to be too large to capture them. Therefore, these species were not considered further. For other species, productivity and susceptibility attributes were assigned by the assessment team, after considering all information inputs (see section 8.2.1).

In addition to the assessment team, RBF workshop attendees were: Dr Daisuke Ochi (National Research Institute of Far Seas Fisheries), Ms Yasuko Suzuki (BirdLife International), Dr Uematsu Shuhei (WWF) and Mr Makoto Suzuki (Client representative).

Table 38. Seabirds that overlap in distribution with the UoA. Seabirds except those marked with * may potentially interact with the UoA, based on available information including distribution, known attendance at fish schools and bycatch in other hook fisheries. The hook sizes used by the UoA were considered highly unlikely to capture storm petrels (marked with * and not considered further). For information, conservation status classifications are added. LC = Least Concern, NT = Near Threatened, VU = Vulnerable, EN = Endangered, CR = Critically Endangered, DD = Data Deficient. Species in bold font are listed on Annex 1 of the Agreement on the Conservation of Albatrosses and Petrels.

Common name	Scientific name	Japanese name	IUCN Redlist	Japan Red Data Book
Short-tailed albatross	<i>Phoebastria albatrus</i>	アホウドリ	VU	VU
Laysan albatross	<i>Phoebastria immutabilis</i>	コアホウドリ	NT	NT
Black-footed albatross	<i>Phoebastria nigripes</i>	クロアシアホウドリ	NT	
Streaked shearwater	<i>Calonectris leucomelas</i>	オオミズナギドリ	NT	
Sooty shearwater	<i>Ardenna grisea</i>	ハイイロミズナギドリ	NT	

Wedge-tailed shearwater	<i>Ardenna pacifica</i>	オナガミズナギドリ	LC	
Short-tailed shearwater	<i>Ardenna tenuirostris</i>	ハシボソミズナギドリ	LC	
Flesh-footed shearwater	<i>Ardenna carneipes</i>	アカアシミズナギドリ	NT	
Buller's shearwater	<i>Ardenna bulleri</i>	ミナミオナガミズナギドリ	VU	
Audubon's shearwater	<i>Puffinus lherminieri</i>	セグロミズナギドリ	LC	EN
Bryan's shearwater	<i>Puffinus bryani</i>	オガサワラヒメミズナギドリ	CR	CR
Bonin petrel	<i>Pterodroma hypoleuca</i>	シロハラミズナギドリ	LC	DD
Bulwer's petrel	<i>Bulweria bulwerii</i>	アナドリ	LC	
Northern fulmar	<i>Fulmaris glacialis</i>	フルマカモメ	LC	
Tristram's storm-petrel*	<i>Hydrobates tristrami</i>	オーストンウミツバメ	LC	NT
Leach's storm-petrel*	<i>Hydrobates leucorhoa</i>	コシジロウミツバメ	VU	
Band-rumped storm-petrel*	<i>Hydrobates castro</i>	クロコシジロウミツバメ	LC	CR
Swinhoe's storm-petrel*	<i>Hydrobates monorhis</i>	ヒメクロウミツバメ	NT	VU
Matsudaira's storm-petrel*	<i>Hydrobates matsudairae</i>	クロウミツバメ	VU	NT
Fork-tailed storm-petrel*	<i>Hydrobates furcatus</i>	ハイイロウミツバメ	LC	
Common murre	<i>Uria aalge</i>	ウミガラス	LC	CR (subsp. <i>inornata</i>)

Japanese murrelet	<i>Synthliboramphus wumizusume</i>	カンムリウミスズメ	VU	VU
Ancient murrelet	<i>Synthliboramphus antiquus</i>	ウミスズメ	LC	CR
Crested auklet	<i>Aethia cristatella</i>	エトロウミスズメ	LC	
Black-legged kittiwake	<i>Rissa tridactyla</i>	ミツユビカモメ	VU	
Black-tailed gull	<i>Larus crassirostris</i>	ウミネコ	LC	
Brown booby	<i>Sula leucogaster</i>	カツオドリ	LC	
Masked booby	<i>Sula dactylatra</i>	アオツラカツオドリ	LC	
Red-footed booby	<i>Sula sula</i>	アカアシカツオドリ	LC	EN

8.2.1 PSA inputs

8.2.2 Productivity attributes

Productivity attributes used as PSA inputs and reference sources are set out in Table 39.

8.2.3 Susceptibility attributes

Susceptibility attributes used as PSA inputs and reference sources for species considered are set out in

Table 40. Note also the additional fishery references provided by stakeholders that are relevant to considering susceptibility, set out in section 8.2.4 below.

Birds may encounter the gear as it passes through the air, or when it is in the water. Without bait on the hooks used in the fishery, hooks are not expected to be attractive to birds. Higher encounterability scores were assigned to species spending most time where the UoA operates.

8.2.4 Stakeholder inputs

Stakeholders were asked to contribute knowledge and information on seabirds that may be interacting with the fishery (i.e. species that may be affected by the UoA), the nature and extent of those interactions, and scoring of the susceptibility attributes within the PSA. Draft productivity and susceptibility scoring was circulated among stakeholders after the workshop for further input, before being finalised by the team as presented below.

There were different views among stakeholders regarding the extent of aerial overlap of the short-tailed albatross (10 – 30 % or > 30 %). To align with MSC's precautionary approach, the team has used

the assessment of >30 % here, while noting that both values provide the same risk assessment output for this species (i.e., Low Risk, with a resulting score of >80).

Additional references were also provided by stakeholders to inform the PSA process:

- FAO Fisheries and Aquaculture Department Tuna Pole and Line Fishing
- Hotta, H. et al. 1961. Observations of fish schools and sea-bird flocks in the Tohoku Sea area of Japan. 東北海区水産研究所研究報告 Research Report of the Fisheries Research Institute of the Tohoku Sea Area No. 19: 49 –71.
- Hara, Y. et al. 2009. An attempt to forecast favorable temperature zone data for fishing ground formation of skipjack tuna *Katsuwonus pelamis* using satellite data and fishing ground data. Journal of the School of Marine Science and Technology, Tokai University 7: 35-43.
- Orben, B. et al. 2018. Ontogenetic changes in at-sea distributions of immature short-tailed albatrosses *Phoebastria albatrus*. Endangered Species Research 35: 23 – 37.
- Thiebot, J.B. et al. 2018. Albatross chicks reveal interactions of adults with artisanal longline fisheries within a short range. Journal of Ornithology <https://doi.org/10.1007/s10336-018-1579-3>.
- Dolliver, J.E. 2019. Using satellite imagery to count nesting albatross from space. MSC Thesis, Oregon State University. Available at: https://ir.library.oregonstate.edu/concern/parent/6395wd727/file_sets/5x21tm73r [Accessed 14 October 2020]
- Phillips, R.A. and A.G. Wood. 2020. Variation in live-capture rates of albatrosses and petrels in fisheries, post-release survival and implications for management. Biological Conservation 247: <https://doi.org/10.1016/j.biocon.2020.108641>.

8.3 PSA scoring

PSA scores were determined using the MSC PSA worksheet, downloaded from the MSC website and completed as below (Table 41).

Table 39. Productivity attributes used as inputs to the Productivity Susceptibility Analysis.

Common name	Average age at maturity	Average max. age	Fecundity	Average max. size	Average size at maturity	Reproductive strategy	Trophic level	References
Short-tailed albatross	6 years	Long-lived; breeding known at 31 years	1 egg/year with skips in some years	89 cm	89 cm	Ground-nester	>3.25	Orben et al. 2018; https://www.iucnredlist.org/species/22698335/132642113 ; https://acap.aq/acap-species/298-short-tailed-albatross/file
Laysan albatross	8-9 years	Long-lived; known age 68-year old breeding female	1 egg/year with skips in some years	79-81 cm	79-81 cm	Ground-nester	>3.25	https://www.iucnredlist.org/species/22698365/49901920 ; https://acap.aq/acap-species/254-laysan-albatross/file
Black-footed albatross	7 years	Long-lived; known-age bird of 43 years	1 egg/year with skips in some years	79-81 cm	79-81 cm	Ground-nester	>3.25	https://www.iucnredlist.org/species/22698350/155456798 ; https://acap.aq/acap-species/239-black-footed-albatross/file
Streaked shearwater	9 years for congeneric Cory's shearwater	Long-lived; known-age bird of 36 years	1 egg/year with skips in some years	48 am	48 cm	Ground-nester	>3.25	Warham 1996; Hart et al. 2014; Sugawa et al. 2014; https://www.iucnredlist.org/species/22698172/132630766#assessment-information
Sooty shearwater	6 years	~20 years	1 egg/year	40-46 cm	40-46 cm	Ground-nester	>3.25	Warham 1996; Lyday et al. 2015; https://www.iucnredlist.org/species/22698209/154440143 ; http://nzbirdsonline.org.nz/species/sooty-shearwater
Wedge-tailed shearwater	~4 years	19 years	1 egg/year	46-47 cm	46-47 cm	Ground-nester	>3.25	Onley and Scofield 2007; http://nzbirdsonline.org.nz/species/wedge-tailed-shearwater ; https://www.iucnredlist.org/species/22698175/132631353
Short-tailed shearwater	7.6 years	12-20 years	1 egg/year	40-45 cm	40-45 cm	Ground-nester	>3.25	Warham 1996; Lyday et al. 2015; https://www.iucnredlist.org/species/22698216/132635686 ; http://nzbirdsonline.org.nz/species/short-tailed-shearwater
Flesh-footed shearwater	5 years	Unknown but estimated 25-30 years	1 egg/year	45 cm	45 cm	Ground-nester	>3.25	http://www.nzbirdsonline.org.nz/species/flesh-footed-shearwater ; https://genomics.senescence.info/species/biblio.php?id=972
Buller's shearwater	Unknown (assumed ~5 years)	Unknown (assumed >10 years)	1 egg/year	46 cm	46 cm	Ground-nester	>3.25	http://nzbirdsonline.org.nz/species/bullers-shearwater
Audubon's shearwater	8-9 years	19 years	1 egg/year	30 cm	30 cm	Ground-nester	>3.25	del Hoyo et al. 1992
Bryan's shearwater	Unknown (assumed ~5 years)	Unknown (assumed >10 years)	Assumed 1 egg/year	27-30 cm	27-30 cm	Ground-nester	>3.25	https://www.iucnredlist.org/species/45354718/
Bonin petrel	6-10 years in congeneric Galapagos and grey-faced petrels	15 years	1 egg/year	30 cm	30 cm	Ground-nester	>3.25	Onley and Scofield 2007; https://www.iucnredlist.org/species/22697967/132615616 ; https://en.wikipedia.org/wiki/Bonin_petrel ; https://www.fws.gov/refuge/Midway_Atoll/wildlife_and_habitat/Bonin_Petrel.html
Bulwer's petrel	Unknown (assumed >5 years as for other petrels)	22 years	Usually 1 egg/year	26-28 cm	26-28 cm	Ground-nester	>3.25	Onley and Scofield 2007; http://nzbirdsonline.org.nz/species/bulwers-petrel ; https://en.wikipedia.org/wiki/Bulwer%27s_petrel ; https://www.iucnredlist.org/species/22698132/132627626 ; https://www.demogr.mpg.de/longevityrecords/0303.htm
Northern fulmar	8-12 years	31.8 years	1 egg/year	45-50 cm	45-50 cm	Ground-nester	>3.25	https://www.audubon.org/field-guide/bird/northern-fulmar ; https://animaldiversity.org/accounts/Fulmarus_glacialis/
Common murre	4-5 years	23 years	1 egg/year	40 cm	40 cm	Ground-nester	>3.26	https://www.audubon.org/field-guide/bird/common-murre ; https://app.bto.org/birdfacts/results/bob6340.htm
Japanese murrelet	Unknown (assumed 3-4 years)	Unknown (assumed 5 years)	1-2 eggs/year	22-26 cm	22-26 cm	Ground-nester	>3.25	del Hoyo et al. 1992; Santo and Nelson 1995; http://www.bird-research.jp/1_shiryo/seitai/kumisuzume.pdf
Ancient murrelet	3-4 years	5 years	1-2 eggs/year	26 cm	26 cm	Ground-nester	>3.25	Santo and Nelson 1995
Crested auklet	3 years?	7.6 years	1 egg/year	24 cm	24 cm	Ground-nester	>3.25	Santo and Nelson 1995; https://www.demogr.mpg.de/longevityrecords/0303.htm
Black-legged kittiwake	4-5 years	5-7 years	1-3 eggs/year	41-46 cm	41-46 cm	Ground-nester	>3.25	https://www.demogr.mpg.de/longevityrecords/0303.htm ; https://en.wikipedia.org/wiki/Black-legged_kittiwake
Black-tailed gull	Unknown	Unknown	2-3 eggs/year	44-48 cm	44-48 cm	Ground-nester	>3.25	https://www.iucnredlist.org/species/22694289/132538717 ; https://www.wikiwand.com/en/Black-tailed_gull ; http://www.oiseaux-birds.com/card-black-tailed-gull.html
Brown booby	5 years	16-24 years	1-3 eggs/year	75-80 cm	75-80 cm	Ground-nester	>3.25	http://nzbirdsonline.org.nz/species/brown-booby ; https://animaldiversity.org/accounts/Sula_leucogaster/ ; https://www.iucnredlist.org/species/22696698/132590197
Masked booby	4-5 years	23-25 years	1-2 eggs/year	80 cm	80 cm	Ground-nester	>3.25	https://www.demogr.mpg.de/longevityrecords/0303.htm ; http://nzbirdsonline.org.nz/species/masked-booby
Red-footed booby	~3 years	22-23 years	1 egg/year	73 cm	73 cm	Ground-nester	>3.25	https://www.demogr.mpg.de/longevityrecords/0303.htm ; http://nzbirdsonline.org.nz/species/red-footed-booby

Table 40. Susceptibility attributes used as inputs to the Productivity Susceptibility Analysis.

Areal overlap	Encounterability	Selectivity of gear type / Potential to retain species	Post-capture mortality*	References
>30%	2	1	2	Orben et al. 2018; Dolliver 2019; https://www.iucnredlist.org/species/22698335/132642113 ; https://acap.aq/acap-species/298-short-tailed-albatross/file
10 - 30%	2	1	2	https://www.iucnredlist.org/species/22698365/49901920 ; https://acap.aq/acap-species/254-laysan-albatross/file
10 - 30%	2	1	2	https://www.iucnredlist.org/species/22698350/155456798 ; https://acap.aq/acap-species/239-black-footed-albatross/file
>30%	2	1	2	Warham 1996; Hart et al. 2015; Sugawa et al. 2014; https://www.iucnredlist.org/species/22698172/132630766#assessment-information
<10%	1	1	2	Warham 1996; Lyday et al. 2015; https://www.iucnredlist.org/species/22698209/154440143 ; http://nzbirdsonline.org.nz/species/sooty-shearwater
<10%	1	1	2	Onley and Scofield 2007; http://nzbirdsonline.org.nz/species/wedge-tailed-shearwater ; https://www.iucnredlist.org/species/22698175/132631353
<10%	1	1	2	Warham 1996; Lyday et al. 2015; https://www.iucnredlist.org/species/22698216/132635686 ; http://nzbirdsonline.org.nz/species/short-tailed-shearwater
<10%	1	1	2	http://www.nzbirdsonline.org.nz/species/flesh-footed-shearwater ; http://genomics.senescence.info/species/biblio.php?id=972
<10%	1	1	2	http://nzbirdsonline.org.nz/species/bullers-shearwater
<10%	1	1	2	del Hoyo et al. 1992
10 - 30%	1	1	2	https://www.iucnredlist.org/species/45354718/
10 - 30%	1	1	2	Onley and Scofield 2007; https://www.iucnredlist.org/species/22697967/132615616 ; https://en.wikipedia.org/wiki/Bonin_petrel ; https://www.fws.gov/refuge/Midway_Atoll/wildlife_and_habitat/Bonin_Petrel.html
<10%	1	1	2	Onley and Scofield 2007; http://nzbirdsonline.org.nz/species/bulwers-petrel ; https://en.wikipedia.org/wiki/Bulwer%27s_petrel ; https://www.iucnredlist.org/species/22698132/132627626 ; https://www.demogr.mpg.de/longevityrecords/0303.htm
<10%	1	1	2	https://www.audubon.org/field-guide/bird/northern-fulmar ; https://animaldiversity.org/accounts/Fulmarus_glacialis/
<10%	1	1	2	https://www.audubon.org/field-guide/bird/common-murre ; https://app.bto.org/birdfacts/results/bob6340.htm
10 - 30%	1	1	2	del Hoyo et al. 1992; De Santo and Nelson 1995; http://www.bird-research.jp/1_shiryo/seitai/kumisuzume.pdf
10 - 30%	1	1	2	De Santo and Nelson 1995
<10%	1	1	2	De Santo and Nelson 1995; https://www.demogr.mpg.de/longevityrecords/0303.htm
<10%	1	1	2	https://www.demogr.mpg.de/longevityrecords/0303.htm ; https://en.wikipedia.org/wiki/Black-legged_kittiwake
<10%	1	1	2	https://www.iucnredlist.org/species/22694289/132538717 ; https://www.wikiwand.com/en/Black-tailed_gull ; http://www.oiseaux-birds.com/card-black-tailed-gull.html
<10%	1	1	2	http://nzbirdsonline.org.nz/species/brown-booby ; https://animaldiversity.org/accounts/Sula_leucogaster/ ; https://www.iucnredlist.org/species/22696698/132590197
<10%	1	1	2	https://www.demogr.mpg.de/longevityrecords/0303.htm ; http://nzbirdsonline.org.nz/species/masked-booby
<10%	1	1	2	https://www.demogr.mpg.de/longevityrecords/0303.htm ; http://nzbirdsonline.org.nz/species/red-footed-booby

* PCM: Miller et al. 2017; Phillips & Wood 2020

Table 41. Risk Based Framework worksheet for PI 2.3.1 regarding Endangered, Threatened and Protected seabird species

Scoring element	Family name	Scientific name	Common name	Species type	Productivity Scores [1-3]							Susceptibility Scores [1-3]				MSC PSA-derived score	Risk Category Name	MSC scoring guidepost			
					Average age at maturity	Average max age	Fecundity	Average max size	Average size at maturity	Reproductive strategy	Trophic level	Density dependence	Total Productivity (average)	Availability	Encounterability	Selectivity	Post-capture mortality				
1	Diomedeidae	<i>Phoebastria albatrus</i>	Short-tailed albatross	Vertebrate	2	3	3	1	2	2	3		2.29	3	2	1	2	1.28	2.62	81	Low ≥ 80
2	Diomedeidae	<i>Phoebastria immutabilis</i>	Laysan albatross	Vertebrate	2	3	3	1	2	2	3		2.29	2	2	1	2	1.18	2.57	82	Low ≥ 80
3	Diomedeidae	<i>Phoebastria nigripes</i>	Black-footed albatross	Vertebrate	2	3	3	1	2	2	3		2.29	2	2	1	2	1.18	2.57	82	Low ≥ 80
4	Procellariidae	<i>Calonectris leucomela</i>	Streaked shearwater	Vertebrate	2	3	3	1	2	2	3		2.29	3	2	1	2	1.28	2.62	81	Low ≥ 80
5	Procellariidae	<i>Ardenna grisea</i>	Sooty shearwater	Vertebrate	2	2	3	1	2	2	3		2.14	1	1	1	2	1.03	2.38	87	Low ≥ 80
6	Procellariidae	<i>Puffinus pacificus</i>	Wedge-tailed shearwater	Vertebrate	1	2	3	1	2	2	3		2.00	1	1	1	2	1.03	2.25	90	Low ≥ 80
7	Procellariidae	<i>Puffinus tenuirostris</i>	Short-tailed shearwater	Vertebrate	2	2	3	1	2	2	3		2.14	1	1	1	2	1.03	2.38	87	Low ≥ 80
8	Procellariidae	<i>Puffinus carneipes</i>	Flesh-footed shearwater	Vertebrate	2	3	3	1	2	2	3		2.29	1	1	1	2	1.03	2.51	84	Low ≥ 80
9	Procellariidae	<i>Puffinus bulleri</i>	Buller's shearwater	Vertebrate	2	2	3	1	2	2	3		2.14	1	1	1	2	1.03	2.38	87	Low ≥ 80
10	Procellariidae	<i>Puffinus lherminieri</i>	Audubon's shearwater	Vertebrate	2	2	3	1	1	2	3		2.00	1	1	1	2	1.03	2.25	90	Low ≥ 80
11	Procellariidae	<i>Puffinus bryani</i>	Bryan's shearwater	Vertebrate	2	2	3	1	1	2	3		2.00	2	1	1	2	1.08	2.27	90	Low ≥ 80
12	Procellariidae	<i>Pterodroma hypoleuca</i>	Bonin petrel	Vertebrate	2	2	3	1	1	2	3		2.00	2	1	1	2	1.08	2.27	90	Low ≥ 80
13	Procellariidae	<i>Bulweria bulwerii</i>	Bulwer's petrel	Vertebrate	2	2	3	1	1	2	3		2.00	1	1	1	2	1.03	2.25	90	Low ≥ 80
14	Procellariidae	<i>Fulmarus glacialis</i>	Northern fulmar	Vertebrate	2	3	3	1	2	2	3		2.29	1	1	1	2	1.03	2.51	84	Low ≥ 80
15	Alcidae	<i>Uria aalge</i>	Common murre	Vertebrate	1	2	3	1	2	2	3		2.00	1	1	1	2	1.03	2.25	90	Low ≥ 80
16	Alcidae	<i>Synthliboramphus wurdanensis</i>	Japanese murrelet	Vertebrate	1	1	3	1	1	2	3		1.71	2	1	1	2	1.08	2.02	95	Low ≥ 80
17	Alcidae	<i>Synthliboramphus antiquus</i>	Ancient murrelet	Vertebrate	1	1	3	1	1	2	3		1.71	2	1	1	2	1.08	2.02	95	Low ≥ 80
18	Alcidae	<i>Aethia cristatella</i>	Crested auklet	Vertebrate	1	1	3	1	1	2	3		1.71	1	1	1	2	1.03	2.00	95	Low ≥ 80
19	Laridae	<i>Rissa tridactyla</i>	Black-legged kittiwake	Vertebrate	2	1	3	1	2	2	3		2.00	1	1	1	2	1.03	2.25	90	Low ≥ 80
20	Sulidae	<i>Larus crassirostris</i>	Black-tailed gull	Vertebrate	2	1	3	1	2	2	3		2.00	1	1	1	2	1.03	2.25	90	Low ≥ 80
21	Sulidae	<i>Sula leucogaster</i>	Brown booby	Vertebrate	2	2	3	1	2	2	3		2.14	1	1	1	2	1.03	2.38	87	Low ≥ 80
22	Sulidae	<i>Sula dactylatra</i>	Masked booby	Vertebrate	2	3	3	1	2	2	3		2.29	1	1	1	2	1.03	2.51	84	Low ≥ 80
23	Sulidae	<i>Sula sula</i>	Red-footed booby	Vertebrate	1	2	3	1	2	2	3		2.00	1	1	1	2	1.03	2.25	90	Low ≥ 80
															MSC score	95					
															Status	Unconditional Pass					

Appendix 9 Harmonised fishery assessments

To be completed at Public Certification Report stage

For the UoAs covered by this assessment, harmonization with the following fisheries was considered:

Table 42. Overlapping fisheries with the fishery in assessment

Fishery	Stock
PNA Western and Central Pacific skipjack and yellowfin, unassociated / non FAD set, tuna purse seine	WCPO skipjack
Solomon Islands skipjack and yellowfin tuna purse seine and pole & line	WCPO skipjack
Tri Marine Western and Central Pacific skipjack and yellowfin tuna	WCPO skipjack
Japanese Pole and Line skipjack and albacore tuna fishery	WCPO skipjack Northern Pacific Albacore
PT Citraraja Ampat, Sorong pole and line Skipjack and Yellowfin Tuna	WCPO skipjack
CHMSF British Columbia Albacore Tuna North	Northern Pacific Albacore
AAFA and WFOA North Pacific albacore tuna	Northern Pacific Albacore
Talley's New Zealand Skipjack Tuna Purse Seine	WCPO skipjack
Tropical Pacific yellowfin and skipjack free-school purse seine fishery	WCPO skipjack
Pan Pacific yellowfin, bigeye and albacore longline fishery	Northern Pacific Albacore
Kiribati albacore, bigeye and yellowfin tuna longline fishery	Northern Pacific Albacore
Indonesia pole-and-line and handline, skipjack and yellowfin tuna of Western and Central Pacific archipelagic waters	WCPO skipjack
Ishihara Marine products albacore and skipjack pole and line fishery	WCPO skipjack Northern Pacific Albacore
PNG Fishing Industry Association's purse seine Skipjack & Yellowfin Tuna Fishery	WCPO skipjack
Owasebussan Co. Ltd. North Pacific Longline Tuna Fishery for Albacore, Yellowfin Tuna & Bigeye Tuna (in assessment)	Northern Pacific Albacore

In April 2016, MSC held a harmonization workshop which aimed to align P1 scores across WCPFC stocks (MSC, 2016), including WCPO skipjack and NP albacore. MSC requires the assessments are harmonized between fisheries in relation to outcomes (pass/fail and conditions). Therefore, the assessment of Principle 1 for this fishery has taken the conclusions of the harmonization workshop into consideration. However, since the harmonisation process, there has been a new stock assessment for both stocks, as well as a new CMM for tropical tuna species managed by WCPFC and a new harvest strategy for NP albacore; hence the conclusions of the harmonisation process are increasingly irrelevant.

There are also several overlapping fisheries, already certified with these stocks as target species (Table 42). The scoring of these fisheries is similar across the board for Principle 1. All have been audited since the new stock assessments, but not all have taken into account the new harvest strategies for each species (CMM 2018-01 for skipjack and new harvest strategy for NP albacore). This means that for PI1.2.1d for NP Albacore, the scoring (SG80) is a change from the agreed harmonised scores (MSC,

2016; see Appendix 2), but this is appropriate given that progress has been made since April 2016 when the workshop took place.

On 14 February 2019, MSC accepted a variation request submitted by all fisheries CABs for Regional Fisheries Management Organisation (RFMO) managed highly migratory stocks in the MSC programme, including tuna and swordfish (see Appendix 10). MSC has required overlapping fisheries to harmonise assessment outcomes, but not condition timelines. CABs sought the variation due to the inconsistencies between fisheries in addressing conditions, in particular the high number of outstanding conditions relating to harvest strategies, reference points and harvest control rules. The variation request proposed a “hard deadline” approach to Principle 1 condition timelines. As a result of the variation request, the accepted deadline for closing harvest strategy conditions for skipjack is 2021 and NP albacore is 2023 (these deadlines are to be extended by six months, as per the MSC COVID-19 derogation, issued 27th March 2020).

A comparison of scores indicates that despite small differences in scoring, these all occur within the SG80 – 100 range, indicating no material difference in outcome.

Early 2020, the harmonisation process for skipjack and yellowfin tuna was initiated by the Indonesia pole-and-line and handline, skipjack and yellowfin tuna of Western and Central Pacific archipelagic waters (at the time at the ACDR-stage). The proposed higher score (of 85 vs the current score of 70) on PI 1.2.1 for skipjack is relevant to the fishery under assessment. This harmonisation attempt did not lead to an agreement. Following the preparation of this fishery under assessment, another attempt has been made to come to an agreement. The harmonisation discussion has not led to agreement among all teams. Although the team feels a higher score for skipjack on 1.2.1 is warranted and has communicated this to the other CABs, for now the team has used the agreed, lower score. This is also discussed in the relevant scoring table.

For NP Albacore, harmonisation was initiated by the Owasebussan North Pacific longline tuna fishery operating in the North Pacific Ocean (CAB SGS).

For Principle 2 – the team looked into the possibility of cumulative impacts of primary, secondary, ETP and habitats with other overlapping MSC certified fisheries (See Section 6.6.9). As no primary species were determined to be below PRI, no main secondary species identified and the ETP species listed in this assessment are not subject to national or international limits, cumulative impacts were not deemed to be relevant to this assessment.

For Principle 3, the assessment team harmonised the regional components of the management system with the above fisheries. Differences in scores between WCPFC tuna assessments are therefore related to the performance of the national management systems.

Table 43. Comparison of Principle 1 scores between this assessment and other North Pacific albacore fisheries as of May 2020.

Fishery		Stage of most recent scoring	Version (pre 2.0 / 2.0)	1.1.1 (Stock status)	1.1.2 (Reference points)	1.1.3 (Rebuilding)	1.2.1 (Harvest Strategy)	1.2.2 (Harvest Control Rules and Tools)	1.2.3 (Information/Monitoring)	1.2.4 (Stock assessment)
				1.1.1 (Stock status)	1.1.2 (Rebuilding)	-	1.2.1 (Harvest Strategy)	1.2.2 (Harvest Control Rules and Tools)	1.2.3 (Information/Monitoring)	1.2.4 (Stock assessment)
Pan Pacific yellowfin, bigeye and albacore longline fishery		FR	2.0	80	N/a	-	85	60	90	100
Canada Highly Migratory Species Foundation (CHMSF) British Columbia albacore tuna North Pacific		Re-assessment PCR	2.0	90	N/a	-	85	60	90	100
AAFA and WFOA North Pacific albacore tuna		Year 1 surveillance report	2.0	90	N/a	-	80	60	90	100
Japanese pole and line skipjack and albacore tuna fishery		Y1 surveillance	2.0	100	N/a	-	80	60	90	100
Ishihara Marine Products albacore and skipjack pole and line fishery		Y1 surveillance	2.0	80	N/a	-	85	60	90	100
Kiribati albacore, bigeye and yellowfin tuna longline fishery		In assessment (PRDR)	2.0	80	N/a	-	85	60	90	100
Owasebussan Co. Ltd. North Pacific Longline Tuna Fishery for Albacore, Yellowfin Tuna & Bigeye Tuna		In assessment (ACDR)	2.0	> 80	N/a	-	60-79	60-79	>80	>80

Comparison of Principle 1 scores between this assessment and other WCPO skipjack as of May 2020.

Fishery	Stage of most recent scoring	Version (pre 2.0 / 2.0)	1.1.1 (Stock status)	1.1.2 (Reference points)	1.1.3 (Rebuilding)	1.2.1 (Harvest Strategy)	1.2.2 (HCRs)	1.2.3 (Information/Monitoring)	1.2.4 (Stock assessment)
			1.1.1 (Stock status)	1.1.2 (Rebuilding)	-	1.2.1 (Harvest Strategy)	1.2.2 (HCRs)	1.2.3 (Information/Monitoring)	1.2.4 (Stock assessment)
WPSTA western and central Pacific skipjack and yellowfin free school purse seine	Y1 surveillance	2.0	100	N/A	-	70	60	90	95

Fishery	Stage of most recent scoring	Version (pre 2.0 / 2.0)	1.1.1 (Stock status)	1.1.2 (Reference points)	1.1.3 (Rebuilding)	1.2.1 (Harvest Strategy)	1.2.2 (HCRs)	1.2.3 (Information/Monitoring)	1.2.4 (Stock assessment)
			1.1.1 (Stock status)	1.1.2 (Rebuilding)	-	1.2.1 (Harvest Strategy)	1.2.2 (HCRs)	1.2.3 (Information/Monitoring)	1.2.4 (Stock assessment)
Japanese pole and line skipjack and albacore tuna	Y1 surveillance	Pre-2.0	100	90	N/A	70	60	90	95
PT Citraraja Ampat, Soring pole and line skipjack and yellowfin tuna	Y1 surveillance	2.0	100	N/A	-	70	60	90	95
Talleys New Zealand skipjack tuna purse seine	Y1 surveillance	2.0	100	N/A	-	70	60	90	95
Solomon Islands skipjack and yellowfin tuna purse seine and pole and line	Y1 surveillance	Pre-2.0	100	90	N/A	70	60	90	95
Tri Marine western and central Pacific skipjack and yellowfin tuna	Y1 surveillance	Pre-2.0	90	90	-	70	60	80	95
PNA western and central Pacific skipjack and yellowfin, unassociated/non-FAD set, tuna purse seine	Y1 surveillance	2.0	100	N/A	-	70	60	90	95
Ishihara Marine Products albacore and skipjack pole and line fishery	Y1 surveillance	2.0	100	N/A	-	70	60	90	95
Tropical Pacific yellowfin and skipjack free-school purse seine fishery	PCR	2.0	100	N/A	-	70	60	90	95
PNG Fishing Industry Association's purse seine Skipjack & Yellowfin Tuna Fishery	PCR	2.0	100	N/A	-	70	60	90	95

Appendix 10 CAB-wide Principle 1 Variation Request and MSC Response



29/10/2020

Stakeholder Notification: Confirmation of condition deadlines for Tuna stocks covered under the multi-fishery variation request accepted 14th January 2019

Affected fisheries in Appendix 1.

All Conformity Assessment Bodies (CABs) held a harmonisation meeting on 30th September 2020 to consider the request from the WCPFC MSC Tuna Alignment Group and clients to amend the WCPFC Harvest Strategy workplan deadlines stated in the MSC-approved Mega Variation request (MEGVAR), which was accepted by the MSC on the 14th January 2019. This letter is written in response to the request received by each CAB from their respective clients (see appendix 3), noting that effects on other RFMO deadlines also need to be considered as part of this WCPFC-specific request.

Within the accepted MEGVAR the deadlines (Appendix 1) by stock were agreed and based on the RFMO workplans; for instance for the WCPFC the 2017 workplan for CMM 2014-06. The purpose of the deadline approach was to ensure consistency in timeframes for fisheries entering MSC assessment as well as encouraging MSC clients to work together to encourage the RFMO to keep to the agreed deadlines.

This notification is to confirm that, as informed by the applicable requirements of the current MSC fisheries standard and certification procedures:

- a. The CABs agree that the deadlines detailed in Appendix 1 (here and in the original MEGVAR Request) should remain as the deadlines for those conditions.

- b. However, given the MSC's March 2020 derogation extending all deadlines in response to the COVID-19 pandemic, CABs are required to extend these deadlines by 6 months. In Appendix 2 of this document this extension has been applied and must now be considered the deadlines for these conditions.
- c. CABs will consider that evidence for whether the deadlines are met will be taken from the report which follows the relevant RFMO annual meeting for that stock (details of which are provided in Appendix 2). CABs will consider this evidence by organising a harmonised set of audits for all relevant fisheries which hold that certified stock.
 - 1. Will hold a harmonisation meeting to consider meeting reports from meetings conducted by the deadline stated in Appendix 2, to determine whether there is sufficient evidence that the conditions on the relevant PIs have met the agreed deadlines and can be rescored to pass the MSC Standard at SG80. As per MSC GCR v.2.4.1. § 7.4.2.b, a CAB shall suspend a fishery certificate if a client has not made adequate progress towards meeting conditions. ("adequate progress" in this case meaning the achievement of SG80 by the deadlines outlined in the MEGVAR request)
 - 2. As per MSC GCR v.2.4.1 § 7.4.3, CABs shall set the effective date for the fishery certificate suspension 30 days after the CABs' decision to suspend. The effective date for suspension will be harmonised between all UoAs for where that stock is the target species.
 - 3. As per MSC GCR v.2.4.1 § 7.4.3.e, clients shall provide CABs with a corrective action plan which is acceptable to the CAB as being able to address the cause for suspension, within 90 days from the date the Notice of Suspension is published on the MSC website.
 - 4. As per MSC GCR v.2.4.1 § 7.4.5, only when the CAB has verified that the fishery certificate holder has addressed the reason for suspension, the CAB shall reinstate the certificate.

This notification does not aim to judge the merit of the WCPO MSC Tuna Alignment Group request but sets out the CAB position in relation to the MEGVAR as it currently stands and updates it based on the [MSC COVID derogation](#). Any further interpretation, change of process or standard as prescribed by the MSC will be applied by CABs in line with relevant normative requirements associated with the MSC accreditation.

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Appendix 1 – list of fisheries under the MEGVAR.

Table 1. List of all tuna fisheries (both in assessment and certified). Original MEGVAR condition deadlines and the actions required for each listed. ** WPO-BET was not part of the MSC program when MEGVAR was accepted by MSC but is included now as part of this revision.

Fishery name	CAB	Stock	P1 upgrade required?	P1 upgrade type	Original MEGVAR Agreed condition deadline	Part of variation request?	Action required
North West Atlantic Canada Harpoon swordfish	Lloyds Register (Acura)	AO-SWO-N	Yes	Full	n/a	Yes	P1 rescored against v2.0 at first opportunity (no alignment of condition timelines required)
North West Atlantic Canada Longline swordfish	Lloyds Register (Acura)	AO-SWO-N	Yes	Full	n/a	Yes	P1 rescored against v2.0 at first opportunity (no alignment of condition timelines required)
US North Atlantic swordfish, yellowfin and albacore	MRAG Americas, Inc.	AO-SWO-N	Yes	Full	n/a	Yes	P1 rescored against v2.0 at first opportunity (no alignment of condition timelines required)
North Atlantic albacore artisanal fishery	Bureau Veritas Certification	AO-ALB-N	Yes	Reduced	n/a	Yes	P1 rescored against v2.0 at first opportunity (no alignment of condition timelines required)
US North Atlantic swordfish, yellowfin and albacore	MRAG Americas, Inc.	AO-ALB-N	Yes	Reduced	n/a	Yes	P1 rescored against v2.0 at first opportunity (no alignment of condition timelines required)
Sant Yago TF Unassociated purse seine Atlantic yellowfin tuna fishery	Bureau Veritas Certification	AO-YFT	n/a	n/a	2023	No	Condition timelines to be aligned with relevant proposed deadline, within assessment if possible or at 1st SA following FCP 2.1

Fishery name	CAB	Stock	P1 upgrade required?	P1 upgrade type	Original MEGVAR Agreed condition deadline	Part of variation request?	Action required
US North Atlantic swordfish, yellowfin and albacore	MRAG Americas, Inc.	AO-YFT	Yes	Full for swordfish, reduced for YFT and ALB	2023	Yes	P1 rescored against v2.0 at first opportunity (no alignment of condition timelines required)
AGAC four oceans Integral Purse Seine Tropical Tuna Fishery	Lloyds Register (Acura)	AO-YFT	n/a	n/a	n/a	No	Condition timelines to be aligned with relevant proposed deadline within assessment
ANABAC Atlantic unassociated purse seine yellowfin tuna	Bureau Veritas Certification	AO-YFT	n/a	n/a	n/a	No	Condition timelines to be aligned with relevant proposed deadline within assessment
AGAC four oceans Integral Purse Seine Tropical Tuna Fishery	Lloyds Register (Acura)	AO-SKJ	n/a	n/a	n/a	No	Condition timelines to be aligned with relevant proposed deadline within assessment
AGAC four oceans Integral Purse Seine Tropical Tuna Fishery	Lloyds Register (Acura)	AO-BET	n/a	n/a	n/a	No	Condition timelines to be aligned with relevant proposed deadline within assessment
Northeastern Tropical Pacific Purse Seine SKJ and YFT	Control Union UK	EPO-SKJ	Yes	Full*	n/a	Yes	P1 rescored against v2.0 at first opportunity (no alignment of condition timelines required)
AGAC four oceans Integral Purse Seine Tropical Tuna Fishery	Lloyds Register (Acura)	EPO-SKJ	n/a	n/a	n/a	No	Condition timelines to be aligned with relevant proposed deadline within assessment

Fishery name	CAB	Stock	P1 upgrade required?	P1 upgrade type	Original MEGVAR Agreed condition deadline	Part of variation request?	Action required
AGAC four oceans Integral Purse Seine Tropical Tuna Fishery	Lloyds Register (Acoura)	EPO-YFT	n/a	n/a	n/a	No	Condition timelines to be aligned with relevant proposed deadline within assessment
Northeastern Tropical Pacific Purse Seine SKJ and YFT	Control Union UK	EPO-YFT	Yes	Reduced	n/a	Yes	No conditions expected therefore no action
French Polynesia albacore and yellowfin longline fishery	Control Union UK	EPO-YFT	No	n/a	n/a	Yes	No P1 upgrade or alignment of condition timelines required
AGAC four oceans Integral Purse Seine Tropical Tuna Fishery	Lloyds Register (Acoura)	EPO-BET	n/a	n/a	n/a	No	Condition timelines to be aligned with relevant proposed deadline within assessment
Echebastar Indian Ocean Purse Seine Skipjack Tuna	Bureau Veritas Certification	IO-SKJ	No	n/a	n/a	Yes	No P1 upgrade or alignment of condition timelines required
CFTO Indian Ocean Purse Seine Skipjack fishery	Control Union UK	IO-SKJ	No	n/a	n/a	n/a	Condition timelines to be aligned with relevant proposed deadline within assessment
Maldives Pole and Line Tuna Skipjack	SAI Global	IO-SKJ	No	n/a	n/a	Yes	Condition timelines to be aligned with relevant proposed deadline at surveillance audit following FPC v2.1. Note that there was no condition on HS and HCR at the time of the MEGVAR.

Fishery name	CAB	Stock	P1 upgrade required?	P1 upgrade type	Original MEGVAR Agreed condition deadline	Part of variation request?	Action required
AGAC four oceans Integral Purse Seine Tropical Tuna Fishery	Lloyds Register (Acoura)	IO-SKJ	n/a	n/a	n/a	No	Condition timelines to be aligned with relevant proposed deadline within assessment
AGAC four oceans Integral Purse Seine Tropical Tuna Fishery	Lloyds Register (Acoura)	IO-BET	n/a	n/a	n/a	No	Pending assessment
AGAC four oceans Integral Purse Seine Tropical Tuna Fishery	Lloyds Register (Acoura)	IO-YFT	n/a	n/a	n/a	No	Pending assessment
AAFA and WFOA North Pacific albacore tuna	MRAG Americas, Inc.	PO-ALB-N	No	n/a	2023	Yes	Condition timelines to be aligned with relevant proposed deadline at next surveillance audit
Ishihara Marine Products albacore and skipjack pole and line fishery	Control Union UK	PO-ALB-N	n/a	n/a	2023	No	Condition timelines to be aligned with relevant proposed deadline, within assessment if possible or at 1st SA following FCP 2.2
Pan Pacific yellowfin, bigeye and albacore longline fishery	Control Union UK	PO-ALB-N	n/a	n/a	2023	No	Condition timelines to be aligned with relevant proposed deadline, within assessment if possible or at 1st SA following FCP 2.2
CHMSF British Columbia albacore tuna North Pacific	SAI Global	PO-ALB-N	Yes	Reduced	2023	Yes	P1 rescored against v2.0 at first opportunity AND condition timelines to be aligned with relevant proposed deadline

Fishery name	CAB	Stock	P1 upgrade required?	P1 upgrade type	Original MEGVAR Agreed condition deadline	Part of variation request?	Action required
Japanese skipjack and albacore pole and line	Lloyds Register (Acura)	PO-ALB-N	Yes	Reduced	2023	Yes	P1 rescored against v2.0 at first opportunity AND condition timelines to be aligned with relevant proposed deadline
Kiribati albacore, bigeye and yellowfin tuna longline fishery	Control Union UK	PO-ALB-N	n/a	n/a	2023	No	Condition timelines to be aligned with relevant proposed deadline, within assessment
Kochi and Miyazaki Offshore Pole and Line Albacore and Skipjack fishery	Control Union UK	PO-ALB-N	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment
American Samoa EEZ Albacore and Yellowfin Longline Fishery	Control Union UK	PO-ALB-S	No	n/a	2021	Yes	Condition timelines to be aligned with relevant proposed deadline at next surveillance audit
Fiji albacore, yellowfin and bigeye longline	Lloyds Register (Acura)	PO-ALB-S	No	n/a	2021	Yes	Condition timelines to be aligned with relevant proposed deadline at next surveillance audit
Solomon Islands longline albacore and yellowfin tuna fishery	SCS Global Services	PO-ALB-S	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment if possible or at 1st SA following FCP 2.2
French Polynesia albacore and yellowfin longline fishery	Control Union UK	PO-ALB-S	No	n/a	2021	Yes	Condition timelines to be aligned with relevant proposed deadline at next surveillance audit

Fishery name	CAB	Stock	P1 upgrade required?	P1 upgrade type	Original MEGVAR Agreed condition deadline	Part of variation request?	Action required
New Zealand Albacore Troll Fishery	Lloyds Register (Acura)	PO-ALB-S	No	n/a	2021	Yes	No P1 upgrade or alignment of condition timelines required
AAFA and WFOA South Pacific albacore tuna	MRAG Americas, Inc.	PO-ALB-S	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment if possible or at 1st SA following FCP 2.2
Pan Pacific yellowfin, bigeye and albacore longline fishery	Control Union UK	PO-ALB-S	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment if possible or at 1st SA following FCP 2.2
SZLC, CSFC & FZLC Cook Islands EEZ South Pacific albacore & yellowfin longline	Control Union UK	PO-ALB-S	Yes	Reduced	2021	Yes	P1 rescored against v2.0 at first opportunity AND condition timelines to be aligned with relevant proposed deadline
Kiribati albacore, bigeye and yellowfin tuna longline fishery	Control Union UK	PO-ALB-S	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment
New Zealand Tally's skipjack purse seine	Lloyds Register (Acura)	WPO-SKJ	No	n/a	2021	Yes	No P1 upgrade or alignment of condition timelines required
AGAC four oceans Integral Purse Seine Tropical Tuna Fishery	Lloyds Register (Acura)	WPO-SKJ	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline within assessment

Fishery name	CAB	Stock	P1 upgrade required?	P1 upgrade type	Original MEGVAR Agreed condition deadline	Part of variation request?	Action required
PNA skipjack and yellowfin tuna	Lloyds Register (Acura)	WPO-SKJ	No	n/a	2021	Yes	Condition timelines to be aligned with relevant proposed deadline at next surveillance audit
WPSTA purse seine free school yellowfin and skipjack	SCS Global Services	WPO-SKJ	No	n/a	2021	Yes	Condition timelines to be aligned with relevant proposed deadline at next surveillance audit
Ishihara Marine Products albacore and skipjack pole and line fishery	Control Union UK	WPO-SKJ	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment if possible or at 1st SA following FCP 2.2
PT Citraraja Ampat, Sorong pole and line Skipjack and Yellowfin Tuna	DNV GL	WPO-SKJ	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment if possible or at 1st SA following FCP 2.2
Tropical Pacific yellowfin and skipjack free-school purse seine fishery	Control Union UK	WPO-SKJ	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment if possible or at 1st SA following FCP 2.2
Japanese skipjack and albacore pole and line	Lloyds Register (Acura)	WPO-SKJ	Yes	Reduced	2021	Yes	P1 rescored against v2.0 at first opportunity AND condition timelines to be aligned with relevant proposed deadline
Solomon Islands skipjack and yellowfin tuna	SCS Global Services	WPO-SKJ	Yes	Reduced	2021	Yes	P1 rescored against v2.0 at first opportunity AND condition timelines to be aligned with relevant proposed deadline

Fishery name	CAB	Stock	P1 upgrade required?	P1 upgrade type	Original MEGVAR Agreed condition deadline	Part of variation request?	Action required
TriMarine Western and Central Pacific Skipjack and Yellowfin Tuna	SCS Global Services	WPO-SKJ	Yes	Reduced	2021	Yes	P1 rescored against v2.0 at first opportunity AND condition timelines to be aligned with relevant proposed deadline
Indonesia pole-and-line skipjack and yellowfin tuna of the Western and Central Pacific archipelagic waters	SAI Global	WPO-SKJ	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment
Micronesia Skipjack, Yellowfin and Bigeye Tuna Purse Seine Fishery	Control Union UK	WPO-SKJ	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment
Kochi and Miyazaki Offshore Pole and Line Albacore and Skipjack fishery	Control Union UK	WPO-SKJ	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment
American Samoa EEZ Albacore and Yellowfin Longline Fishery	Control Union UK	WPO-YFT	No	n/a	2021	Yes	Condition timelines to be aligned with relevant proposed deadline at next surveillance audit
Solomon Islands skipjack and yellowfin tuna	SCS Global Services	WPO-YFT	Yes	Reduced	2021	Yes	P1 rescored against v2.0 at first opportunity AND condition timelines to be aligned with relevant proposed deadline
SZLC, CSFC & FZLC Cook Islands EEZ South Pacific	Control Union UK	WPO-YFT	Yes	Reduced	2021	Yes	P1 rescored against v2.0 at first opportunity AND condition timelines to be aligned with relevant proposed deadline

Fishery name	CAB	Stock	P1 upgrade required?	P1 upgrade type	Original MEGVAR Agreed condition deadline	Part of variation request?	Action required
albacore & yellowfin longline							
TriMarine Western and Central Pacific Skipjack and Yellowfin Tuna	SCS Global Services	WPO-YFT	Yes	Reduced	2021	Yes	P1 rescored against v2.0 at first opportunity AND condition timelines to be aligned with relevant proposed deadline
WPSTA purse seine free school yellowfin and skipjack	SCS Global Services	WPO-YFT	No	n/a	2021	Yes	Condition timelines to be aligned with relevant proposed deadline at next surveillance audit
Fiji albacore, yellowfin and bigeye longline	Lloyds Register (Acura)	WPO-YFT	No	n/a	2021	Yes	Condition timelines to be aligned with relevant proposed deadline at next surveillance audit
AGAC four oceans Integral Purse Seine Tropical Tuna Fishery	Lloyds Register (Acura)	WPO-YFT	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline within assessment
French Polynesia albacore and yellowfin longline fishery	Control Union UK	WPO-YFT	No	n/a	2021	Yes	Condition timelines to be aligned with relevant proposed deadline at next surveillance audit
PNA skipjack and yellowfin tuna	Lloyds Register (Acura)	WPO-YFT	No	n/a	2021	Yes	Condition timelines to be aligned with relevant proposed deadline at next surveillance audit
Pan Pacific yellowfin, bigeye and albacore longline fishery	Control Union UK	WPO-YFT	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within

Fishery name	CAB	Stock	P1 upgrade required?	P1 upgrade type	Original MEGVAR Agreed condition deadline	Part of variation request?	Action required
							assessment if possible or at 1st SA following FCP 2.2
PT Citraraja Ampat, Sorong pole and line Skipjack and Yellowfin Tuna	DNV GL	WPO-YFT	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment if possible or at 1st SA following FCP 2.2
SZLC CSFC & FZLC FSM EEZ Longline Yellowfin and Bigeye Tuna	Control Union UK	WPO-YFT	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment if possible or at 1st SA following FCP 2.2
Tropical Pacific yellowfin and skipjack free-school purse seine fishery	Control Union UK	WPO-YFT	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment if possible or at 1st SA following FCP 2.2
Solomon Islands longline albacore and yellowfin tuna fishery	SCS Global Services	WPO-YFT	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment if possible or at 1st SA following FCP 2.2
Indonesia pole-and-line skipjack and yellowfin tuna of the Western and Central Pacific archipelagic waters	SAI Global	WPO-YFT	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment

Fishery name	CAB	Stock	P1 upgrade required?	P1 upgrade type	Original MEGVAR Agreed condition deadline	Part of variation request?	Action required
Micronesia Skipjack, Yellowfin and Bigeye Tuna Purse Seine Fishery	Control Union UK	WPO-YFT	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment
Kiribati albacore, bigeye and yellowfin tuna longline fishery	Control Union UK	WPO-YFT	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment
MIFV RMI EEZ Longline Yellowfin and Bigeye Tuna	Control Union UK	WPO-YFT	n/a	n/a	2021	No	Condition timelines to be aligned with relevant proposed deadline, within assessment
Fiji albacore, yellowfin and bigeye longline	Lloyds Register (Acoura)	WPO-BET	No	n/a	2021	Yes	Condition timelines to be aligned with relevant proposed deadline at next surveillance audit
Pan Pacific yellowfin, bigeye and albacore longline fishery	Control Union UK	WPO-BET	n/a	n/a	2021**	No	Condition timelines to be aligned with relevant proposed deadline, within assessment if possible or at 1st SA following FCP 2.2
AGAC four oceans Integral Purse Seine Tropical Tuna Fishery	Lloyds Register (Acoura)	WPO-BET	n/a	n/a	2021**	No	Condition timelines to be aligned with relevant proposed deadline within assessment
SZLC CSFC & FZLC FSM EEZ Longline Yellowfin and Bigeye Tuna	Control Union UK	WPO-BET	n/a	n/a	2021**	No	Condition timelines to be aligned with relevant proposed deadline, within assessment if possible or at 1st SA following FCP 2.2
Fishery name	CAB	Stock	P1 upgrade required?	P1 upgrade type	Original MEGVAR Agreed condition deadline	Part of variation request?	Action required
Micronesia Skipjack, Yellowfin and Bigeye Tuna Purse Seine Fishery	Control Union UK	WPO-BET	n/a	n/a	2021**	No	Condition timelines to be aligned with relevant proposed deadline, within assessment
SZLC, CSFC & FZLC Cook Islands EEZ South Pacific albacore & yellowfin longline	Control Union UK	WPO-BET	n/a	n/a	2021**	No	Condition timelines to be aligned with relevant proposed deadline, within assessment
Kiribati albacore, bigeye and yellowfin tuna longline fishery	Control Union UK	WPO-BET	n/a	n/a	2021**	No	Condition timelines to be aligned with relevant proposed deadline, within assessment
MIFV RMI EEZ Longline Yellowfin and Bigeye Tuna	Control Union UK	WPO-BET	n/a	n/a	2021**	No	Condition timelines to be aligned with relevant proposed deadline, within assessment

Table 2. Details of all tuna fisheries, including certification status, date certified and expiry date given the MSC March 2020 COVID-19 derogation.

Fishery Name	CAB	Fishery status	Species Certified	FAO Area(s)	Date first certified	Certified until (6 month extension)
Solomon Islands longline albacore and yellowfin tuna fishery	SCS Global Services	Certified	Albacore tuna, Yellowfin tuna	71 (Pacific, Western Central), Western Central Pacific (FAO Area 71)	28 Nov 2019	28 Nov 2024
Sant Yago TF Unassociated purse seine Atlantic yellowfin tuna fishery	Bureau Veritas Certification	Certified with Skipjack under assessment via Scope Extension (from P2 to P1)	Yellowfin tuna and Skipjack tuna (under assessment)	Eastern Central Atlantic (FAO Area 34), Southeast Atlantic (FAO Area 47)	05 Mar 2019	04 Sep 2024
ANABAC Atlantic unassociated purse seine yellowfin tuna fishery	Bureau Veritas Certification	In assessment	Yellowfin tuna	Atlantic Ocean Stock (FAO areas 34 and 47)		
Northeastern Tropical Pacific Purse Seine yellowfin and skipjack tuna fishery	Control Union UK	Certified	Skipjack tuna, Yellowfin tuna	Eastern Central Pacific (FAO Area 77)	07 Sep 2017	06 Mar 2023
AAFA and WFOA North Pacific albacore tuna	MRAG Americas, Inc.	Certified	Albacore tuna	Eastern Central Pacific (FAO Area 77), Northeast Pacific (FAO Area 67)	24 Aug 2007	13 Dec 2023
AAFA and WFOA South Pacific albacore tuna	MRAG Americas, Inc.	Certified	Albacore tuna	Eastern Central Pacific (FAO Area 77), Southwest Pacific (FAO Area 81)	04 Sep 2007	14 024May 2
SZLC, CSFC & FZLC Cook Islands EEZ South Pacific albacore, yellowfin and bigeye longline	Control Union UK	Certified	Albacore tuna, Yellowfin tuna	Eastern Central Pacific (FAO Area 77), Southwest Pacific (FAO Area 81)	09 Jun 2015	11 Feb 2026
Pan Pacific yellowfin, bigeye and albacore longline fishery	Control Union UK	Certified	Albacore tuna, Bigeye tuna, Yellowfin tuna	Southwest Pacific (FAO Area 81), Western Central Pacific (FAO Area 71)	26 Jun 2020	25 Dec 2025
Kiribati albacore, bigeye and yellowfin tuna longline fishery	Control Union UK	In Assessment	Albacore tuna, Bigeye tuna, Yellowfin tuna	Eastern Central Pacific (FAO Area 77), Western Central Pacific (FAO Area 71)		
Fishery Name	CAB	Fishery status	Species Certified	FAO Area(s)	Date first certified	Certified until (6 month extension)
French Polynesia albacore and yellowfin longline fishery	Control Union UK	Certified	Albacore tuna, Yellowfin tuna	Eastern Central Pacific (FAO Area 77), Western Central Pacific (FAO Area 71)	19 Jun 2018	18 Dec 2023
Fiji Albacore, Yellowfin and Bigeye Tuna longline	Lloyds Register (Acoura)	Certified (with components in assessment)	Albacore tuna, Yellowfin tuna, Bigeye tuna	Eastern Central Pacific (FAO Area 77), Western Central Pacific (FAO Area 71)	13 Dec 2012	22 Jul 2023
PNA Western and Central Pacific skipjack and yellowfin, unassociated / non FAD set, tuna purse seine	Lloyds Register (Acoura)	Certified	Skipjack tuna, Yellowfin tuna	Eastern Central Pacific (FAO Area 77), Western Central Pacific (FAO Area 71)	21 Dec 2011	21 Sep 2023
Tri Marine Western and Central Pacific Skipjack and Yellowfin Tuna	SCS Global Services	Certified	Skipjack tuna, Yellowfin tuna	Eastern Central Pacific (FAO Area 77), Western Central Pacific (FAO Area 71)	02 Jun 2016	01 Jun 2021
WPSTA Western and Central Pacific skipjack and yellowfin free school purse seine	SCS Global Services	Certified	Skipjack tuna, Yellowfin tuna	Eastern Central Pacific (FAO Area 77), Western Central Pacific (FAO Area 71)	21 Jun 2018	20 Jun 2023
WPSTA Western and Central Pacific skipjack and yellowfin free school purse seine	SCS Global Services	Certified	Skipjack tuna, Yellowfin tuna	Eastern Central Pacific (FAO Area 77), Western Central Pacific (FAO Area 71)	21 Jun 2018	20 Jun 2023
PNG Fishing Industry Association's purse seine Skipjack & Yellowfin Tuna Fishery	SCS Global Services	Certified	Skipjack tuna, Yellowfin tuna	Eastern Central Pacific (FAO Area 77), Western Central Pacific (FAO Area 71)	11 May 2020	10 Nov 2025
Echebastar Indian Ocean purse seine skipjack tuna	Bureau Veritas Certification	Certified	Skipjack tuna	Eastern Indian Ocean (FAO Area 57), Western Indian Ocean (FAO Area 51)	09 Nov 2018	08 May 2024
North Atlantic albacore artisanal fishery	Bureau Veritas Certification	Certified	Albacore tuna	Northeast Atlantic (FAO Area 27)	07 Jun 2016	06 Dec 2021
Canada Highly Migratory Species Foundation (CHMSF) British Columbia Albacore Tuna North Pacific	SAI Global	Certified	Albacore tuna	Northeast Pacific (FAO Area 67)	23 Mar 2010	07 Dec 2025

Fishery Name	CAB	Fishery status	Species Certified	FAO Area(s)	Date first certified	Certified until (6 month extension)
US North Atlantic swordfish, albacore tuna and yellowfin tuna	MRAG Americas, Inc.	Certified	Albacore tuna, Swordfish, Yellowfin tuna	Northwest Atlantic (FAO Area 21), Western Central Atlantic (FAO Area 31)	28 Mar 2013	05 Sept 2023
Ishihara Marine Products albacore and skipjack pole and line fishery	Control Union UK	Certified	Albacore tuna, Skipjack tuna	Northwest Pacific (FAO Area 61), Western Central Pacific (FAO Area 71)	12 Mar 2019	11 Nov 2024
ACTEMSA-LEAL SANTOS pole and line West Atlantic skipjack fishery	Bureau Veritas Certification	Exiting	Skipjack tuna	Southwest Atlantic (FAO Area 41)		
New Zealand albacore tuna troll	Lloyds Register (Acoura)	Certified	Albacore tuna	Southwest Pacific (FAO Area 81)	16 May 2011	13 Aug 2022
Australian Eastern Tuna and Billfish Fishery (albacore tuna, yellowfin tuna, bigeye tuna and swordfish)	q.inspecta	Certified	Albacore tuna, Swordfish, Yellowfin tuna, Bigeye tuna	Southwest Pacific (FAO Area 81)	27 Aug 2020	26 February 2026
American Samoa EEZ Albacore and Yellowfin Longline Fishery	Control Union UK	Certified	Albacore tuna, Yellowfin tuna	Southwest Pacific (FAO Area 81)	24 Nov 2017	23 May 2023
Talleys New Zealand Skipjack Tuna Purse Seine	Lloyds Register (Acoura)	Certified	Skipjack tuna	Southwest Pacific (FAO Area 81)	28 Aug 2017	16 Feb 2023
Japanese Pole and Line skipjack and albacore tuna fishery	Lloyds Register (Acoura)	Certified	Albacore tuna, Skipjack tuna	Western Central Pacific (FAO Area 71)	17 Oct 2016	16 Apr 2022
SZLC CSFC & FZLC FSM EEZ Longline Yellowfin and Bigeye Tuna	Control Union UK	Certified	Bigeye tuna, Yellowfin tuna	Western Central Pacific (FAO Area 71)	05 Oct 2018	06 Sep 2024
MIFV RMI EEZ Longline Yellowfin and Bigeye Tuna	Control Union UK	Certified	Bigeye tuna, Yellowfin tuna	Western Central Pacific (FAO Area 71)	07 Oct 2019	06 Apr 2025
Fishery Name	CAB	Fishery status	Species Certified	FAO Area(s)	Date first certified	Certified until (6 month extension)
Tropical Pacific yellowfin and skipjack free-school purse seine fishery	Control Union UK	Certified	Skipjack tuna, Yellowfin tuna	Western Central Pacific (FAO Area 71)	18 Oct 2019	17 Apr 2025
PT CitraRaja Ampat, Sorong pole and line Skipjack and Yellowfin Tuna	DNV GL	Certified	Skipjack tuna, Yellowfin tuna	Western Central Pacific (FAO Area 71)	22 Nov 2018	22 May 2024
Solomon Islands skipjack and yellowfin tuna purse seine and pole and line	SCS Global Services	Certified	Skipjack tuna, Yellowfin tuna	Western Central Pacific (FAO Area 71)	12 Jul 2016	11 Jul 2021
North Buru and Maluku Fair Trade Fishing Associations, Indonesian Handline Yellowfin Tuna	SCS Global Services	In Assessment	Yellowfin tuna	Western Central Pacific (FAO Area 71)		
Indonesia pole-and-line skipjack and yellowfin tuna of the Western and Central Pacific archipelagic waters	SAI Global	In Assessment	Skipjack tuna, Yellowfin tuna	Western Central Pacific (FAO Area 71)		
Maldives pole & line skipjack tuna	SAI Global	Certified	Skipjack tuna	Western Indian Ocean (FAO Area 51)	29 Nov 2012	28 May 2023
North West Atlantic Canada Harpoon Swordfish	Lloyds Register (Acoura)	Certified	Swordfish (<i>Xiphias gladius</i>)	Atlantic, Northwest (FAO Area 21)	18 June 2010	11 Jun 2023
North West Atlantic Canada Longline Swordfish	Lloyds Register (Acoura)	Certified	Swordfish (<i>Xiphias gladius</i>)	Atlantic, Northwest (FAO Area 21)	19 Apr 2012	11 Jun 2023
Owasebussan Co. Ltd. North Pacific Longline Tuna Fishery for Albacore, Yellowfin Tuna & Bigeye Tuna	SCS Global Services	In Assessment	Albacore tuna, Skipjack tuna, And Bigeye tuna	Western Central Pacific (FAO Area 71)		
AGAC four oceans Integral Purse Seine Tropical Tuna Fishery	Lloyds Register (Acoura)	In Assessment	Yellowfin tuna, Skipjack tuna, and Bigeye tuna	31 (Atlantic, Western Central), 34 (Atlantic, Eastern Central), 41 (Atlantic, Southwest), 47 (Atlantic, Southeast), 51 (Indian Ocean, Western), 57 (Indian Ocean, Eastern), 71 (Pacific, Western		
Fishery Name	CAB	Fishery status	Species Certified	FAO Area(s)	Date first certified	Certified until (6 month extension)
				Central), 77 (Pacific, Eastern Central), 87 (Pacific, Southeast)		
Micronesia Skipjack, Yellowfin and Bigeye Tuna Purse Seine Fishery	Control Union UK	In Assessment	Yellowfin tuna, Skipjack tuna, and Bigeye tuna	FAO Area 71: Exclusive Economic Zone of the Federated States of Micronesia (FSM) and WCPFC High Seas		
Kochi and Miyazaki Offshore Pole and Line Albacore and Skipjack fishery	Control Union UK	In Assessment	Albacore and Skipjack tuna	Western and Central Pacific Ocean (WCPO) high seas and Japanese EEZ		
CFTO Indian Ocean Purse Seine Skipjack fishery	Control Union UK	In Assessment	Skipjack tuna	Indian Ocean (FAO 51 and 57) to include the Exclusive Economic Zones (EEZ) of the Seychelles, Mauritius, France (Mayotte and French Southern and Antarctic Lands (TAAF)) and the High Seas		

Appendix 2 – Overview of RFMO workplan deadlines for HMS stocks (note: for certified stocks only for which a RFMO workplan is in place to address RPs and HCRs). The six month extension to conditions is applied.

RFMO	Stock	RFMO workplan completion date at time of MEGVAR	Original condition end date as per the MEGVAR	Revised condition end date based on the MSC's March 2020 COVID-19 derogation
ICCAT	AO-SKJ-W	2020	2022 (HCR adopted)	
ICCAT	AO-YFT	2020	HCR adopted at the Regular Session of the Commission – November 2023	May 2024
IATTC/WCPFC	PO-ALB-N		HCR adopted at the Regular Session of the Commission – December 2023	May 2024
WCPFC/IATTC	PO-ALB-S	2021	HCR adopted at the Regular Session of the Commission – December 2021	June 2022
WCPFC	WPO-SKJ	2021	HS in place at the Regular Session of the Commission – December 2021	June 2022
WCPFC	WPO-YFT	2021	HCR adopted at the Regular Session of the Commission – December 2021	June 2022
WCPFC	WPO-BET	2021	HCR adopted at the Regular Session of the Commission – December 2021	June 2022
IOTC	SKJ	N/A (well-defined HCRs adopted in 2016)	N/A (well-defined HCRs adopted in 2016)	N/A (well-defined HCRs adopted in 2016)
				Note that new condition was raised due to the lack of evidence that tools are appropriate and effective in controlling exploitation.

Appendix 3 Letter from individual clients to their respective CABs.

In November 2018, all Marine Stewardship Council (MSC) - accredited Conformity Assessment Bodies (CABs) filed with MSC, and MSC subsequently approved, a variation request to harmonise the Principle I conditions and deadlines for MSC certified highly migratory species globally where multiple certified fisheries existed on the same stock. In the Western and Central Pacific Fisheries Commission (WCPFC) Convention Area, this included fisheries for albacore, skipjack and yellowfin tunas. With this change, all MSC certified tuna fisheries in this region are required to align harvest strategy milestones and deadlines as set out in WCPFC's Conservation and Management Measure (CMM) 2014-06, as revised by WCPFC14 in 2017, with the milestones and deadlines in their client action plans.

As clients of the MSC certified Tuna fishery (clients specified their fishery in each letter) we support the harmonisation of Principle I conditions and deadlines and remain strongly committed to use our unified voice to pursue having WCPFC put robust harvest strategies in place as soon as possible. However, the variation request was flawed in not recognizing and accounting for WCPFC's intent for the Harvest Strategy Workplan to serve as a living document, to periodically adapt the content and schedule. WCPFC recognised that the preliminary schedule included in the early versions of the Workplan would require adjustment, as substantial research and evaluation of alternative terms for each Harvest Strategy element, and negotiation amongst WCPFC's parties, would be necessary to develop and adopt robust Harvest Strategies.

It was therefore inappropriate and unrealistic for the Variation Request to adopt static deadlines pinned to WCPFC's CMM 2014-06 as revised by WCPFC14 in 2017. WCPFC has amended the Harvest Strategy Workplan annually since its adoption in 2014, including revisions to the schedule in all but one of the five years since adoption. In fact, the revised version of the workplan that WCPFC adopted in 2018 explicitly planned for changes again in 2019: "A more substantial review of the Harvest Strategy Workplan, with inclusion of more detail, is anticipated during SC15 and WCPFC16." At the December 2019 annual session of the commission (WCPFC16), WCPFC agreed to transition from developing single-stock harvest strategies to instead work to adopt harvest strategies that account for mixed fisheries interactions using a hierarchical approach based on a collection of single species models. With this major change to a more robust approach, WCPFC16 once again modified the Harvest Strategy Workplan, including the schedule, which is appropriate for a living document. WCPFC16 added a preamble to the Workplan, explicitly explaining that the Commission deliberately included an ambitious schedule in the initial version of the Harvest Strategy Workplan and always intended to update the plan annually, and thus, as a living document, the planned completion dates for individual harvest strategy elements should reasonably be expected to change as the commission annually adapts the Workplan.

We therefore request that the MSC-accredited CABs submit a new joint variation request to MSC that recognises that the WCPFC Harvest Strategy Workplan is a living document and that the Workplan deadlines were never intended by WCPFC to be static. While the tuna stocks of this region remain in a healthy state, the variation request should allow for adjustments to the harmonised deadlines for P1 milestones of WCPO tuna MSC certified fisheries when WCPFC amends the deadlines of their Harvest Strategy Workplan.

Unlike in other regions, all principal market tuna stocks within the WCPFC Convention Area are currently healthy (none are overfished nor are experiencing overfishing), reducing the urgency for MSC-defined harvest strategies to be put in place. Suspending MSC certified WCPFC tuna fisheries would result in a major disruption to the global supply of MSC certified tuna products and the growing global retail market for MSC certified seafood products and would disincentivise future participation by tuna fisheries in the MSC programme. Mass suspension of WCPFC tuna fisheries would result in a tremendous loss in environmental sustainability if gradual improvements to address identified deficiencies against the MSC fisheries standard ceased to progress.

Thank you for your consideration of this urgent request. We look forward to your feedback and to continuing our joint efforts to improve the sustainability of global tuna fisheries.

Regards

Appendix 11 Objection Procedure

To be added at Public Certification Report stage

The report shall include all written decisions arising from a 'Notice of Objection', if received and accepted by the Independent Adjudicator.

Reference(s): FCP v2.1 Annex PD