# Solomon Islands Skipjack and Yellowfin Tuna Purse Seine and Pole and Line Fishery

# Third Surveillance Audit Report

*Certificate code: MSC-F-30002*

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# 2 Glossary

| | |
|---|---|
| AFAD | Anchored Fish Aggregation Device |
| AW | Archipelagic Waters |
| CAB | Conformity Assessment Body |
| CITES | Convention on International Trade in Endangered Species of Wild Fauna and Flora |
| CMM | Conservation and Management Measure |
| EEZ | Exclusive Economic Zone |
| ETP | Endangered, Threatened or Protected species |
| FAD | Fish Aggregation Device |
| FAO | Food and Agriculture Organization of the United Nations |
| FCP | Fisheries Certification Process |
| FCR | Fisheries Certification Requirements |
| FFA | Forum Fisheries Agency |
| FSM | Federated States of Micronesia |
| FSMA | Federated States of Micronesia Arrangement |
| Kg | kilogram |
| LOA | Length Over-All |
| MSC | Marine Stewardship Council |
| MFMR | Ministry for Fisheries and Marine Resources |
| MSE | Management Strategy Evaluation |
| NFD | National Fisheries Development (the client) |
| nm | nautical mile |
| PAE | Party Allowed Effort |
| PI | Performance Indicator |
| PNA | Partners to the Naura Agreement |
| PNAO | Partners to the Naura Agreement Office |
| SCS | SCS Global Services |
| SPC | Secretariat to the Pacific Community |
| SSB | Spawning Stock Biomass |
| t and mt | metric ton |
| TAC/TAE | Total Allowable Catch/Total Allowable Effort |
| TIASI | Tuna Industry Association of the Solomon Islands |
| TMI | TriMarine International Group |
| VDS | Vessel Day Scheme |
| WCPFC | Western and Central Pacific Fisheries Commission |
| WCPO | Western and Central Pacific Ocean |
| WWF | World Wildlife Fund |

# 3 Executive Summary & Conclusion

This report summarizes the findings from the 2019 third surveillance audit of the Solomon Islands Skipjack and Yellowfin Tuna Purse Seine and Pole and Line Fishery. The fishery was first certified to the MSC requirements in 2016 using the default assessment tree MSC Certification Requirements Version 1.3 (standard) and the MSC Fishery Certification Requirements (FCR) Version 2.0 (process).

The 2018 third annual surveillance audit focused on any changes since the second annual surveillance audit and monitored continued compliance with the MSC Principles and Criteria. Each of the six UoCs in the fishery originally received three conditions in the 2016 full assessment (for PIs 1.2.1, 1.2.2 and 3.2.2). The conditions pertaining to Principle 1 requirements reflect deficiencies with harvest strategies that have been the subject of harmonized conditions across tuna fisheries in the Western and Central Pacific Ocean (WCPO).

In the 2017 first annual surveillance audit, the assessment team closed the condition on PI 3.2.2 for decision-making processes. The two remaining open conditions (PIs 1.2.1 and 1.2.2) were set as “on target” based on progress with the agreed harvest strategy work plan adopted by the Western and Central Pacific Fisheries Commission (WCPFC). In the 2018 second annual surveillance audit, these open conditions were also found to be “on target”.

In this year’s third annual surveillance report, the assessment team evaluated expected outcomes of open conditions against the third annual surveillance milestones. By year three the client was expected to present evidence of its activities in support of the agreed WCPFC Workplan for harvest strategies. Evidence to this effect was provided and these conditions are considered to remain “on target”.

Following a joint Variation Request to the MSC in 2018 from several Conformity Assessment Bodies (CABs), the MSC agreed to a proposed adoption of the 2017 version of the WCPFC harvest strategy work plan as the common basis for the timelines for closing conditions in overlapping tuna fisheries. This has required the client to revise its Client Action Plan (CAP) for the fishery to match the timelines in this work plan. It will also require SCS to prepare a new harmonization report to transition the assessment to V2.0, which can be found in Appendix 6.5.

In the time leading up to the third surveillance, a stakeholder presented the CAB with a new written submission on the status of harvest strategies in the WCPFC, arguing that at least one of the Principle conditions was no longer required. This submission was initially provided for a different fishery but was requested to be considered for other relevant fisheries and was the subject of harmonization discussions among several CABs. After these discussions, it was agreed that, in the absence of any advice from MSC to the contrary, the conditions should remain in place until there was further progress with the harvest control rules and harvest strategies for both skipjack and yellowfin.

In this surveillance audit, to harmonize with conditions imposed after the assessment of the Solomon Islands Longline Fishery, an additional two conditions were deemed to be required (for PI 3.1.2 and PI 3.2.2) concerning consultation arrangements. These conditions were required because of a lack of evidence that previously established consultative arrangements were still functioning as expected. The new conditions have been added to the revised CAP.

It is SCS’s view that the Solomon Islands Skipjack and Yellowfin Tuna Purse Seine and Pole and Line Fishery continues to meet the standards of the MSC and complies with the ‘Requirements for Continued Certification.’

SCS recommends the continued use of the MSC certificate through to the end of this certificate cycle when conditions are expected to close.

The surveillance audit was carried out in accordance with the default assessment tree under which the fishery was originally certified. Following the MSC guidelines for implementation timeframes, the surveillance was conducted in accordance with the new process requirements in FCP v2.1.

# 4 Report details

## 4.1 Surveillance Information

**Table 1. Surveillance Information**

| | | |
|---|---|---|
| **1** | **Fishery name** | |
| | Solomon Islands Skipjack and Yellowfin Tuna Purse Seine Anchored FAD, Purse Seine Unassociated, and Pole and Line | |
| **2** | **Surveillance level and type** | |
| | Level 4 Off-site. The Surveillance Level and Type was changed from that reported in the PCR because the Year 1 audit occurred onsite, instead of offsite, and the Year 2 audit instead occurred offsite instead of onsite. For the Year 3 surveillance audit, the surveillance schedule aligns with that reported in the PCR.<br><br>**Harmonization explanation and process**<br>In recognition of differing timelines across MSC certified tuna fisheries, the MSC has required all tuna and tuna-like fisheries (herein, tuna fisheries) certified against Certification Requirements v1.3 will be upgraded to v2.0 to foster harmonization efforts. Timelines for P1 conditions (limited to those with respect to harvest strategies and harvest control rules) will be aligned for all fisheries on the same stock. These timelines will be based on the calendar year that RFMO workplace is due to be completed, for all stocks where relevant work plans exist. For this fishery, the upgrade will occur against the WCPFC 2017 work plan.<br><br>On December 11, 2018, CABs submitted a combined tuna fishery variation request, which covered this fishery. The MSC has required that CABs undertake the P1 upgrades during the first surveillance audit (here, the Year 3 surveillance audit). This announcement covers both the 3rd year surveillance and Principle 1 v2.0 assessment upgrade process. | |
| **3** | **Surveillance number** | |
| | 1st Surveillance | |
| | 2nd Surveillance | |
| | 3rd Surveillance | **X** |
| | 4th Surveillance | |
| | Other (expedited etc) | Principle 1 assessment upgrade-tuna |
| **4** | **Proposed team leader** | |
| | **Alexander "Sandy" Morison – Morison Aquatic Sciences, Team Lead, P1 & P2, Offsite**<br><br>Mr. Morison is a consultant specializing in fisheries and aquatic sciences. He has over 30 years experience in fishery science and assessment at state, national and international levels and has held senior research positions for state and national organizations in Australia. He is currently chair of the Ecologically Related Species Working Group of the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) and has been engaged in the Kobe process for harmonization of measures across the tuna RFMOs.<br>Mr. Morison has considerable experience with issues of tuna and other pelagic species through various positions in addition to his current role with CCSBT. He was Australia's representative on the Science Working Group during the establishment of the South Pacific Regional Fisheries Management | |

Organisation and was the inaugural chair of the Jack Mackerel Working Group during that time. He has also chaired Australia's East Coast Tuna and Billfish Resource Assessment Group.
Mr. Morison has participated as part of a team undertaking MSC pre-assessments for several fisheries and is also trained as a lead auditor for MSC assessments.

- Heard Island and MacDonald Islands Mackerel Icefish: Reassessments and surveillance audits (Principle 1).
- Heard Island and MacDonald Islands Patagonian toothfish: First assessment, reassessment and surveillance audits (Principle 1).
- Lakes and Coorong Fishery (South Australia): Reassessments and surveillance audits (Principle 1).
- Macquarie Island Patagonian toothfish fishery: First assessment, reassessment and surveillance audits (Principle 1).
- Kyoto Danish Seine Fishery: Reassessment (Principle 1).
- Western Rock Lobster Fishery: Surveillance audits and reassessment. (Principle 1)
- PNA Western and Central Pacific unassociated purse seine fishery (skipjack tuna): Surveillance audits (Principle 1).
- PNA Western and Central Pacific unassociated purse seine fishery (yellowfin tuna): Expedited assessment (Principle 1).
- Northeastern Tropical Pacific purse seine yellowfin & skipjack tuna: first assessment (Principle 2).
- Tri Marine Western and Central Pacific skipjack and yellowfin tuna: first assessment (Team leader, Principle 1 and Principle 2).
- Peel-Harvey Inlet, blue swimmer crab and sea mullet fisheries (Principle 1).
- Western Australia deep-sea crab fishery (Principle 1).
- Australian pearl oyster fishery (Principle 1).
- Pre-assessments of three other fisheries (confidential).

Mr. Morison was the facilitator for an assessment of the ecological risks from Queensland's East Coast Trawl Fishery that looked at the full range of ecological components. He was senior author of the report that synthesized background information and the results of an expert workshop and was a co-author of the summary and technical reports that described the results of the project. He was subsequently engaged to assist with an assessment of this fishery's vulnerability to climate change.
Sandy is also contracted by the Australian Fisheries Management Authority to chair the South East Fisheries Resource Assessment Group and the Shark Fisheries Resource Assessment Group is the Scientific Representative on the South East Fishery Management Advisory Committee and is a member of the South East Scalefish and Shark Fishery Resource Assessment Group. He has also been the scientific representative on other Resource Assessment Groups. Sandy has experience with the assessment of invertebrate, chondrichthyan and teleost fisheries including commercial and recreational fisheries in freshwater, estuarine and marine habitats and fisheries operating in tropical, temperate and polar environments.
He has particular expertise with fish age and growth and has been involved in the development and implementation of harvest strategies for several fisheries. He has over 20 publications in peer-reviewed scientific journals (8 as senior author), 8 book chapters, and over 100 project reports, technical reports, client reports and papers in workshop and conference proceedings.
For more details visit: www.morisonaqsci.com.au
The proposed team leader meets the MSC Team leader qualifications in that:

- ✓ Relevant degree and/or equivalent experience in the fisheries sector related to tasks under responsibility of a team leader (Evidence: published over 20 scientific publications and Sandy is also contracted by the Australian Fisheries Management Authority to chair the South East Fisheries Resource Assessment Group and the Shark Fisheries Resource Assessment Group, and the Tropical Rock Lobster Working Group. This includes being chair of the current and previous assessment groups that have been responsible for the assessments of Australia's orange roughy

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| | fisheries. He is also the Scientific Representative on the South East Fishery Management Advisory Committee and is a member of the South East Scalefish and Shark Fishery Resource Assessment Group. He has also been the scientific representative on other Resource Assessment Groups)<br>✓ Completed of the latest MSC training modules applicable to this assessment (V2.1 Team Leader MSC modules) within the past five years (February 7, 2019)<br>✓ Has passed new online training modules on modifications to the MSC Fisheries Standard before undertaking assessments using these modifications such as enhanced bivalves, salmon and other modifications that may be developed in the future. (February 7, 2019)<br>✓ Has undertaken 2 MSC fishery assessments or surveillance site visits in the last 5 years (Solomon Islands Longline Full Assessment 2019, Tri Marine WCPO Surveillance Year 2 2018)<br>✓ Has demonstrated experience in applying different types of interviewing and facilitation techniques, as verified by SCS records and previous audit reports and ASI audits.<br>✓ Is competent in the MSC Standard and current Certification Requirements, auditing techniques, and communication and stakeholder facilitation techniques, as verified by his many years as a auditor and successful witnesses of ASI<br>✓ Has affirmed he/she holds no conflict of interest |
| **5** | **Proposed team members *[remove if not applicable]*** |
| | All Team Members meet the following Team Member requirements:<br><br>**Frank Meere- FRM Consulting Pty Ltd, Responsible for Principle 3, Offsite**<br><br>Frank has extensive fisheries management and policy expertise underpinned by qualifications in applied economics and has worked in domestic and international fisheries management and policy for more than 27 years. Prior to joining fisheries, Frank worked for the Australian Government for 10 years in a range of other positions and agencies.<br><br>In 1989 he joined the Australian Fisheries Service and was involved in the development and drafting of new Commonwealth fisheries legislation and in the early '90s, the establishment of Australian Fisheries Management Authority (AFMA). He worked for more than ten years in key senior positions within AFMA and left the organization in 2003 after five years as its Managing Director. Frank then worked on the High Seas Task Force – a Ministerial Taskforce on IUU fishing on the high seas, for two years where he took prime responsibility for the economics and trade and management and enforcement aspects of the HSTF work and subsequent report.<br><br>Frank has extensive international fisheries management experience having served on Australian Government delegations to RFMOs, been involved in the development of new RFMOs, participated as a member of the 2008 Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) performance review panel, in 2017 acted as the independent Chair of the South Pacific Regional Fisheries Management Organisation (SPRFMO) Jack Mackerel Allocation Working Group and is currently serving as the independent Chair of the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) Compliance Committee.<br><br>Frank has particular expertise in analyzing and developing practical policy and administrative approaches to complex fisheries management issues and is particularly interested in seeking market-based approaches to management challenges. He is a member of the International Institute of Fisheries Economics and Trade.<br><br>Frank runs his own consulting company and is active in international fisheries governance (including IUU fishing) and management issues. He is based in Australia and works predominantly overseas.<br>Mr. Meere affirms he has no conflict of interest in conducting this assessment.<br>Frank Meere's experience satisfies the MSC requirements for a Team Member as described in PC2 (FCP v2.1): |

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| | With a relevant degree (*Bachelor of Applied Economics* (1979) University of New England - (four year degree course with a thesis in the final year - majors in Economics,<br>▪ Agricultural Economics and Statistics) and over 5 years of research experience in management or research experience in marine conservation biology, fisheries, natural resources or environmental management position (e.g. Employeed in Fisheries Management Roles by Australian Fisheries Management Authority - AFMA Feb 1992 – Nov 2003)<br>▪ Has passed the MSC compulsory training modules for Team Members within the last 5 years (February 18, 2019).<br>▪ Affirms they have no conflict of interest in conducting this assessment.<br><br>The team collectively meets the MSC Table PC3 team qualification and competency criteria:<br><br>✓ Team Leader meets the qualifications for fish stock assessment with Primary authorship of two peer-reviewed stock assessments of a type used by the fishery under assessment. As evidenced by "Fish Ageing as a Management Tool" Morison, S. September 15, 1994. Queenscliff. VFRI Seminar Series; Constable, A., Williams, D., Tuck, G., Lamb, T., and Morison, S. (2002) Biology and growth of toothfish. In: He, X., and Furlani, D. (ed.) Ecologically sustainable development of the fishery for Patagonian toothfish (*Dissostichus eleginoides*) around Macquarie Island: population parameters, population assessment, and ecological interactions. Pp 85-102. Australian Antarctic Division, Hobart; Sampaklis, A., Morison, A. and Hobsbawn, P. (2007). Australian fishing for non-highly migratory fish (1987 – 2006) in the area of the proposed South Pacific Regional Fisheries Management Organisation. Working Paper presented at the SPRFMO Data and Information Working Group meeting, Chile April 2007. Bureau of Rural Sciences, Canberra.).<br>✓ Team Lead meets the qualifications for 'Fish stock biology/ecology' with (3 years' or more experience working with the biology and population dynamics of the target or species with similar biology.). As evidenced by the section above.<br>✓ Team Lead meets the qualifications for 'Fishing impacts on aquatic ecosystems' with 3 years' or more experience in research into, policy analysis for, or management of, the impact of fisheries on aquatic ecosystems including at least two of the following topics: i. Bycatch. ii. Endangered, threatened, or protected (ETP) species. iii. Habitats. iv. Ecosystem interactions. As evidenced by Technical and Internal Reports Anderson, J. A. and Morison, A. K. (1988). Study of the native fish habitat in the Goulburn River, Shepparton - impacts of a proposal to operate a paddle steamer. Arthur Rylah Institute for Environmental Research Technical Report Series No. 68. Department of Conservation Forest and Lands, Victoria: Melbourne; Co-authored Fishery Status Reports on fisheries managed by the Australian Fisheries Management Authority.<br>✓ Mr. Meere meets the qualifications for 'Fishery management and operations 'with 3 years' or more experience as a practicing fishery manager and/or fishery/policy analyst/consultant. As evidenced by extensive management experience and employment with the primary Australian Fisheries Management Authority<br>✓ Both team members have current knowledge of country [USA], language (English) and local fishery context.<br>✓ Understanding of the CoC Standard and CoC Certification Requirements. As evidenced by Team Member Sandy Morison completing the MSC's Traceability training module on January 31, 2019<br>✓ This announcement covers the Principle 1 v2.0 assessment upgrade process for tuna fisheries. Specifically, the assessment meets the requirements of this process identified in Appendix B (Feburary 2019) since: Principle 1, specifically that the team leader shall meet Table PC1; team members meet table PC2; and combined they meet sections 1 (Fish stock assessment), 2 (Fish |

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| | stock biology/ecology) and 5 (Current knowledge of the country, language and local fishery context) of table PC3. |
| **6** | **Audit/review time and location** |
| | Meetings to be held remotely on June 10-11th 2019 with fishery management personnel, and interested stakeholders (if identified). Harmonization activities will be conducted at the same time. The assessment team is available to meet remotely with stakeholders for the normal fisheries surveillance and the harmonization process. |
| **7** | **Assessment and review activities** |
| | The surveillance audit will be conducted in accordance with MSC FCPV2.1 7.28.15 and will include a review of updated documentation on the fishery and interviews with key management and stakeholders, focusing on:<br><br>a) Changes to the fishery and its management; including:<br>(i) Any potential or actual changes in management systems.<br>(ii) Any changes or additions/deletions to regulations.<br>(iii) Any personnel changes in science, management or industry and their impact on the management of the fishery.<br>(iv) Any potential changes to the scientific base of information, including stock assessments.<br>(v) Any changes affecting traceability<br>b) Performance in relation to any relevant conditions of certification;<br>c) Any developments or changes within the fishery which impact traceability and the ability to segregate MSC from non-MSC products; and<br>d) Any other significant changes in the fishery.<br><br>The MSC required harmonization of timelines across all tuna fisheries will also be conducted at the same time as this surveillance audit.<br><br>The harmonization audit will include<br>a) Details of what will be assessed/reviewed during the audit<br><br>During the remote audit for harmonization, the team will:<br>▪ Conduct interviews to make sure that the team is aware of any concerns or information that stakeholders may have.<br>▪ Allow private interviews with the team for stakeholders who request one.<br>▪ Use any information provided in private in conformity with confidentiality requirements, see FCP v2.1 Section 4.3.<br>▪ Contact information has been provided below. Please submit all queries and interest in stakeholder participation to soliver@scsglobalservices.com. The team will arrange individual remote meetings with stakeholders, as appropriate.<br>▪ As identified in the Appendix A list of fisheries, this fishery qualifies for a reduced P1 upgrade and therefore will follow the requirements 5.1.1-5.1.4 as detailed in Annex B, as this fishery has been already assessed against FCR v2.0 Annex SA<br><br>The results of the P1 update will be included in this surveillance report once the report has been completed. |

## 4.2 Background

### 4.2.1 Updates to management system and regulations

The certified fishery involves the harvest of skipjack and yellowfin tuna by purse seines vessels on free schools and anchored FADs (aFADs) and by pole and line vessels solely within the EEZ and archipelagic waters (Main Group Archipelago [MGA]).

The fishery operates solely within the EEZ and archipelagic waters (AW) of the Solomon Islands and as such the primary focus for management arrangements are the regional and sub-regional arrangements established by the Western and Central Pacific Fisheries Commission (WCPFC) and the Parties to the Nauru Agreement (PNA) as implemented by the Solomon Islands Government - Ministry for Fisheries and Marine Resources (MFMR). As a responsible coastal State and a Member of the WCPFC and PNA, the Solomon Islands has an obligation to ensure its domestic management arrangements are fully compatible with those of the WCPFC and PNA.

The WCPFC is the RFMO responsible for tuna management in the Western and Central Pacific Ocean. The WCPFC was established in 2004 by the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. The Solomon Islands is one of 26 member nations of the Commission and supports its obligations via domestic legislation implemented by the Fisheries Management Act 2015 and the Tuna Management and Development Plan 2015.

This overarching management structure remains unchanged from the full assessment. There are some updates and changes that have occurred within each of these management components, which are summarized in this background.

**WCPFC**

New Conservation and Management Measures (ICMMs) implemented in 2019 by the WCPFC are listed in Table 2.

**Table 2. Updates to CMMs Implemented in the WCPFC in 2019. (From WCPFC website)**

| | |
|---|---|
| CMM 2018-01 | Conservation and Management Measure for bigeye, yellowfin and skipjack tuna in the Western and Central Pacific Ocean |
| CMM 2018-02 | Conservation and Management Measure for Pacific Bluefin Tuna |
| CMM 2018-03 | Conservation and Management Measure to mitigate the impact of fishing for highly migratory fish stocks on seabirds |
| CMM 2018-05 | Conservation and Management Measure for the Regional Observer Programme |
| CMM 2018-06 | Conservation and Management Measure for WCPFC Record of Fishing Vessels and Authorisation to Fish |
| CMM 2018-07 | Conservation and Management Measure for Compliance Monitoring Scheme |

The main focus for this review is CMM 2018-01 although CMM 2018-07 also is relevant, the other new CMMs either do not relate to purse seine or pole and line fishing or are not significant in relation to the area of operation of the UoA.

**CMM 2018-01 Conservation and Management Measure for Bigeye, Yellowfin and Skipjack Tuna**

CMM 2018-01 is a revision of CMM 2017-01 following a review of this CMM at WCPFC15. It contains the key measures that apply to the target species bigeye, yellowfin, and skipjack tuna for 2019.

This measure provides further bridging arrangements for these species pending the establishment of harvest strategies. The key arrangements are essentially unchanged.

The agreed target reference point for skipjack tuna is unchanged (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"*

The interim target for yellowfin tuna remains unchanged (paragraphs 14):

> *"Pending agreement on a target reference point the spawning biomass depletion ratio (SB/SBF=0) is to be maintained at or above the average SB/SBF=0 for 2012-2015."*

Other points to note:

- Agreed to retain the existing FAD closures until the end of 2021 – a three-month FAD closure in EEZs and high seas for July-September, plus an additional two months FAD closure in the high seas (April/May or November/December).
- An additional paragraph was added to the measure to help clarify the definition of FADs for compliance monitoring, whereby small plastic objects and rubbish that do not have a tracking buoy will not be considered a FAD.
- WCPFC15 also adopted strengthened text regarding non-entangling FADS which provides specifications on design and construction which will be effective from 1 January 2020.

- The limit of 250 drifting FADs with activated buoys per vessel will also be carried over until 2021.
- CMM 2017-01 called for an agreement on setting and allocation of hard efforts or catch limits for purse seine fishing in the high seas for all CCMs by 2019; the deadline was revised to 2020.

**CMM 2018-07**

CMM 2018-07 provides an update from CMM 2017-07 pertaining to the WCPFC Compliance Monitoring Scheme (CMS).

The stated purpose of the CMM remains unchanged as:

(i) assess CCMs' compliance with their WCPFC obligations;

(ii) identify areas in which technical assistance or capacity building may be needed to assist CCMs to attain compliance;

(iii) identify aspects of CMMs which may require refinement or amendment for effective implementation;

(iv) respond to non-compliance by CCMs through remedial and/or preventative options that include a range of possible responses that take account of the reason for and degree, the severity, consequences, and frequency of non-compliance, as may be necessary and appropriate to promote compliance with CMMs and other Commission obligations; and

(v) monitor and resolve outstanding instances of non-compliance by CCMs with their WCPFC obligations.

An independent review of the WCPFC CMS was completed in March of 2018. The report found positive trends in reporting obligations by CCMs. In addition to the analysis and identification of key issues and challenges, the panel made three recommendations (McKay et. al 2018):

a) Continue to research options for improving the presentation of CMS summaries that describe trends in compliance [Secretariat]

b) Additional consolidated summaries for historical (Flag State Investigation) FSI information be included in FSI reporting [Secretariat]

c) Additional consolidated summaries of historical capacity development information are included in capacity assistance reporting [Secretariat]

This provided input to the substantial discussion at the December 2018 Commission meeting and resulted in further refinement of the CMS.

The following section – Section II was added:

The implementation of the CMS and its associated processes shall be conducted in accordance with the following principles for the purpose of the application of this measure:

(i) Effectiveness: Effectively serve the purpose of this CMM to assess compliance by CCMs and assist the TCC in fulfilling the provisions of Article 14(1)(b) of the Convention;

(ii) Efficiency: Avoid unnecessary administrative burden or costs on CCMs, the Commission or the Secretariat and assist TCC in identifying and recommending removal of duplicative reporting obligations; and

(iii) Fairness: Promote fairness, including by: ensuring that obligations and performance expectations are clearly specified, that assessments are undertaken consistently and based on a factual assessment of available information and that CCMs are given the opportunity to participate in the process.

(iv) Cooperation towards Compliance: Promote a supportive, collaborative, and non- adversarial approach where possible, with the aim of ensuring long-term compliance, including considering capacity assistance needs or other quality improvement and corrective action.

The thrust of the scheme remains the same – to assess compliance by CCMs. The current scheme provides details of the areas to be assessed in the following year. These are spelt out in Attachment V to the Annual Report. TCC is working to set up a risk-based approach for future areas of assessment.

**PNA**

PNA manages fishing in the waters of its Members via an effort-based system using Total Allowable Effort (TAE), implemented through its Vessel Day Scheme (VDS). The VDS is unchanged from the previous audit, so this an update of the days allocated and used. This TAE is distributed among its members as a Party Allowable Effort (PAE). A summary of the total allocated and used fishing days for 2016-2018 (Table 3) shows that, although purse seine fishing effort has been increasing in recent years, it has remained less than the PAE days available and relatively constant. The effort has also remained less than the effort levels in 2010 which have been selected as the upper limit on the TAE.

**Table 3. Purse seine effort in PNA waters and the allocated PAE days for 2016-2018 (*source: PNA VDS-T&SC7/WP.1a, PNA VDS-T&SC7/WP.3, PNA PA24 WP.2a).***

| Metric | 2016 | 2017 | 2018 |
|---|---|---|---|
| PAE days | 45,881 | 45,590 | 45,005 |
| PAE days used | 38,994 | 41,756 | 39,543 |
| % PAE used | 85% | 91% | 88% |

Points to note include:

- TAE for 2019 (and 2020) = 44,033 days in PNA waters + 972 in Tokelau = 45,005 days (agreed at 22nd Annual Meeting in April 2017).
- Solomon Islands PAE in 2018 was 3,553 days and is 3,649 days in 2019). PNA has not yet set PAE allocations for 2020-2022.
- Solomon Islands did not exceed its PAE in 2018 – had a balance of 316 days at the end of 2018.
- Solomon Islands contributed fishing days to US treaty (302.7in 2018), Federated States of Micronesia Arrangement[1] (FSMA) (938 in 2018), sub-regional pool - with RMI, NR, TU, TK (308 in 2018); and also traded days (in/out) with other PNA parties.

## National Management

Fishing in PNA Party waters is governed by PNA management measures and subject to the measures outlined above. Arrangements for the MGA are set by the Solomon Islands Government.

Domestic management arrangements are set consistent with the Fisheries Management Act 2015, the Fisheries Management Regulations 2017, the Tuna Management and Development Plan 2015 and license conditions. There have been no changes to the legislation, the Tuna Management and Development Plan or license conditions since the previous audit. A new Tuna Management and Development Plan is in the process of being developed and is expected to finalized towards the end of 2019.

The Tuna Management and Development Plan sets the management arrangements for fishing in the MGA. It provides 1000 PS days per annum for purse seine fishing. These are large scale PS days, that is vessels 50-70m in length. For vessels <50m this equates to 0.5 of a large scale vessel day.

The Plan also establishes a limit for pole and line vessel days. The P&L VDS established for the MGA provides a 400 PS day limit with a pole and line day equal to 0.25 of a large scale PS day. There is no link between PS fishing days and pole and line days and no transferability between the sectors.

These arrangements were developed with input from SPC and established in the Tuna Management and Development Plan. They have not changed since the last audit. Information supplied by TriMarine using catch and effort data supplied to SPC for NFD's small PS and P&L vessels indicates that fishing effort in recent years is well below the effort limits established in the Plan.

[1] The FSM Arrangement is a mechanism for domestic vessels of PNA Members to access the fishing resources of other parties. Signatories are Federated States of Micronesia, Marshall Islands, Nauru, Palau, Papua New Guinea and Solomon Islands.

In 2017 a large purse seine vessel the "Solomon Sapphire" was added to NFD's fleet of five smaller vessels. In 2018 the "Solomon Topaz" another large purse seine vessel was also added. Both vessels were transferred from Tri Marine's US-flagged fleet.

The P&L fleet comprises 4 vessels, with new vessels added in 2017 the "Solomon Fisher" and in 2018, the "Solomon Hunter". This has not resulted in any change to fleet operations.

The management arrangements provide 300 PS days in SI EEZ for NFD PS vessels which can be transferred to FSMA days (to fish in any PNA EEZ) if required. The two large scale purse seiners, Solomon Sapphire and Solomon Topaz, operate outside of the Solomon Islands EEZ and have an allocation in 2019 of 80 high seas vessel days from MFMR. High seas fishing is not part of the UoC.

As part of the review of management arrangements, additional information on consultation and decision making was examined. This identified a number of deficiencies.

Consultation

The Solomon Islands management system has consultative processes built into the formulation of fisheries management plans and interaction with stakeholders via the Fisheries Advisory Council and the Tuna Industry Association of the Solomon Islands (TIASI). The requirements for fisheries management plans are spelled out in sections 17 and 18 of the Act and in the Second Schedule to the Act which provides guidance on content and processes.

In relation to consultation and the processes to seek and accept relevant information, the Second Schedule requires that:

> *"The Director in the preparation of national, provincial and community fisheries management plans shall ensure consultation with relevant stakeholders in the development of each Plan."*

The Tuna Management and Development Plan 2015 states:

> *"It is recognized that all tuna resource stakeholders have a legitimate interest in the Plan. The formulation of the Plan includes consultation with a wide range of stakeholders, including fishing companies, fishermen, other national government ministries and NGOs. The process should have the effect of making stakeholders more aware of how the management of the nation's fish resources is conducted and so more readily comply with management provisions."*

The Fisheries Advisory Council (FAC) established under the Act and includes a range of stakeholders: coastal and offshore fishing industry, fishing communities, Provincial Governments, NGO with an interest in fisheries, the FFA, and ex officio representatives from the Attorney-General's Chambers, the Ministry for the Environment, the Ministry for Finance, the Ministry for Mines, Minerals and Energy and the Ministry for Police and Maritime Enforcement. The FAC is responsible for monitoring and reviewing all aspects of the Plan.

The Tuna Industry Association of the Solomon Islands (TIASI) as the peak tuna industry body consults with MFMR on a range of industry and fisheries management issues. The Plan states that:

*"Information on fishery performance and management action is available on request, and explanations are provided to the Tuna Industry Association of the Solomon Islands (TIASI) for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring evaluation and review activity."*

The arrangements spelled out in the Fisheries Management Act 2015, the Tuna Management and Development Plan and the opportunity for stakeholder input to regional (PNA and WCPFC) management decisions provide a system which enables relevant local knowledge to be introduced into the management system. However, the FAC has not met since October 2014 with the MFMR advising that it is currently in process of appointing new members. The TIASI has met more regularly with the MFMR however, it is unclear the extent to which bilateral discussions provide input to the management system nor whether it has been provided with information on the fishery performance and management action.

Decision making

At the Solomon Islands level, the Fisheries Management Act 2015 in addition to requiring the implementation of WCPFC CMMs, specifically requires under Section 5 (c) that

*"management measures shall be based on the best scientific evidence available to maintain or restore stocks at levels capable of producing sustainable yield, as qualified by relevant environmental and economic factors including fishing patterns, the interdependence of stocks and relevant international standards;"*

and in 5 (h)

*"complete and accurate data and information concerning fishing activities and fisheries resources shall be collected and, as appropriate, shared in a timely manner;"*

This combined with consultative arrangements with stakeholders, in particular before PNA and WCPFC meetings, provides the basis for effective decision-making processes that respond to serious and other important issues in a timely and adaptive manner while taking account of the wider implications of these decisions.

It is less clear how effective these arrangements are at the domestic level. MFMR staff are required to manage the fishery in accordance with the provisions of the Act, however, the level of broader stakeholder consultation and the timeliness of input to local and regional serious and other important issues is unclear. This is partly due to the fact that a significant consultative mechanism, the FAC has not met since October 2014. There have been bilateral meetings between MFMR and the four companies operating in the UoA (they meet annually to discuss management arrangements and their annual MoUs and license conditions) and also between MFMR and the TIASI. However, there is limited evidence that these meetings deal specifically with relevant research, monitoring, evaluation and consultation in a transparent, timely and adaptive manner.

Accountability

At the Solomon Islands level, the Fisheries Management Act 2015 and the Tuna Management and Development Plan 2015 both provide information on objectives and management parameters for the fishery. The Act sets the broad framework and overarching objectives and management structure. The Plan provides detailed information on the fishery and the goals and strategies to achieve the objectives set for the life of the

Plan. The plan defines these activities and the means to measure performance via objectively verifiable indicators. The Plan also encourages a stable and logical policy environment. The Fisheries Advisory Council (FAC), established under the Act, is responsible for reviewing and monitoring all elements of the Plan. The last meeting of the FAC was in October 2014 prior to the approval of the Plan by the Minister and it has not met since. At that meeting, the FAC endorsed the TMDP and recommended that the Minister approve it. Despite the role envisaged in the Fisheries Management Act 2015 and the TMDP, the FAC has not had an ongoing role in monitoring and reporting on the operations of the Plan.

The Plan states that "Information on fishery performance and management action is available on request, and explanations are provided to the Tuna Industry Association of the Solomon Islands (TIASI) for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring evaluation and review activity". Evidence was not provided to the extent to which this information has either been sought by the TIASI or provided to them, although no doubt specific issues have been raised during bilateral discussions with MFMR. The companies operating in the UoA meet annually with the MFMR to discuss and agree on license conditions. In addition, the TIASI meets with the MFMR as an industry body. Limited information is available on the discussions and outcomes from these meetings. The information available suggests there may be some discussion on the performance of the fishery at these meetings although the extent to which this information is available is unclear.

### 4.2.2 Updates to personnel involved in science, management or industry

The team has been a number of changes to the personnel involved in the science, management, and industry as described below. None are anticipated to create a risk to the fishery being able to comply with requirements for certification.

**Science:**

- SPC - Moses Amos replaced by Neville Smith as Director of the Division of Fisheries, Aquaculture & Marine Ecosystems (FAME)
- SPC - Dr. John Hampton is intending to retire as Manager of SPC's Oceanic Fisheries Program (OFP) in June 2019; SPC is recruiting for a replacement; John will likely continue to provide scientific advice in an advisory/consultant role.

**Management:**

- FFA - Dr. Manu Tupou-Roosen replaced James Movick as FFA Director-General in November 2018
- SI Fisheries Minister – Hon. John Maneniaru is the new Minister; was also the Minister of Fisheries prior to the dissolution of Parliament and national elections in April 2018. He is now also the Deputy Prime Minister.
- Resignation of SI MFMR Under-Secretary in April 2019 – Feral Lasi (position vacant; Corporate Services Management is acting the US); moved to FFA.

**Industry:**

- NFD – Mike Wisneski appointed as General Manager, NFD (overseeing all PS operations, engineering, warehouse and most shore-based operations in Noro)
- NFD – Oliver Zamora appointed as Technical Manager, NFD (reports to Mike Wisnesks; oversees fleet engineering department, warehouse, and purse seine engineers).

- NFD – Russell Dunham transferred from Tri Marine International Singapore to NFD, the Solomon Islands in May; Director – Business Development; oversees NFD's longline and P&L operations + business development.

### 4.2.3 Updates to the scientific base of information, including stock assessments

#### 4.2.3.1 Skipjack tuna

No stock assessment for skipjack tuna has been conducted since 2016 and the WCPFC Scientific Committee has not changed its advice since then. This was that skipjack stock is most probably at or close to the target reference point of 50%SB F=0, and that fishing mortality still remains below the level that would result in the MSY, and is estimated to have decreased moderately in the last several years (WCPFC-SC 2018). The stock is therefore not overfished and is not experiencing overfishing.

In 2018, the Scientific Committee recorded (WCPFC-SC 2018) that the total catch in 2017 was 1,624,162 mt, a 9% decrease from 2016 and comparable to the average from 2012-2016 (Figure 1). The purse seine catch in 2017 (1,280,311 mt) was a 7% decrease from 2016 and a 12% decrease from the 2012-2016 average. Pole and line catch (123,132 mt) was a 21% decrease from 2016 and a 23% decrease from the average 2012-2016 catch. Catch by other gear (218,175 mt) was a 13% decrease from 2016 and a 1% decrease from the average catch in 2012-2016.

Based on these catches and the Scientific Committee's advice there is no change to the scientific basis for the scores for skipjack tuna.

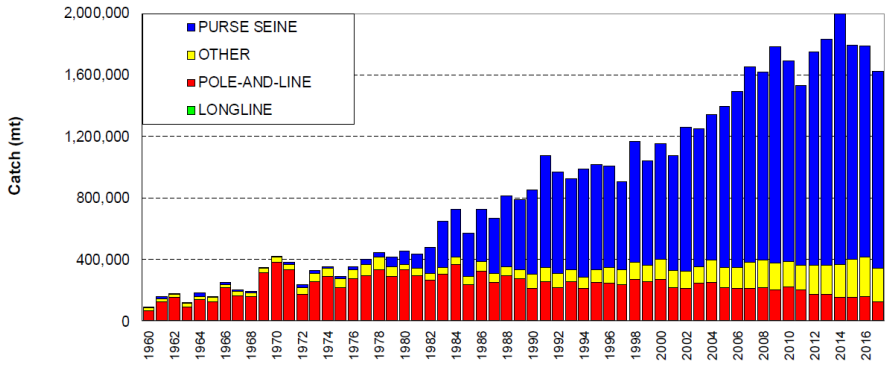


**Figure 1. Skipjack tuna catch from the WCPFC convention area by gear (from Williams and Reid 2018).**

#### 4.2.3.2 Yellowfin tuna

No stock assessment for yellowfin tuna has been conducted since 2017 and the WCPFC Scientific Committee has not changed its advice since then. This was that the spawning biomass is highly likely above the biomass LRP and recent F is highly likely below FMSY, and therefore noting the level of uncertainties in the current assessment it appears that the stock is not experiencing overfishing (96% probability) and it appears that the stock is not in an overfished condition (92% probability) (WCPFC-SC 2018).

The total yellowfin catch in 2017 was a record 670,890 mt, a 4% increase from 2016 and a 12% increase from the average 2012-2016 (Figure 2); purse seine catch in 2017 (472,279 mt) was a 22% increase from 2016 and

a 33% increase from the 2012-2016 average; longline catch in 2017 (83,399 mt) was a 6% decrease from 2016 and a 9% decrease from the 2012-2016 average. Pole and line catch (12,219 mt) was a 48% decrease from 2016 and a 56% decrease from the average 2012-2016 catch. Catch by other gear (102,993 mt) was a 28% decrease from 2016 and 17% decrease from the average catch in 2012-2016 (WCPFC-SC 2018).

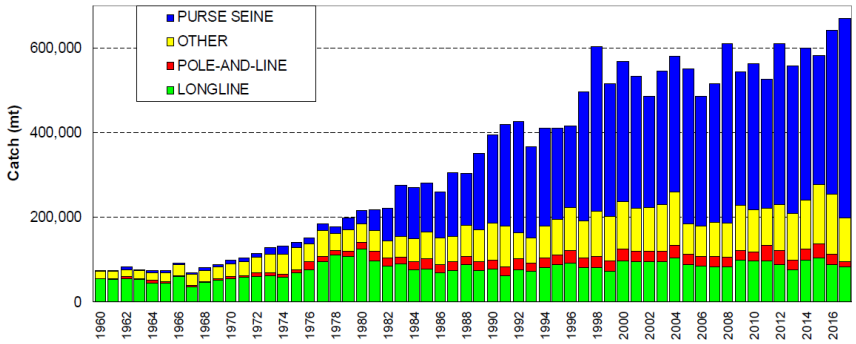


**Figure 2. Yellowfin tuna catch from the WCPFC convention area by gear (from Williams and Reid 2018).**

### 4.2.4 Updates to traceability

No substantive changes have occurred that affect the traceability of the product from the fishery. The fishery monitoring system remains robust and well suited to confirming traceability. The client did advise the team of the installation of two Maersk Starloaders at the Noro Port Authority which facilitates the bulk loading of product directly to containers from the fishing vessel. This reduces unloading time and handling but the same MSC Chain of Custody procedures continue to apply as for transhipments with wells with MSC eligible product unloaded separately from that from non-MSC wells. The size and species separation are conducted at the receiving cannery with TMI representative present and MSC eligibility is based on the final out-turn reports.

Table 4 provides an updated list of the vessels currently in the UoC's fleet and their history of participation. There are 5 small purse seine vessels and 5 pole and line vessels whose catch is covered by the Certificate. There are 2 large purse seine vessels shown which, although part of the NFD fleet, do not fish within the Solomon Islands EEZ and their catch is not covered by the Certificate. These 2 vessels land their catch outside the Solomon Islands (mostly in Majuro) and so do not represent a risk to traceability by potential mixing of certified and non-certified product.

**Table 4. List of NFD vessels by gear type, showing area and years of operations.**

| Vessel Name | Gear Type | Area of Operation | Year | | | | Comments |
|---|---|---|---|---|---|---|---|
| | | | 2016 | 2017 | 2018 | 2019 | |
| Solomon Opal | PS - Small | SI MGA/EEZ | Fishing * | Fishing | Fishing | Fishing | SI MSC trips since first certifed in July 2016 |
| Solomon Pearl | PS - Small | SI MGA/EEZ | Fishing * | Fishing | Fishing | Fishing | SI MSC trips since first certifed in July 2016 |
| Solomon Ruby | PS - Small | SI MGA/EEZ | Fishing * | Fishing | Fishing | Fishing | SI MSC trips since first certifed in July 2016 |
| Solomon Jade | PS - Small | SI MGA/EEZ | Fishing * | Fishing | Fishing | Fishing | SI MSC trips since first certifed in July 2016 |
| Solomon Emerald | PS - Small | SI MGA/EEZ | Fishing * | Fishing | Fishing | Fishing | SI MSC trips since first certifed in July 2016 |
| Solomon Sapphire | PS - Large | PNA EEZs/HS | Purchased/re-fit | Fishing * | Fishing | Fishing | Ex-US flag; No SI MSC trips; fishing outside SI EEZ |
| Solomon Topaz | PS - Large | PNA EEZs/HS | US -flag | Purchased/re-fit | Fishing * | Fishing | Ex-US flag; No SI MSC trips; fishing outside SI EEZ |
| Soltai 101 | P&L | SI MGA | Fishing * | Fishing | Fishing | Fishing | SI MSC trips since first certifed in July 2016 |
| Soltai 105 | P&L | SI MGA | Fishing * | Fishing | Fishing | Fishing | SI MSC trips since first certifed in July 2016 |
| Solomon Venture | P&L | SI MGA | Fishing * | Tied up | Decommissioned | Decommissioned | Removed from MSC fisheries/CoC certs |
| Solomon Fisher | P&L | SI MGA | JP-flag | Purchased/re-fit* | Fishing | Fishing | Ex-JP flag (coastal); commenced MSC trips Mar 2018 |
| Solomon Hunter | P&L | SI MGA | JP-flag | | Purchased/re-fit | Fishing * | Ex-JP flag (coastal); first trial trip June 2019; no MSC yet |

* Denotes year vessel was added to MSC fisheries and CoC certificates

## 4.3 Version details

**Table 5. Fisheries program documents versions**

| Document | Version number |
|---|---|
| MSC Fisheries Certification Process | **Version 2.1** |
| MSC Fisheries Standard | **Version 1.3** |
| MSC General Certification Requirements | **Version 2.3** |
| MSC Surveillance Reporting Template | **Version 2.0** |

# 5 Results

## 5.1 Surveillance results overview

### 5.1.1 Summary of conditions

**Table 6. Summary of conditions**

| Condition number | Condition | Performance Indicator (PI) | Status | PI original score | PI revised score |
|---|---|---|---|---|---|
| 1 | By the fourth year, the fishery client shall demonstrate that harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points. | 1.2.1 Skipjack | On target | 70 | Not revised |
| 2 | By the fourth year, the fishery client shall demonstrate that well defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached; that the selection of the harvest control rules takes into account the main uncertainties; and that available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules. | 1.2.2 Skipjack | On target | 60 | Not revised |
| 3 | By the fourth year, the fishery client shall demonstrate that harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points. | 1.2.1 Yellowfin | On target | 70 | Not revised |
| 4 | By the fourth year, the fishery client shall demonstrate that well defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached; that the selection of the harvest control rules takes into account the main uncertainties; and that available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules. | 1.2.2 Yellowfin | On target | 60 | Not revised |
| 5 | By the third surveillance, the fishery client shall demonstrate that documented explanations provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity are made available on request to interested stakeholders. | 3.2.2 Decision making | Closed at 1st surveillance | 75 | 80 |

| | | | | | |
|---|---|---|---|---|---|
| 6 | By the second surveillance audit of the reassessment, provide evidence that the management system includes consultation processes that regularly seek and accept relevant information from a range of sources, including local knowledge. Additionally, the national management system demonstrates consideration of the information obtained. | PI 3.1.2 Management system | New Conditon | 95 | 75 |
| 7 | SI b) By the second surveillance audit of the reassessment, provide evidence that 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.<br><br>SI d) By the second surveillance audit of the reassessment, provide evidence that 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. | PI 3.2.2 Decision making | New Conditon | ~~75~~ 80* | 75 |

*A condition was placed on 3.2.2d in the PCR. This condition was closed in the first year surveillance but was reopened in the third year surveillance audit**.**

### 5.1.2 Principle 1 species: Catch Data

The following catch data were supplied by NFD based on logbook data from SPC.

**Table 7. Catch data – Skipjack tuna**

| | | | | |
|---|---|---|---|---|
| **UoA Catch Skipjack** | Year | **2018** | Amount | 21,495 t |
| **UoC Catch Skipjack – aFAD Purse Seine** | Year | **2018** | Amount | 17,210 t |
| **UoC Catch Skipjack – Unassociated Purse Seine** | Year | **2018** | Amount | 3,600 t |
| **UoC Catch Skipjack – Pole & Line** | Year | **2018** | Amount | 685 t |
| **Total green weight Skipjack catch by UoC** | Year (most recent) | **2018** | Amount | 21,495 t |
| | Year (second most recent) | **2017** | Amount | 17,901 t |

**Table 8. Catch data – Yellowfin tuna**

| | | | | |
|---|---|---|---|---|
| **UoA Catch Yellowfin** | Year | **2018** | Amount | 15,574 t |
| **UoC Catch Yellowfin – aFAD Purse Seine** | Year | **2018** | Amount | 13,215 t |

| | | | | |
|---|---|---|---|---|
| **UoC Catch Yellowfin – Unassociated Purse Seine** | Year | **2018** | Amount | 3,261 t |
| **UoC Catch Yellowfin – Pole & Line** | Year | **2018** | Amount | 98 t |
| **Total green weight Yellowfin catch by UoC** | Year (most recent) | **2018** | Amount | 16,574 t |
| | Year (second most recent) | **2017** | Amount | 15,359 t |

### 5.1.3 Principle 2 species

#### 5.1.3.1 Purse seine fishery

No species from the UoA were classified as main retained or bycatch species for either anchored FADs or unassociated sets in the original assessment and in subsequent surveillance audits.

The catch composition from purse seine fishing on anchored FADs (

Table 9) and on unassociated sets (Table 10) from observer records in 2018 show that the target species still comprised 99% of the total catch and that no non-target species reach the thresholds for being considered main primary or secondary species. The observed catch of skipjack plus yellowfin tuna compared to the total of these species reported in logbooks, was 34% for fishing on anchored FADs and 18% for fishing on unassociated sets, which are similar to the percentages reported previously. The 100% observer coverage requirement for Solomon Islands EEZ does not apply to the MGA, however, observers may be voluntarily placed.

Data on the number of interactions with ETP species recorded by observers are reported here for both 2017 and 2018 (Table 11) because the 2017 data were not available for the Year 2 surveillance audit. A small number of turtles and marine mammals were recorded by observers as having been caught by fishing on purse seine sets on anchored FADs in 2017 and 2018 (Table 11). There were 3 such interactions recorded by observers for fishing on unassociated sets in 2018 but none in 2017.

These data indicate that there have been no changes to the purse seine fishery that would warrant revisiting scores for any P2 species.

**Table 9. Catch composition by weight for purse catch from fishing on AFADs in 2018 from observer records (data from SPC).**

| SPECIES | Retained (t) | Discarded (t) | Total (t) | % of Total | % Discards |
|---|---|---|---|---|---|
| **TUNAS** | | | | | |
| SKIPJACK | 5,391 | 105 | 5,496 | 51% | 2% |
| YELLOWFIN | 5,028 | 94 | 5,122 | 48% | 2% |
| BIGEYE | 17 | 1 | 18 | 0.2% | 6% |
| KAWAKAWA | | 12 | 12 | 0.1% | 100% |
| BULLET AND FRIGATE TUNA | 0.04 | 0.52 | 1 | <0.1% | 93% |
| **BILLFISH** | | | | | |
| BLUE MARLIN | 1.72 | 0.35 | 2 | <0.1% | 17% |
| BLACK MARLIN | 0.53 | 0.37 | 1 | <0.1% | 41% |
| SWORDFISH | 0.80 | 0.00 | 1 | <0.1% | 0% |
| STRIPED MARLIN | 0.26 | 0.00 | <1 | <0.1% | 0% |
| SAILFISH (INDO-PACIFIC) | 0.05 | 0.03 | <1 | <0.1% | 38% |
| SHORT-BILLED SPEARFISH | 0.04 | 0.02 | <1 | <0.1% | 33% |
| **OTHER FISH** | | | | | |
| RAINBOW RUNNER | 53.14 | 2.66 | 56 | 0.5% | 5% |
| MAHI MAHI | 3.44 | 0.61 | 4 | <0.1% | 15% |
| OCEAN TRIGGERFISH | 1.83 | 0.43 | 2 | <0.1% | 19% |
| MACKEREL SCAD | 2.19 | 0.90 | 3 | <0.1% | 29% |
| BARRACUDAS | 1.15 | 0.06 | 1 | <0.1% | 5% |
| WAHOO | 0.21 | | <1 | <0.1% | 0% |
| TRIPLE-TAIL | 0.01 | | <1 | <0.1% | 0% |
| BRILLIANT POMFRET | 0.02 | | <1 | <0.1% | 0% |
| LONGFIN BATFISH | 0.01 | | <1 | <0.1% | 0% |
| CRESTFISH/UNICORNFISH | <0.01 | | <1 | <0.1% | 0% |
| OCEAN SUNFISH | | 0.08 | <1 | <0.1% | 100% |
| LATCHETFISHES | | 0.10 | <1 | <0.1% | 100% |
| **MOLLUSCS** | | | | | |
| SQUIDS (OMMASTREPHIDAE) | <0.01 | | <1 | <0.1% | 0% |
| **SHARKS & RAYS** | | | | | |
| PELAGIC THRESHER | | 0.04 | <1 | <0.1% | 100% |
| SILKY SHARK | | 26.94 | 27 | 0.3% | 100% |
| OCEANIC WHITETIP SHARK | | 0.07 | <1 | <0.1% | 100% |
| SCALLOPED HAMMERHEAD | | 0.10 | <1 | <0.1% | 100% |
| GIANT MANTA | | 1.88 | 2 | <0.1% | 100% |
| MOBULA (A.K.A. DEVIL RAY) | <0.01 | 0.66 | 1 | <0.1% | 100% |
| **GRAND TOTAL** | **10,502** | **247** | **10,749** | **100%** | **2%** |

**Table 10. Catch composition by weight for purse catch from fishing on Unassociated sets in 2018 from observer records (data from SPC).**

| SPECIES | Retained (t) | Discarded (t) | Total (t) | % of Total | % Discarded |
|---|---|---|---|---|---|
| **TUNAS** | | | | | |
| SKIPJACK | 463 | 14 | 477 | 37% | 3% |
| YELLOWFIN | 774 | 11 | 785 | 60% | 1% |
| KAWAKAWA | | 25 | 25 | 2% | 100% |
| BULLET AND FRIGATE TUNA | 0.00 | 0.02 | 0 | 0% | 87% |
| **BILLFISH** | | | | | |
| BLUE MARLIN | 0.28 | | 0 | 0% | 0% |
| SAILFISH (INDO-PACIFIC) | 0.15 | 0.04 | 0 | 0% | 21% |
| SHORT-BILLED SPEARFISH | 0.02 | | 0 | 0% | 0% |
| **OTHER FISH** | | | | | |
| BARRACUDAS | 0.01 | | 0 | 0% | 0% |
| **SHARKS & RAYS** | | | | | |
| SILKY SHARK | 0.00 | 10 | 10 | 1% | 100% |
| BRONZE WHALER SHARK | 0.00 | 2.61 | 3 | 0% | 100% |
| GIANT MANTA | 0.00 | 0.66 | 1 | 0% | 100% |
| SILVERTIP SHARK | | 0.20 | 0 | 0% | 100% |
| MOBULA (A.K.A. DEVIL RAY) | 0.00 | 0.05 | 0 | 0% | 100% |
| **Grand Total** | **1,237** | **64** | 1,301 | 100% | 5% |

**Table 11. Numbers of ETP species reported by observers as having been caught and discarded from purse seine fishing by set type in 2017 and 2018 (data from SPC).**

| SPECIES | AFADs | | Unassoc. |
|---|---|---|---|
| | 2017 | 2018 | 2017 |
| **TURTLES** | | | |
| OLIVE RIDLEY TURTLE | 3 | | |
| GREEN TURTLE | 1 | 1 | |
| LOGGERHEAD TURTLE | | 1 | |
| LEATHERBACK TURTLE | | 1 | |
| **MAMMALS** | | | |
| DOLPHIN - ROUGH-TOOTHED | | 18 | |
| SPINNER DOLPHIN | 17 | | |
| FALSE KILLER WHALE | 13 | | |
| BOTTLENOSE DOLPHIN | 4 | | 2 |
| SHORT-FINNED PILOT WHALE | | 6 | |
| BRYDE'S WHALE | | | 1 |
| **GRAND TOTAL** | **38** | **27** | **3** |

### 5.1.3.2 Pole and Line fishery

The effort in the fishery has increased in recent years compared to 2012-2016 but the catch per day has been declining for skipjack and variable for yellowfin (Table 12). Most of the catch of both species continue to come from fishing within Archipelagic waters.

The original assessment report (Trumble and Stocker 2016) noted that pole and line fishing was recognized as very selective, as fishermen target schools of target species (i.e. skipjack and yellowfin) and that only very small quantities of other species are caught. They also cited Lewis (2014) as reporting minimal catch and landing of non-target species from the pole and line fishery which was usually used for crew consumption and/or sale by NFD through the cooperative.

There are no observers on pole and line vessels so there is still no direct confirmation of the catch composition.

**Table 12. Effort and catch in Archipelagic waters (AW) and in total for the pole and line fishery for 2017 and 2018, compared to averages for the 2012-2016 (data from SPC).**

| Years | Effort (days per year) | Skipjack | | | Yellowfin | | |
|---|---|---|---|---|---|---|---|
| | | AW catch (t) | Total catch (t) | t/day | AW catch (t) | Total catch (t) | t/day |
| 2012-2016 Av. | 176 | 450 | 545 | 3.10 | 65 | 77 | 0.44 |
| 2017 | 234 | 432 | 440 | 1.88 | 152 | 155 | 0.66 |
| 2018 | 282 | 274 | 325 | 1.15 | 51 | 64 | 0.23 |

#### 5.1.3.2.1 Bait

The quantities of bait reported as having been collected in 2017 and 2018 (Table 13) is within the 67-200 t range reported collected each year between 2011 and 2014 (Trumble and Stocker 2016). The number of bait grounds being used is also similar. No new information was available on the species composition of this bait and we have assumed that it continues to be a mix of the 23 species reported by Trumble and Stocker (2016).

The quantities of bait caught in 2017 and 2018 represented a higher proportion of the total catch than reported by Trumble and Stocker (2016) for 2011-14 when it was 8-13% of the total catch. Nevertheless, given the wide variety of species involved and the diversity of bait grounds, we have also concluded that it seems unlikely that any species would make up more than 5% of the total catch. Therefore no change

**Table 13. Quantities of bait collected for use in the Pole and Line fishery (in buckets and tonnes), the number of bait grounds fished and the average quantity per ground (+/- SE).**

| Year | Buckets | Tonnes | Number of grounds | P & L Catch (inc bait) (t) | Bait as % of total |
|---|---|---|---|---|---|
| 2017 | 62,745 | 138 | 10 | 722 | 19% |
| 2018 | 82,341 | 181 | 18 | 888 | 20% |

Considering both the catch composition and the information on bait, we have seen no information that would suggest that there have been any changes to the pole and line fishery that would warrant revisiting scores for any P2 species.

## 5.2 Conditions

**Table 14. Condition 1 - Skipjack**

| | | |
|---|---|---|
| **Performance Indicator** | **PI 1.2.1a The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.** | |
| **Score** | 70 | |
| **Justification** | At this point, harvest control rules have not been put in place. However, there are measures in place that are intended to control fishing mortality. These measures include effort and capacity limits. The main measure is the PNA Vessel Day Scheme which determines Total Allowable Effort (TAE) and Party Allocations of Effort (PAE). There is no link between the stock condition and the TAE allocation. There is no clear linkage between potential catch and allocated effort. We can therefore not conclude that the harvest strategy is responsive to the state of the skipjack stock. The SG 80 requirements are not met. | |
| **Condition** | By the fourth year, the fishery client shall demonstrate that harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points. | |
| **Milestone Year 1** | **1. Surveillance (2017):** At the end of the first year, the client shall provide a plan that will achieve the condition by the end of the fourth year.<br>**Expected score: 70** | |
| **Client Action Plan** | **Activities:** | **Year 1:**<br>Tri Marine/NFD will actively support the implementation of the WCPFC Harvest Strategy Workplan, which establishes a process and timeframes to adopt a harvest strategy for WCPO skipjack tuna (in line with WCPFC CMM 2014-06).<br>Tri Marine/NFD will advocate for a harvest strategy that includes management action responses to changes in skipjack stock status and harvest control rules aimed at maintaining the WCPO skipjack stock at or near target reference points (in line with WCPFC CMM 2014-06).<br>Tri Marine/NFD will actively support work towards the development and adoption of a harvest strategy for WCPO skipjack that includes management action responses to changes in skipjack stock status and harvest control rules aimed at maintaining the WCPO skipjack stock at or near target references points. |
| | **Expected outcome:** | At the end of the first year, the client shall provide a plan that will achieve the condition by the end of the fourth year. |
| | | Responsible Party/ies: Tri Marine/NFD |
| **Milestone Year 2 & 3** | **2. Surveillance (2018 & 2019):** At the end of the second and third years, the client shall provide evidence that achieving the condition will occur by the end of the fourth year.<br>**Expected score: 70** | |
| **Client Action Plan** | **Activities:** | Tri Marine/NFD will actively support work towards the development and adoption of a harvest strategy for WCPO skipjack that includes management action responses to changes in skipjack stock status and harvest control rules aimed at maintaining the WCPO skipjack stock at or near target references points. |
| | **Expected outcome:** | At the end of the second and third years, the client shall provide evidence that achieving the condition will occur by the end of the fourth year. |

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| | | Responsible Party/ies: Tri Marine/NFD |
| **Milestone Year 4** | **4. Surveillance (2020):** At the end of the fourth year, the client shall provide evidence that the harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.<br>**Expected score: 80** | |
| **Client Action Plan** | **Activities:** | A harvest strategy for WCPO skipjack will be adopted that includes management action responses to changes in skipjack stock status and harvest control rules aimed at maintaining the WCPO skipjack stock at or near target reference points.<br><br>Tri Marine/NFD's support and advocacy will largely be through active participation in WCPFC meetings as part of the Solomon Islands, US and American Samoa delegations. Such participation will include communicating specific desired policies to support meeting this condition.<br><br>MFMR will also advocate and support these conditions being met through active participation in PNA, FFA and WCPFC initiatives/proposals regarding the |
| | **Expected outcome:** | At the end of the fourth year, the client shall provide evidence that well-defined harvest control rules are in effect that consider main uncertainties and use appropriate and effective tools. |
| | | Responsible Party/ies: Tri Marine/NFD, PNA, FFA, and WCPFC |
| **Consultation on condition** | Letters to tuna RFMOs regarding sustainability of tuna stocks (WCPFC14-2017-OP02). Submission by ISSF. Consists of a Joint Letter to and letters of support to the plenary, addressed to the Heads of Delegation to RFMOs, and signed by companies, NGOs and fishing industry associations. The position statement is for the development of precautionary harvest strategies, adoption a 100% observer coverage for purse seines, increase in the mandatory 5% longline observer coverage, adoption of standards for electronic reporting and monitoring, adopt measures for the use of non-entangling FADs, develop science-based recommendations for the management of FADs.<br>• Position statement to WCPFC14 (ISSF Position Statement – 2017). Submission by International Seafood Sustainability Foundation (WCPFC14-2017-OP01). ISSF requested actions by the WCPF in 2017: 1) to ensure that effective management measures are implemented to maintain bigeye, yellowfin and skipjack fishing mortality at sustainable levels; 2) to collect more data regarding the number of FADs, to be used in the development of FAD management measures; 3) implement a comprehensive harvest strategy to ensure stocks at maintained at optimal level; 4) adopt recommendations on sharks to prohibit shark lines and develop workplan for safe release guidelines for rays, adopt a CMM to require that sharks be landed with fins naturally attached, an develop guidelines for the safe release of silky and oceanic whitetip sharks; 5) improve monitoring, control, and surveillance through enhanced observer coverage and electronic monitoring. ISSF also presented requests to improve transshipment reporting, transparency in catch or effort limits, and capacity management. A final request focused on strengthening compliance processes.<br>• E-mails: Tri Marine to Solomon Island WCPFC Delegation, and to US American Samoa WCPFC Delegation. Attached Briefing Paper: "Tri Marine Position on Harvest Strategies – WCPFC13" | |
| **Progress on Condition (Year 1)** | Tri Marine has been engaged in and supportive of the process for the development of a harvest strategy for skipjack through several actions:<br>• Support for the WCPFC Harvest Strategy Workplan CMM which establishes a process and timeframes to cover the WCPFC activities from 2015-2018.<br>• Communicated a "Tri Marine Position on Harvest Strategies – WCPFC13" to Solomon Islands delegation to WCPFC13 (see Appendix 1.1).<br>• Communicated a "Tri Marine Position on Harvest Strategies – WCPFC13" to American Samoan delegation to WCPFC13 (see Appendix 1.1).<br>• WCPO Tuna MSC Alignment Group including ISSF (Tri Marine is a member of ISSF) communicated actions that WCPF may consider in 2017 to adopt and implement robust | |

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| | harvest strategies for Tropical tunas (see Appendix 1.1, including Letter to tuna RFMOs, March 2017).<br>The assessment team concludes that Tri Marine/NFD have followed the client action plan for year 1 by actively supporting the implementation of the WCPFC Harvest Strategy Workplan; and actively advocating and supporting for a harvest strategy that that includes management action responses to changes in skipjack stock (HCRs). |
| **Progress on Condition (Year 2)** | Tri Marine has been engaged in and supportive of the process for the development of a harvest strategy for skipjack through several actions:<br>• Support for the WCPFC Harvest Strategy Workplan CMM which establishes a process and timeframes to cover the WCPFC activities from 2015-2021.<br>• Communicated a "Tri Marine Position on Harvest Strategies – WCPFC13" to Solomon Islands delegation to WCPFC13 (see Appendix 1.1).<br>• Communicated a "Tri Marine Position on Harvest Strategies – WCPFC13" to American Samoan delegation to WCPFC13 (see Appendix 1.1).<br>• WCPO Tuna MSC Alignment Group including ISSF (Tri Marine is a member of ISSF) communicated actions that WCPF may consider in 2017 to adopt and implement robust harvest strategies for Tropical tunas (see Appendix 1.1, including Letter to tuna RFMOs, March 2017) (WCPFC, 2017e).<br>• ISSF submitted a position statement to WCPFC14 (WCPFC, 2017f) urging the Commission to adhere to the updated 2015 harvest strategy work plan and take the decisions necessary this year (e.g., a target reference point for yellowfin tuna and South Pacific albacore, and development of harvest control rules for skipjack, bigeye, South Pacific albacore and yellowfin tuna) to allow MSE and other work to proceed as scheduled in 2018.<br>The assessment team concludes that Tri Marine/NFD have followed the client action plan for year 2 by actively supporting the implementation of the WCPFC Harvest Strategy Workplan; and actively advocating and supporting for a harvest strategy that that includes management action responses to changes in skipjack stock (HCRs). |
| **Progress on Condition (Year 3)** | The engagement of Tri Marine staff in WCPFC processes has continued, with representatives at the Scientific Committee (SC 14, Matt Owens), the Technical and Compliance Committee (TCC13 Amanda Hamilton and Angelina Tan) and at the Commission meetings (with representatives on the Solomon Islands and US delegations at WCPFC14).<br><br>Tri Marine was a signatory to letters to WCPFC from the International Sustainability Seafood Foundation (ISSF) to all tuna RFMOs on behalf of a wide range of companies, non-governmental organizations and fishing industry associations.<br><br>One letter advocated for a range of measures including the development of "precautionary harvest strategies, including specific timelines to adopt target reference points, harvest control rules and the other elements of a harvest strategy approach that ensures sustainable fisheries for all tuna stocks" (ISSF 2017a).<br><br>A second letter advocated for "leadership on four critical areas that are fundamental to sustainable tuna management and that necessitate immediate action:<br>• Progressing the development and adoption of Harvest Strategies;<br>• Adopting a precautionary conservation and management measure for tropical tuna species (the bridging measure);<br>• Adopting provisions for the use of non-entangling Fish Aggregating Device (FAD) designs, and other precautionary FAD management measures; and<br>• Increasing observer coverage in longline fisheries including through the use of human and electronic monitoring." (ISSF 2017b)<br><br>Tri Marine, as a member of IPNLF, also submitted a position statement submitted by the organization in December 2018 that among other areas of focus called for the continued progress of harvest strategies for all major tuna stocks.[2] Finally, Tri Marine provided a copy |

[2] http://ipnlf.org/perch/resources/ipnlf2018-wcpfc-position-statementfinal.pdf

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| | of a position paper provided to the WCPFC13, titled: “Tri Marine Position on Harvest Strategies – WCPFC13” (Appendix 6.3).<br><br>The Commission adopted additional updates to its Harvest Strategy Workplan in 2018 but the 2017 Workplan is the version against which future progress will be assessed. The harvest strategies and control rules for skipjack are still scheduled for completion within the condition timeline/certificate cycle and this aspect of the condition remains on-target.<br><br>Both in consideration of harmonized fishery assessment outcomes and Tri Marine’s efforts relative to its client action plan, the assessment team concludes the condition is on target. Tri Marine has followed the client action plan for year 3 by actively supporting the implementation of the WCPFC Harvest Strategy Workplan and has actively advocated for a harvest strategy that that includes management action responses to changes in skipjack stock (HCRs). |
| **Status** | **Open. On target. The score remains at 70.** |
| **Additional information** | The assigned score reflects the agreed harmonized score for this PI across other skipjack fisheries in the WCPO. |

**Table 15. Condition 2 - Skipjack**

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| **Performance Indicator** | **PI 1.2.2a: Well-defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.**<br>**PI 1.2.2b: The selection of the harvest control rules takes into account the main uncertainties.**<br>**PI 1.2.2c: Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules.** | |
| **Score** | 60 | |
| **Justification** | Harvest control rules are still under development (CMM 2014-06). There are no well-defined harvest control rules in place and they do not take into account main uncertainties, so tools are not appropriate and effective. The requirements **for SG 80 and SG 100 are not met.** | |
| **Condition** | By the fourth year, the fishery client shall demonstrate that well defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached; that the selection of the harvest control rules takes into account the main uncertainties; and that available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules. | |
| **Milestone Year 1** | **1. Surveillance (2017):** At the end of the first year, the client shall provide a plan that will achieve the condition by end of the fourth year.<br><br>**Expected score: 60** | |
| **Client Action Plan** | **Activities:** | Tri Marine/NFD will actively support the implementation of the WCPFC Harvest Strategy Workplan which establishes a process and timeframes to adopt a harvest strategy for WCPO skipjack tuna (in line with WCPFC CMM 2014-06).<br><br>Tri Marine/NFD will advocate for a harvest strategy that includes well defined harvest control rules taking into account the main uncertainties for skipjack tuna that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.<br><br>Tri Marine/NFD will actively support work towards the development and adoption of a harvest strategy for WCPO skipjack that includes management action responses to changes in skipjack stock status and harvest control rules aimed at maintaining the WCPO skipjack stock at or near target reference points.<br><br>Tri Marine/NFD will advocate that PNA establish more explicit linkages between total allowable effort (TAE) of the VDS and the harvest strategy (effort limited to that which maintains the stock at target reference point), including reductions in PAE as the limit reference point is neared. |
| | **Expected outcome:** | At the end of the first year, the client shall provide a plan that will achieve the condition by end of the fourth year. |
| | | Responsible Party/ies: Tri Marine/NFD, PNA |
| **Milestone Year 2** | **2. Surveillance (2018-2019):** At the end of the second and third years, the client shall provide evidence that achieving the condition will occur by the end of the fourth year.<br><br>**Expected score: 60** | |
| **Client Action Plan** | **Activities:** | Tri Marine/NFD will actively support work towards the development and adoption of a harvest strategy for WCPO skipjack that includes management action responses to changes in skipjack stock status and harvest control rules |

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| | | aimed at maintaining the WCPO skipjack stock at or near target reference points.<br><br>Tri Marine/NFD will advocate that PNA establish more explicit linkages between total allowable effort (TAE) of the VDS and the harvest strategy (effort limited to that which maintains the stock at target reference point), including reductions in PAE as the limit reference point is neared. |
| | **Expected outcome:** | At the end of the second and third years, the client shall provide evidence that achieving the condition will occur by the end of the fourth year. |
| | | Responsible Party/ies: Tri Marine/NFD, PNA |
| **Milestone Year 3** | **3. Surveillance (2019):** At the end of the second and third years, the client shall provide evidence that achieving the condition will occur by the end of the fourth year.<br><br>**Expected score: 60** | |
| **Client Action Plan** | **Activities:** | Tri Marine/NFD will actively support work towards the development and adoption of a harvest strategy for WCPO skipjack that includes management action responses to changes in skipjack stock status and harvest control rules aimed at maintaining the WCPO skipjack stock at or near target reference points.<br><br>Tri Marine/NFD will advocate that PNA establish more explicit linkages between total allowable effort (TAE) of the VDS and the harvest strategy (effort limited to that which maintains the stock at target reference point), including reductions in PAE as the limit reference point is neared. |
| | **Expected outcome:** | At the end of the second and third years, the client shall provide evidence that achieving the condition will occur by the end of the fourth year. |
| | | Responsible Party/ies: Tri Marine/NFD, PNA |
| **Milestone Year 4** | **4. Surveillance (2020):** At the end of the fourth year, the client shall provide evidence that well-defined harvest control rules are in effect that considers main uncertainties and uses appropriate and effective tools.<br><br>**Expected score: 80** | |
| **Client Action Plan** | **Activities:** | Tri Marine/NFD will demonstrate that the WCPFC has well defined and effective harvest control rules taking into account the main uncertainties are in place for skipjack that is consistent with the harvest strategy and ensures that the exploitation rate is reduced as limit reference points are approached.<br><br>Tri Marine/NFD's support and advocacy will largely be through active participation in WCPFC meetings as part of the Solomon Islands, US, and American Samoa delegations. Such participation will include communicating specific desired policies to support meeting this condition.<br><br>MFMR will also advocate and support these conditions being met through active participation in PNA, FFA and WCPFC initiatives/proposals regarding the establishment of harvest control rules. |
| | **Expected outcome:** | At the end of the fourth year, the client shall provide evidence that well-defined harvest control rules are in effect that considers main uncertainties and use appropriate and effective tools. |
| | | Responsible Party/ies: Tri Marine/NFD and WCPFC |
| **Consultation on condition** | Letters to tuna RFMOs regarding sustainability of tuna stocks (WCPFC14-2017-OP02). Submission by ISSF. Consists of a Joint Letter to and letters of support to the plenary, addressed to the Heads of Delegation to RFMOs, and signed by companies, NGOs and fishing industry associations. The position statement is for the development of precautionary harvest strategies, adoption a 100% observer coverage for purse seines, increase in the mandatory 5% longline observer coverage, adoption of standards for electronic reporting | |

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| | and monitoring, adopt measures for the use of non-entangling FADs, develop science-based recommendations for the management of FADs.<br>• Position statement to WCPFC14 (ISSF Position Statement – 2017). Submission by International Seafood Sustainability Foundation (WCPFC14-2017-OP01). ISSF requested actions by the WCPF in 2017: 1) to ensure that effective management measures are implemented to maintain bigeye, yellowfin and skipjack fishing mortality at sustainable levels; 2) to collect more data regarding the number of FADs, to be used in the development of FAD management measures; 3) implement a comprehensive harvest strategy to ensure stocks at maintained at optimal level; 4) adopt recommendations on sharks to prohibit shark lines and develop workplan for safe release guidelines for rays, adopt a CMM to require that sharks be landed with fins naturally attached, an develop guidelines for the safe release of silky and oceanic whitetip sharks; 5) improve monitoring, control, and surveillance through enhanced observer coverage and electronic monitoring. ISSF also presented requests to improve transshipment reporting, transparency in catch or effort limits, and capacity management. A final request focused on strengthening compliance processes.<br>• E-mails: Tri Marine to Solomon Island WCPFC Delegation, and to US American Samoa WCPFC Delegation. Attached Briefing Paper: "Tri Marine Position on Harvest Strategies – WCPFC13" |
| **Progress on Condition (Year 1)** | Tri Marine has been engaged in and supportive of the process for the development of a harvest strategy including HCRs for skipjack through several actions:<br>• Support for the WCPFC Harvest Strategy Workplan CMM which establishes a process and timeframes to cover the WCPFC activities from 2015-2018.<br>• Communicated a "Tri Marine Position on Harvest Strategies – WCPFC13" to Solomon Islands delegation to WCPFC13 (see Appendix 1.1).<br>• Communicated a "Tri Marine Position on Harvest Strategies – WCPFC13" to American Samoan delegation to WCPFC13 (see Appendix 1.1).<br>• WCPO Tuna MSC Alignment Group including ISSF (Tri Marine is a member of ISSF) communicated actions that WCPF may consider in 2017 to adopt and implement robust harvest strategies for Tropical tunas (see Appendix 1.1, including Letter to tuna RFMOs, March 2017).<br>The assessment team concludes that Tri Marine/NFD have followed the client action plan for year 1 by actively supporting the implementation of the WCPFC Harvest Strategy Workplan; and actively advocating and supporting for a harvest strategy that that includes management action responses to changes in skipjack stock (HCRs). |
| **Progress on Condition (Year 2)** | Tri Marine has been engaged in and supportive of the process for the development of a harvest strategy including HCRs for skipjack through several actions:<br>• Support for the WCPFC Harvest Strategy Workplan CMM which establishes a process and timeframes to cover the WCPFC activities from 2015-2021.<br>• Communicated a "Tri Marine Position on Harvest Strategies – WCPFC13" to Solomon Islands delegation to WCPFC13 (see Appendix 1.1).<br>• Communicated a "Tri Marine Position on Harvest Strategies – WCPFC13" to American Samoan delegation to WCPFC13 (see Appendix 1.1).<br>• WCPO Tuna MSC Alignment Group including ISSF (Tri Marine is a member of ISSF) communicated actions that WCPF may consider in 2017 to adopt and implement robust harvest strategies for Tropical tunas (see Appendix 1.1, including Letter to tuna RFMOs, March 2017) (WCPFC, 2017e).<br>• ISSF submitted a position statement to WCPFC14 (WCPFC, 2017f) urging the Commission to adhere to the updated 2015 harvest strategy work plan and take the decisions necessary this year (e.g., a target reference point for yellowfin tuna and South Pacific albacore, and development of harvest control rules for skipjack, bigeye, South Pacific albacore and yellowfin tuna) to allow MSE and other work to proceed as scheduled in 2018.<br>The assessment team concludes that Tri Marine/NFD have followed the client action plan for year 2 by actively supporting the implementation of the WCPFC Harvest Strategy Workplan; and actively advocating and supporting for a harvest strategy that that includes management action responses to changes in skipjack stock (HCRs). |

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| **Progress on Condition (Year 3)** | As described under Condition 1, the engagement of Tri Marine staff in WCPFC processes has continued, with representatives at the Scientific Committee (SC 14, Matt Owens), the Technical and Compliance Committee (TCC13 Amanda Hamilton and Angelina Tan) and at the Commission meetings (with representatives on the Solomon Islands and US delegations at WCPFC14).<br><br>Additional advocacy steps are also described under Condition 1. Efforts have remained focused at the WCPFC level, in alignment with other harmonized fisheries subject to the same conditions.<br><br>Both in consideration of harmonized fishery assessment outcomes and Tri Marine's efforts relative to its client action plan, the assessment team concludes the condition is on target. Tri Marine has followed the client action plan for year 3 by actively supporting the implementation of the WCPFC Harvest Strategy Workplan and has actively advocated for a harvest strategy that that includes management action responses to changes in skipjack stock (HCRs). |
| **Status** | **Open. On target. Score remains at 60.** |
| **Additional information** | The assigned score reflects the agreed harmonized score for this PI across other skipjack fisheries in the WCPO. |

**Table 16. Condition 3 - Yellowfin**

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| **Performance Indicator** | **PI 1.2.1a: The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.** | |
| **Score** | 70 | |
| **Justification** | At this point, harvest control rules have not been put in place. However, there are measures in place that are intended to control fishing mortality. These measures include effort and capacity limits. The main measure is the PNA Vessel Day Scheme which determines Total Allowable Effort (TAE) and Party Allocations of Effort (PAE). There is no link between the stock condition and the TAE allocation. There is no clear linkage between potential catch and allocated effort. We can therefore not conclude that the harvest strategy is responsive to the state of the skipjack stock. The SG 80 requirements are not met. | |
| **Condition** | By the fourth year, the fishery client shall demonstrate that harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points. | |
| **Milestone Year 1** | **1. Surveillance (2017):** At the end of the first year, the client shall provide a plan that will achieve the condition by the end of the fourth year.<br>**Expected score: 70** | |
| **Client Action Plan** | **Activities:** | Tri Marine/NFD will actively support the implementation of the WCPFC Harvest Strategy Workplan, which establishes a process and timeframes to adopt a harvest strategy for WCPO yellowfin tuna (in line with WCPFC CMM 2014-06).<br><br>Tri Marine/NFD will advocate for a harvest strategy that includes management action responses to changes in yellowfin stock status and harvest control rules aimed at maintaining the WCPO yellowfin stock at or near target reference points (in line with WCPFC CMM 2014-06).<br><br>Tri Marine/NFD will actively support work towards the development and adoption of a harvest strategy for WCPO yellowfin that includes management action responses to changes in yellowfin stock status and harvest control rules aimed at maintaining the WCPO yellowfin stock at or near target references points. |
| | **Expected outcome:** | At the end of the first year, the client shall provide a plan that will achieve the condition by the end of the fourth year. |
| | | Responsible Party/ies: Tri Marine/NFD, PNA |
| **Milestone Year 2** | **2. Surveillance (2018):** At the end of the second and third years, the client shall provide evidence that achieving the condition will occur by the end of the fourth year.<br>**Expected score: 70** | |
| **Client Action Plan** | **Activities:** | Tri Marine/NFD will actively support work towards the development and adoption of a harvest strategy for WCPO yellowfin that includes management action responses to changes in yellowfin stock status and harvest control rules aimed at maintaining the WCPO yellowfin stock at or near target references points. |
| | **Expected outcome:** | At the end of the second and third years, the client shall provide evidence that achieving the condition will occur by the end of the fourth year. |
| | | Responsible Party/ies: Tri Marine/NFD, PNA |
| **Milestone Year 3** | **3. Surveillance (2019):** At the end of the second and third years, the client shall provide evidence that achieving the condition will occur by the end of the fourth year. | |

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| | **Expected score: 70** | |
| **Client Action Plan** | **Activities:** | Tri Marine/NFD will actively support work towards the development and adoption of a harvest strategy for WCPO yellowfin that includes management action responses to changes in yellowfin stock status and harvest control rules aimed at maintaining the WCPO yellowfin stock at or near target references points. |
| | **Expected outcome:** | At the end of the second and third years, the client shall provide evidence that achieving the condition will occur by the end of the fourth year. |
| | | Responsible Party/ies: Tri Marine/NFD, PNA |
| **Milestone Year 4** | **4. Surveillance (2020):** At the end of the fourth year, the client shall provide evidence that the harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.<br>**Expected score: 80** | |
| **Client Action Plan** | **Activities:** | A harvest strategy for WCPO yellowfin will be adopted that includes management action responses to changes in yellowfin stock status and harvest control rules aimed at maintaining the WCPO yellowfin stock at or near target reference points.<br>Tri Marine/NFD's support and advocacy will largely be through active participation in WCPFC meetings as part of the Solomon Islands, US, and American Samoa delegations. Such participation will include communicating specific desired policies to support meeting this condition.<br>MFMR will also advocate and support these conditions being met through active participation in PNA, FFA and WCPFC initiatives/proposals regarding harvest strategies. |
| | **Expected outcome:** | At the end of the fourth year, the client shall provide evidence that the harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points. |
| | | Responsible Party/ies: Tri Marine/NFD and WCPFC |
| **Consultation on condition** | Letters to tuna RFMOs regarding the sustainability of tuna stocks (WCPFC14-2017-OP02). Submission by ISSF. Consists of a Joint Letter to and letters of support to the plenary addressed to the Heads of Delegation to RFMOs and signed by companies, NGOs and fishing industry associations. The position statement is for the development of precautionary harvest strategies, adoption a 100% observer coverage for purse seines, increase in the mandatory 5% longline observer coverage, adoption of standards for electronic reporting and monitoring, adopt measures for the use of non-entangling FADs, develop science-based recommendations for the management of FADs.<br>• Position statement to WCPFC14 (ISSF Position Statement – 2017). Submission by the International Seafood Sustainability Foundation (WCPFC14-2017-OP01). ISSF requested actions by the WCPF in 2017: 1) to ensure that effective management measures are implemented to maintain bigeye, yellowfin and skipjack fishing mortality at sustainable levels; 2) to collect more data regarding the number of FADs, to be used in the development of FAD management measures; 3) implement a comprehensive harvest strategy to ensure stocks maintained at an optimal level; 4) adopt recommendations on sharks to prohibit shark lines and develop work plan for safe release guidelines for rays, adopt a CMM to require that sharks be landed with fins naturally attached, an develop guidelines for the safe release of silky and oceanic whitetip sharks; 5) improve monitoring, control, and surveillance through enhanced observer coverage and electronic monitoring. ISSF also presented requests to | |

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| | improve transshipment reporting, transparency in catch or effort limits, and capacity management. A final request focused on strengthening compliance processes.<br>• E-mails: Tri Marine to Solomon Island WCPFC Delegation, and to US American Samoa WCPFC Delegation. Attached Briefing Paper: "Tri Marine Position on Harvest Strategies – WCPFC13" |
| **Progress on Condition (Year 1)** | Tri Marine has been engaged in and supportive of the process for the development of a harvest strategy for yellowfin through several actions:<br>• Support for the WCPFC Harvest Strategy Workplan CMM which establishes a process and timeframes to cover the WCPFC activities from 2015-2018.<br>• Communicated a "Tri Marine Position on Harvest Strategies – WCPFC13" to Solomon Islands delegation to WCPFC13 (see Appendix 1.1).<br>• Communicated a "Tri Marine Position on Harvest Strategies – WCPFC13" to American Samoan delegation to WCPFC13 (see Appendix 1.1).<br>• WCPO Tuna MSC Alignment Group including ISSF (Tri Marine is a member of ISSF) communicated actions that WCPF may consider in 2017 to adopt and implement robust harvest strategies for Tropical tunas (see Appendix 1.1, including Letter to tuna RFMOs, March 2017).<br>The assessment team concludes that Tri Marine/NFD have followed the client action plan for year 1 by actively supporting the implementation of the WCPFC Harvest Strategy Workplan, and actively advocating and supporting for a harvest strategy that that includes management action responses to changes in yellowfin stock (HCRs). |
| **Progress on Condition (Year 2)** | Tri Marine has been engaged in and supportive of the process for the development of a harvest strategy for yellowfin through several actions:<br>• Support for the WCPFC Harvest Strategy Workplan CMM which establishes a process and timeframes to cover the WCPFC activities from 2015-2018.<br>• Communicated a "Tri Marine Position on Harvest Strategies – WCPFC13" to Solomon Islands delegation to WCPFC13 (see Appendix 1.1).<br>• Communicated a "Tri Marine Position on Harvest Strategies – WCPFC13" to American Samoan delegation to WCPFC13 (see Appendix 1.1).<br>• WCPO Tuna MSC Alignment Group including ISSF (Tri Marine is a member of ISSF) communicated actions that WCPF may consider in 2017 to adopt and implement robust harvest strategies for Tropical tunas (see Appendix 1.1, including Letter to tuna RFMOs, March 2017).<br>• ISSF submitted a position statement to WCPFC14 (WCPFC, 2017f) urging the Commission to adhere to the updated 2015 harvest strategy work plan and take the decisions necessary this year (e.g., a target reference point for yellowfin tuna and South Pacific albacore, and development of harvest control rules for skipjack, bigeye, South Pacific albacore, and yellowfin tuna) to allow MSE and other work to proceed as scheduled in 2018.<br>The assessment team concludes that Tri Marine/NFD have followed the client action plan for year 2 by actively supporting the implementation of the WCPFC Harvest Strategy Workplan, and actively advocating and supporting for a harvest strategy that that includes management action responses to changes in yellowfin stock (HCRs). |
| **Progress on Condition (Year 3)** | The engagement of Tri Marine staff in WCPFC processes has continued, with representatives at the Scientific Committee (SC 14, Matt Owens), the Technical and Compliance Committee (TCC13 Amanda Hamilton and Angelina Tan) and at the Commission meetings (with representatives on the Solomon Islands and US delegations at WCPFC14).<br><br>As described under Condition 1, Tri Marine were a signatory to two letters to WCPFC from the International Sustainability Seafood Foundation (ISSF) on behalf of a wide range of companies, non-governmental organizations and fishing industry associations, advocating for a range of measures including progressing the development of precautionary harvest strategies (ISSF 2017a, 2017b). Tri Marine also submitted a position statement provided for WCPFC13, and as a member of IPNLF, a position statement from that organization provided for WCPFC15. See Condition 1 results for more detail and Appendix 6.3.<br><br>The Commission adopted additional updates to its Harvest Strategy Workplan in 2018 but the 2017 Workplan is the version against which future progress will be assessed. The harvest |

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| | strategies and control rules for skipjack are still scheduled for completion within the condition timeline/certificate cycle and this aspect of the condition remains on-target.<br><br>Both in consideration of harmonized fishery assessment outcomes and Tri Marine's efforts relative to its client action plan, the assessment team concludes the condition is on target. Tri Marine has followed the client action plan for year 3 by actively supporting the implementation of the WCPFC Harvest Strategy Workplan and has actively advocated for a harvest strategy that that includes management action responses to changes in yellowfin stock (HCRs). |
| **Status** | **Open. On target. Score remains at 70.** |
| **Additional information** | The assigned score reflects the agreed harmonized score for this PI across other yellowfin fisheries in the WCPO. |

**Table 17. Condition 4 - Yellowfin**

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| **Performance Indicator** | **PI 1.2.2a: Well defined harvest control rules are in place that is consistent with the harvest strategy and ensures that the exploitation rate is reduced as limit reference points are approached.**<br>**PI 1.2.2b: The selection of the harvest control rules takes into account the main uncertainties.**<br>**PI 1.2.2c: Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules.** | |
| **Score** | 60 | |
| **Justification** | Harvest control rules are still under development (CMM 2016-06). There are no well-defined harvest control rules in place and they do not take into account main uncertainties, so tools are not appropriate and effective. The requirements **for SG 80 and SG 100 are not met.** | |
| **Condition** | By the fourth year, the fishery client shall demonstrate that well defined harvest control rules are in place that is consistent with the harvest strategy and ensures that the exploitation rate is reduced as limit reference points are approached; that the selection of the harvest control rules takes into account the main uncertainties; and that available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules. | |
| **Milestone Year 1** | **1. Surveillance (2017):** At the end of the first year, the client shall provide a plan that will achieve the condition by the end of the fourth year.<br>**Expected score: 60** | |
| **Client Action Plan** | **Activities:** | Tri Marine/NFD will actively support the implementation of the WCPFC Harvest Strategy Workplan which establishes a process and timeframes to adopt a harvest strategy for WCPO yellowfin tuna (in line with WCPFC CMM 2014-06).<br>Tri Marine/NFD will advocate for a harvest strategy that includes well-defined harvest control rules taking into account the main uncertainties for yellowfin tuna that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.<br><br>**Years 1-4**<br>Tri Marine/NFD will actively support work towards the development and adoption of a harvest strategy for WCPO yellowfin that includes management action responses to changes in yellowfin stock status and harvest control rules aimed at maintaining the WCPO yellowfin stock at or near target references points.<br><br>Tri Marine/NFD will advocate that the adoption of additional WCPFC management measures for yellowfin. |
| | **Expected outcome:** | At the end of the first year, the client shall provide a plan that will achieve the condition by the end of the fourth year. |
| | | Responsible Party/ies: Tri Marine/NFD, PNA |
| **Milestone Year 2** | **2. Surveillance (2018):** At the end of the second and third years, the client shall provide evidence that achieving the condition will occur by the end of the fourth year.<br>**Expected score: 60** | |
| **Client Action Plan** | **Activities:** | 3. Tri Marine/NFD will actively support work towards the development and adoption of a harvest strategy for WCPO yellowfin that includes management action responses to changes in yellowfin stock status and harvest control rules |

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| | | aimed at maintaining the WCPO yellowfin stock at or near target references points.<br><br>4. Tri Marine/NFD will advocate that the adoption of additional WCPFC management measures for yellowfin. |
| | **Expected outcome:** | At the end of the second and third years, the client shall provide evidence that achieving the condition will occur by the end of the fourth year. |
| | | Responsible Party/ies: Tri Marine/NFD, PNA |
| **Milestone Year 3** | **3. Surveillance (2019):** At the end of the second and third years, the client shall provide evidence that achieving the condition will occur by the end of the fourth year.<br><br>**Expected score: 60** | |
| **Client Action Plan** | **Activities:** | Tri Marine/NFD will actively support work towards the development and adoption of a harvest strategy for WCPO yellowfin that includes management action responses to changes in yellowfin stock status and harvest control rules aimed at maintaining the WCPO yellowfin stock at or near target references points.<br><br>Tri Marine/NFD will advocate that the adoption of additional WCPFC management measures for yellowfin. |
| | **Expected outcome:** | At the end of the second and third years, the client shall provide evidence that achieving the condition will occur by the end of the fourth year. |
| | | Responsible Party/ies: Tri Marine/NFD, PNA |
| **Milestone Year 4** | **4. Surveillance (2020):** At the end of the fourth year, the client shall provide evidence that well-defined harvest control rules are in effect that considers main uncertainties and uses appropriate and effective tools.<br><br>**Expected score: 80** | |
| **Client Action Plan** | **Activities:** | Tri Marine/NFD will demonstrate that well defined and effective harvest control rules taking into account the main uncertainties are in place for yellowfin that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached. |
| | **Expected outcome:** | At the end of the fourth year, the client shall provide evidence that the harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points. |
| | | Responsible Party/ies: Tri Marine/NFD and WCPFC |
| **Consultation on condition** | Letters to tuna RFMOs regarding the sustainability of tuna stocks (WCPFC14-2017-OP02). Submission by ISSF. Consists of a Joint Letter to and letters of support to the plenary addressed to the Heads of Delegation to RFMOs and signed by companies, NGOs and fishing industry associations. The position statement is for the development of precautionary harvest strategies, adoption a 100% observer coverage for purse seines, increase in the mandatory 5% longline observer coverage, adoption of standards for electronic reporting and monitoring, adopt measures for the use of non-entangling FADs, develop science-based recommendations for the management of FADs.<br>• Position statement to WCPFC14 (ISSF Position Statement – 2017). Submission by the International Seafood Sustainability Foundation (WCPFC14-2017-OP01). ISSF requested actions by the WCPF in 2017: 1) to ensure that effective management measures are implemented to maintain bigeye, yellowfin and skipjack fishing mortality at sustainable levels; 2) to collect more data regarding the number of FADs, to be used in the development of FAD management measures; 3) implement a comprehensive harvest strategy to ensure stocks at maintained at optimal level; 4) adopt recommendations on sharks to prohibit shark lines and develop workplan for safe release guidelines for rays, adopt a CMM to require that | |

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| | sharks be landed with fins naturally attached, an develop guidelines for the safe release of silky and oceanic whitetip sharks; 5) improve monitoring, control, and surveillance through enhanced observer coverage and electronic monitoring. ISSF also presented requests to improve transshipment reporting, transparency in catch or effort limits, and capacity management. A final request focused on strengthening compliance processes.<br>• E-mails: Tri Marine to Solomon Island WCPFC Delegation, and to US American Samoa WCPFC Delegation. Attached Briefing Paper: "Tri Marine Position on Harvest Strategies – WCPFC13" |
| **Progress on Condition (Year 1)** | Tri Marine has been engaged in and supportive of the process for the development of a harvest strategy including HCRs for yellowfin through several actions:<br>• Support for the WCPFC Harvest Strategy Workplan CMM which establishes a process and timeframes to cover the WCPFC activities from 2015-2018.<br>• Communicated a "Tri Marine Position on Harvest Strategies – WCPFC13" to Solomon Islands delegation to WCPFC13 (see Appendix 1.1).<br>• Communicated a "Tri Marine Position on Harvest Strategies – WCPFC13" to American Samoan delegation to WCPFC13 (see Appendix 1.1).<br>• WCPO Tuna MSC Alignment Group including ISSF (Tri Marine is a member of ISSF) communicated actions that WCPF may consider in 2017 to adopt and implement robust harvest strategies for Tropical tunas (see Appendix 1.1, including Letter to tuna RFMOs, March 2017).<br>The assessment team concludes that Tri Marine/NFD have followed the client action plan for year 1 by actively supporting the implementation of the WCPFC Harvest Strategy Workplan; and actively advocating and supporting for a harvest strategy that that includes management action responses to changes in yellowfin stock (HCRs). |
| **Progress on Condition (Year 2)** | Tri Marine has been engaged in and supportive of the process for the development of a harvest strategy including HCRs for yellowfin through several actions:<br>• Support for the WCPFC Harvest Strategy Workplan CMM which establishes a process and timeframes to cover the WCPFC activities from 2015-2018.<br>• Communicated a "Tri Marine Position on Harvest Strategies – WCPFC13" to Solomon Islands delegation to WCPFC13 (see Appendix 1.1).<br>• Communicated a "Tri Marine Position on Harvest Strategies – WCPFC13" to American Samoan delegation to WCPFC13 (see Appendix 1.1).<br>• WCPO Tuna MSC Alignment Group including ISSF (Tri Marine is a member of ISSF) communicated actions that WCPF may consider in 2017 to adopt and implement robust harvest strategies for Tropical tunas (see Appendix 1.1, including Letter to tuna RFMOs, March 2017).<br>• ISSF submitted a position statement to WCPFC14 (WCPFC, 2017f) urging the Commission to adhere to the updated 2015 harvest strategy work plan and take the decisions necessary this year (e.g., a target reference point for yellowfin tuna and South Pacific albacore, and development of harvest control rules for skipjack, bigeye, South Pacific albacore and yellowfin tuna) to allow MSE and other work to proceed as scheduled in 2018.<br>The assessment team concludes that Tri Marine/NFD have followed the client action plan for year 2 by actively supporting the implementation of the WCPFC Harvest Strategy Workplan; and actively advocating and supporting for a harvest strategy that that includes management action responses to changes in yellowfin stock (HCRs). |
| **Progress on Condition (Year 3)** | Progress is as described under Condition 3.<br><br>Both in consideration of harmonized fishery assessment outcomes and Tri Marine's efforts relative to its client action plan, the assessment team concludes the condition is on target. Tri Marine has followed the client action plan for year 3 by actively supporting the implementation of the WCPFC Harvest Strategy Workplan and has actively advocated for a harvest strategy that that includes management action responses to changes in yellowfin stock (HCRs). |
| **Status** | **Open. On target. Score remains at 60.** |
| **Additional information** | The assigned score reflects the agreed harmonized score for this PI across other yellowfin fisheries in the WCPO. |

**Table 18. Condition 5 – Decision making**

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| **Performance Indicator** | **PI 3.2.2d: Information on fishery 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.** | |
| **Score** | 75 | |
| **Justification** | Management system, consultation and roles and responsibilities<br><br>MFMR makes some information available, as management plans, NPOA, and regulations undergo scrutiny by the Fishery Advisory Council and other stakeholders. Although the information on the rationale for decision making is not readily available (for example on the MFMR website), the FAC minutes provide a rationale for FAC recommendations and are available upon request. Therefore, information is available upon request and provides explanations from findings and relevant recommendations for actions taken. The Minister provides a letter to the Chair of the FAC with an explanation for not adopting recommendations. But the assessment team did not receive evidence that the explanations are available to the public, so it is not clear that explanations are provided for any actions or lack of action associated with findings and relevant recommendations. **Therefore, this indicator meets only the SG60, requiring a condition.** | |
| **Condition** | By the third surveillance, the fishery client shall demonstrate that documented explanations provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity are made available on request to interested stakeholders. | |
| **Milestones** | At the end of the first year, the client shall provide a plan that will achieve the condition by end of the fourth year.<br>At the end of the second year, the client shall provide evidence that achieving the condition will occur by the end of the third year.<br>At the end of the third year, the client shall provide evidence that information on fishery performance and management actions with explanations for actions or lack of actions are made available on request. | |
| **Client Action Plan** | **Activities:** | Years 1-2:<br>Tri Marine/NFD will advocate for explanations provided in writing by MFMR to be made available on request to interested stakeholders for any national-level tuna fisheries management action relevant to the Solomon Islands purse seine and pole and line fisheries that is taken (or not taken) in association with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.<br><br>Year 3:<br>Explanations in writing by MFMR will be made available on request for any national-level tuna fisheries management action relevant to the Solomon Islands purse seine and pole and line fisheries that is taken (or not taken) in association with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity. |
| | **Expected outcome:** | At the end of the first year, the client shall provide a plan that will achieve the condition by the end of the fourth year. |
| | | Responsible Party/ies: Tri Marine/NFD, PNA |
| **Progress on Condition (Year 1)** | Subsequent to the publication of the PCDR, MRAG Americas received from Dr Christian Ramofafia, Permanent Secretary of the MFMR, a letter explaining the procedures for making public the decisions of the MFMR, in support of closing Condition 5. As the letter arrived after the PCDR, MRAG Americas chose not to make changes to the Final Report and Determination, such that the evaluation of the letter and its supporting material would occur during surveillance. The explanation with supporting material demonstrates that MFMR provides explanations for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity are | |

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| | made available on request to interested stakeholders. See Appendix 1.2 for details. This PI was rescored to SG80 |
| **Status** | **Closed in 1st year surveillance** |
| **Additional information** | |

**Table 19. Condition 6 (new) – both Skipjack and Yellowfin [3]**

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| **Performance Indicator** | **PI 3.1.2 Management system, consultation and roles and responsibilities** | |
| **Score** | 75 | |
| **Justification** | The arrangements spelled out in the Fisheries Management Act 2015, the Tuna Management and Development Plan and the opportunity for stakeholder input to regional (PNA and WCPFC) management decisions provide a system which should enable relevant local knowledge to be introduced into the management system. However, the FAC has not met since October 2014 with the MFMR advising that it is currently in process of appointing new members. The TIASI has met more regularly with the MFMR however it is unclear the extent to which bilateral discussions provide input to the management system. **As such SG60 requirements are met, however, SG80 and SG 100 are not.** | |
| **Condition** | By the second surveillance audit of the re-assessment, provide evidence that the management system includes consultation processes that regularly seek and accept relevant information from a range of sources, including local knowledge. Additionally, the national management system demonstrates consideration of the information obtained. | |
| **Milestone Year 4** | **1. Surveillance 4 (2020):** By the fourth surveillance audit, work with MFMR to develop a basic proposal/plan for improvement of the consultation processes, to ensure the condition is closed by the 4th year of certification. The Plan should identify consultation mechanisms, which sources/parties will be involved in the consultation processes and the frequency with which the consultation processes will seek and accept information.<br>**Expected score: 75** | |
| **Client Action Plan** | **Activities:** | ▪ Tri Marine/NFD will advocate and support MFMR in the development of a plan to improve current consultation processes, such that consultation mechanisms laid out in the Fisheries Management Act 2015 and National Tuna Management Plan 2015 (or later revisions) are adequately applied.<br>▪ Tri Marine/NFD's support and advocacy will be through direct liaison and cooperation with MFMR, participation as an active member of the Tuna Industry Association of Solomon Islands (TIASI), and in turn, through TIASI's representation on the Fisheries Advisory Council (FAC). |
| | **Expected outcome:** | Consultation plan developed by MFMR. |
| **Milestone Reassessment** | **2. Reassessment (2021):** By the time of reassessment, demonstrate initial steps to implement proposed improvements to the consultative processes and ensure inclusion of a range sources/parties identified in the proposal/plan for improvements developed during the first-year audit are occurring.<br>**Expected score: 75** | |
| **Client Action Plan** | **Activities:** | ▪ Tri Marine/NFD will advocate and support MFMR in efforts to improve current consultation processes, such that consultation mechanisms laid out in the Fisheries Management Act 2015 and National Tuna Management Plan 2015 (or later revisions) are adequately applied.<br>▪ Tri Marine/NFD's support and advocacy will be through direct liaison and cooperation with MFMR, participation as an active member of the Tuna Industry Association of Solomon Islands (TIASI), and in turn, through TIASI's representation on the Fisheries Advisory Council (FAC). |

[3] The two conditions (Condition 6 and 7) opened in the third year surveillance audit will not be closed until the second surveillance of the re-assessment because these conditions were opened in the third year surveillance audit and will require a substantial degree of coordination with the management agency (MFMR). These are ruled to exceptional circumstances. Condition 6&7 timelines have been aligned with the Solomon Islands Longline Yellowfin and Albacore fishery currently undergoing certification.

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| | **Expected outcome:** | FAC will re-convene; TIASI will meet regularly; comprehensive meeting minutes from FAC/TIASI/MFMR-NFD bilateral meetings will demonstrate inclusion of a range of sources/parties involved in consultation processes. |
| | | |
| **Milestone Year 1 Reassessment** | **3. Surveillance 1 (2022):** By the first surveillance audit of the re-assessment, demonstrate the implementation of consultation processes from a range of sources and that this information is being considered by the management system at both the national and regional levels.<br>**Expected score: 75** | |
| **Client Action Plan** | **Activities:** | ▪ Tri Marine/NFD will advocate and support MFMR in efforts to improve current consultation processes, such that consultation mechanisms laid out in the Fisheries Management Act 2015 and National Tuna Management Plan 2015 (or later revisions) are adequately applied.<br>▪ Tri Marine/NFD will advocate and support continued MFMR engagement in regional management forums (i.e. PNA/FFA/WCPFC).<br>▪ Tri Marine/NFD's support and advocacy will be through direct liaison and cooperation with MFMR, participation as an active member of the Tuna Industry Association of Solomon Islands (TIASI), and in turn, through TIASI's representation on the Fisheries Advisory Council (FAC). |
| | **Expected outcome:** | Regular consultations being held, producing information from a range of sources which is being considered by the management system at the national/regional levels. |
| **Milestone Year 2 Reassessment** | **4. Surveillance 2 (2023):** By the second surveillance audit of the re-assessment, be able to demonstrate ongoing consultation through the implementation of consultation processes from a range of stakeholders and that this information is being considered by the management system at both the national and regional levels.<br>**Expected score: 80** | |
| **Client Action Plan** | **Activities:** | ▪ Tri Marine/NFD will advocate and support MFMR in efforts to improve current consultation processes, such that consultation mechanisms laid out in the Fisheries Management Act 2015 and National Tuna Management Plan 2015 (or later revisions) are adequately applied.<br>▪ Tri Marine/NFD will advocate and support continued MFMR engagement in regional management forums (i.e. PNA/FFA/WCPFC)<br>▪ Tri Marine/NFD's support and advocacy will be through direct liaison and cooperation with MFMR, participation as an active member of the Tuna Industry Association of Solomon Islands (TIASI), and in turn, through TIASI's representation on the Fisheries Advisory Council (FAC). |
| | **Expected outcome:** | Regular consultations being held, producing information from a range of sources which is being considered by the management system at the national/regional levels. |
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| **Consultation on condition** | The client will consult with MFMR and TIASI. | |
| **Progress on Condition (Year 4)** | | |
| **Progress on Condition (At reassessment)** | | |

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| **Progress on Condition (Year 1 of reassessment)** | |
| **Progress on Condition (Year 2 of reassessment)** | |
| **Additional information** | |

**Table 20. Condition 7 (new) – Both Skipjack and Yellowfin**

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| **Performance Indicator** | **PI 3.2.2 Management system decision making processes aimed at achieving objectives** | |
| **Score** | 75 | |
| **Justification** | Responsiveness of decision-making processes<br><br>While settled regional and sub-regional arrangements exist for this SI, it is less clear how effective these arrangements are at the domestic level. MFMR staff are required to manage the fishery in accordance with the provisions of the Act, however, the level of broader stakeholder consultation and the timeliness of input to local and regional serious and other important issues is unclear. This is partly due to the fact that a significant consultative mechanism, the FAC has not met since October 2014. There have been bilateral meetings between MFMR and the four companies operating in the UoA (they meet annually to discuss management arrangements and their annual MoUs and license conditions) and also between MFMR and the TIASI. However, no evidence was provided that these meetings deal specifically with relevant research, monitoring, evaluation and consultation in a transparent, timely and adaptive manner. **As such, SG 60 requirements are met, however, SG 80 and SG 100 requirements are not met.**<br><br>Accountability and transparency of management and decision-making process.<br><br>Overall, SG 60 and SG 80 requirements are met for the WCPFC however, not all information is publicly available (National Part 2 Reports) and information is not comprehensive for all elements of the management system or available to all interested stakeholders, therefore SG100 is not met. For the Solomon Islands, due to a lack of evidence, it is unclear whether the arrangements set out in the TMDP are in fact being implemented. The Plan states that "Information on fishery performance and management action is available on request, and explanations are provided to the Tuna Industry Association of the Solomon Islands (TIASI) for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring evaluation and review activity". Evidence was not provided to the extent to which this information has either been sought by the TIASI or provided to them. | |
| **Condition** | SI b) By the second surveillance audit of the re-assessment, provide evidence that 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.<br><br>SI d) By the second surveillance audit of the re-assessment, provide evidence that 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. | |
| **Milestone Year 4** | **1. Surveillance 4 (2020):** By the fourth surveillance audit, work with MFMR to develop a proposal to improve decision making processes such that they respond to important issues in a transparent, timely and adaptive manner and take account of the wider implications of decisions. Ensure the plan improves the flow of information on the fishery's performance and management actions. The plans should identify: who will assess fishery performance, how frequently this will occur, how this information will be transmitted and to whom and what actions will be taken to address deficiencies. Overall, the plan should identify ways to improve input from all sources and how best to assess the wider implications of decisions.<br><br>**Expected score: 75** | |
| **Client Action Plan** | **Activities:** | ▪ Tri Marine/NFD will advocate and support MFMR in the development of a plan to improve national-level decision making processes.<br>▪ Tri Marine/NFD's support and advocacy will be through direct liaison and cooperation with MFMR, participation as an active member of the |

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| | | Tuna Industry Association of Solomon Islands (TIASI), and in turn, through TIASI's representation on the Fisheries Advisory Council (FAC). |
| | **Expected outcome:** | MFMR has developed a plan to improve national-level decision making processes. |
| | | |
| **Milestone Reassessment** | **2. Reassessment (2021):** By the time of reassessment, demonstrate initial steps to implement proposed improvements to the decision-making processes so as to ensure inclusion of the input from research, monitoring, evaluation and consultation, and initial steps for development of assessment processes and dissemination of information. Score 75.<br>**Expected score: 75** | |
| **Client Action Plan** | **Activities:** | ▪ Tri Marine/NFD will advocate and support MFMR in the initial implementation of the plan to improve national-level decision making processes.<br>▪ Tri Marine/NFD's support and advocacy will be through direct liaison and cooperation with MFMR, participation as an active member of the Tuna Industry Association of Solomon Islands (TIASI), and in turn, through TIASI's representation on the Fisheries Advisory Council (FAC). |
| | **Expected outcome:** | MFMR has commenced the implementation of the plan to improve national-level decision making processes. |
| | | Responsible Party/ies: |
| **Milestone Year 1 Reassessment** | **3. Surveillance 1 (2022):** By the first surveillance audit of the re-assessment, demonstrate implementation of revised decision-making processes with input from a range of sources and that the wider implications of decisions are being considered. Also, demonstrate the plan has been implemented and information on the fishery's performance and management action is available on request.<br>**Expected score: 75** | |
| **Client Action Plan** | **Activities:** | ▪ Tri Marine/NFD will advocate and support MFMR in the ongoing implementation of the plan to improve national-level decision making processes.<br>Tri Marine/NFD's support and advocacy will be through direct liaison and cooperation with MFMR, participation as an active member of the Tuna Industry Association of Solomon Islands (TIASI), and in turn, through TIASI's representation on the Fisheries Advisory Council (FAC). |
| | **Expected outcome:** | MFMR has implemented revised decision-making processes with input from a range of sources and wider implications of decisions also being considered, with information on the fishery's performance and management action available on request. |
| | | Responsible Party/ies: |
| **Milestone Year 2 Reassessment** | **4. Surveillance 2 (2023):** By the second surveillance audit of the re-assessment, be able to demonstrate decision-making processes are responding 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. Also, provide evidence that information on the fishery's performance and management action are available on request and that explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.<br>**Expected score: 80** | |

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| **Client Action Plan** | **Activities:** | ▪ Tri Marine/NFD will advocate and support MFMR in the ongoing implementation of the plan to improve national-level decision making processes.<br>▪ Tri Marine/NFD's support and advocacy will be through direct liaison and cooperation with MFMR, participation as an active member of the Tuna Industry Association of Solomon Islands (TIASI), and in turn, through TIASI's representation on the Fisheries Advisory Council (FAC). |
| | **Expected outcome:** | MFMR is implementing decision-making processes that 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. Information on the fishery's performance and management action are 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. |
| | | |
| **Consultation on condition** | The client will consult with MFMR and TIASI. | |
| **Progress on Condition (Year 4)** | | |
| **Progress on Condition (At reassessment)** | | |
| **Progress on Condition (Year 1 of reassessment)** | | |
| **Progress on Condition (Year 2 of reassessment)** | | |
| **Status** | Condition opened in 3rd annual surveillance audit | |
| **Additional information** | | |

## 5.3 Re-scoring Performance Indicators

Two performance indicators have been restored to reflect the new information available on consultation arrangements and the new conditions that have been added to harmonize with the score for the Solomon Islands Longline Fishery.

### 5.3.1 Re-Scoring Table PI 3.1.2

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| **PI 3.1.2** | | **The management system has effective consultation processes that are open to interested and affected parties.**<br>**The roles and responsibilities of organizations and individuals who are involved in the management process are clear and understood by all relevant parties** | | |
| **b** | **Guidepost** | 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?** | (Y/N) Y | (Y/N) ~~Y~~ N | (Y/N) N |

| | | |
|---|---|---|
| | **Justification** | The WCPFC annual meetings and the annual meetings of its committees provide extensive, regular formal and informal consultation processes. The WCPFC regularly consults with PNA, and FFA and other regional and international fora that include national governments. The Fisheries Management Act 2015 establishes the Fisheries Advisory Council (FAC) which provides an avenue for MFMR to consult~~s~~ with stakeholders ~~through the Fishery Advisory Council,~~ which can then provide~~s~~ advice to the Minister in advance of decision making. The FAC has not met since October 2014 and has not undertaken the monitoring and advisory functions envisaged in the Act or the Tuna Management and Development Plan. WCPFC ~~These~~ processes seek and accept information however there are currently few formal opportunities provided within the Solomon Islands management system.<br><br>Local knowledge is not used in stock assessment. However, the social and cultural importance of tuna to local people is well recognized in the Convention, by the essence of PNA, and in the Solomon Islands Fisheries Management Act 2015. The use of this local knowledge is reflected in the consideration of small islands developing states regionally and nationally.<br>Information derived from the members and the inputs from the specialist working groups is used by decision-makers and such consideration forms the basis for the decisions of the WCPFC. The management system demonstrates consideration of the information obtained. The WCPFC provides detailed explanations of use and non-use of scientific information in preparation of stock assessments and other scientific reports.<br>Management decisions provide a rationale, indicating use of information obtained through consultation, but the details are not always clear. For example, WCPFC tuna management measures CMM-2008-01 (replaced by 2012-01, 2013-01 and 2014-01) and CMM-2010-05 attempt to restrict fishing effort and therefore fishing mortality on bigeye, yellowfin and albacore. However, limits are vague, and public information may not be available that clearly justifies the limits applied when the decision was made (Medley and Powers 2015; SCS 2015). However, components of the management system, such as VDS, are not as transparent (Moody Marine 2011).<br><br>At the Solomon Islands national level, the Tuna Management and Development Plan 2015 states:<br>"It is recognized that all tuna resource stakeholders have legitimate interest in the Plan. The formulation of the Plan includes consultation with a wide range of stakeholders, including fishing companies, fishermen, other national government ministries and NGOs. The process should have the effect of making stakeholders more aware of how management of the nation's fish resources is conducted and so more readily comply with management provisions."<br><br>The Fisheries Advisory Council (FAC) is established under the Act and includes a range of stakeholders: coastal and offshore fishing industry, fishing communities, Provincial Governments, NGO with an interest in fisheries, the FFA, and ex officio representatives from the Attorney-General's Chambers, the Ministry for the Environment, the Ministry for Finance, the Ministry for Mines, Minerals and Energy and the Ministry for Police and Maritime Enforcement. The FAC is responsible for monitoring and reviewing all aspects of the Plan.<br><br>The Tuna Industry Association of the Solomon Islands (TIASI) as the peak tuna industry body consults with MFMR on a range of industry and fisheries management issues. The Plan states that "Information on fishery performance and management action is available on request, and explanations are provided to the Tuna Industry Association of the Solomon Islands (TIASI) for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring evaluation and review activity."<br><br>The arrangements spelled out in the Fisheries Management Act 2015, the Tuna Management and Development Plan and the opportunity for stakeholder input to regional (PNA and WCPFC) management decisions provide a system which should enable relevant local knowledge to be introduced into the management system. However, the FAC has not met since October 2014, with the MFMR advising that it is currently in process of appointing new members. The TIASI has met more regularly with the MFMR, however, it is unclear the extent to which bilateral discussions provide input to the management system nor that the management system |

| | | |
|---|---|---|
| | | demonstrates consideration of the information obtained. As such SG60 requirements are met, however, SG80 and SG 100 are not.<br><br>~~Therefore, the overarching management system regularly seeks, accepts, and considers information, including local knowledge, meeting the SG 60 and SG80, but does not consistently explain its use or non-use so does not reach SG100~~. |

| OVERALL PERFORMANCE INDICATOR SCORE: | Score |
|---|---|
| CONDITION NUMBER (if relevant): 6<br><br>By the second surveillance audit of the reassessment, provide evidence that the management system includes consultation processes that regularly seek and accept relevant information from a range of sources, including local knowledge. Additionally, the national management system demonstrates consideration of the information obtained. | 75 |

### 5.3.2 Re-Scoring Table PI 3.2.2

| 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 under assessment. | | |
|---|---|---|---|---|
| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guidepost** | 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?** | (Y/N) Y | (Y/N) Y | |
| | **Justification** | The open decision-making processes exemplified by the Commission meetings and meetings of the WCPFC committees produce Conservation and Management Measures (binding) and Resolutions non-binding). The decision making operates on a consensus basis. The committees (e.g., Scientific Committee and Technical and Compliance Committee) provide the background necessary for decision making.<br><br>The Solomon Islands Fisheries Management Act 2015 lays out procedures for decision making. The Fisheries Director, using information provided by the Fishery Advisory Council, other stakeholders, and staff, recommends actions to the Fishery Minister. Decisions made by the Minister are final. This demonstrates that established decision-making procedures are in place resulting in strategies and measures to meet objectives, meeting the SG60 and SG80. | | |
| **b** | **Guidepost** | 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?** | (Y/N) Y | (Y/N) ~~Y~~N | (Y/N) Not scored |

| 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 under assessment. | | |
|---|---|---|---|---|
| | Justification | The open nature of the WCPFC allows for the Scientific Committee, the Technical and Compliance Committee, and stakeholders to bring to the attention of the WCPFC serious and important issues. The WCPFC responds to these issues through CMMs and Resolutions. The CMMs and Resolutions provide a transparent response to the scientific, technical, social, and cultural issues. For skipjack and yellowfin tunas, the responses effectively address main issues, e.g., CMM 2014-01. CMM 2014-06 recognizes the need for improved harvest control rules and set a path for the improvements.<br>The MFMR deals with important issues through plans of action and fishery management plans. ~~The management system has identified tuna management, IUU, sharks, and baitfish as important issues. Tuna and baitfish have management plans, and IUU and sharks have NPOA in progress. The management plans and NPOA are in a transparent way and broadly cover the relevant issues. This meets the SG60 and SG80~~.<br><br>The Fisheries Management Act 2015 in addition to requiring the implementation of WCPFC CMMs, specifically requires under Section 5 (c) that<br>"management measures shall be based on the best scientific evidence available to maintain or restore stocks at levels capable of producing sustainable yield, as qualified by relevant environmental and economic factors including fishing patterns, the interdependence of stocks and relevant international standards;"<br>and in 5 (h)<br>"complete and accurate data and information concerning fishing activities and fisheries resources shall be collected and, as appropriate, shared in a timely manner;"<br><br>This combined with consultative arrangements with stakeholders, in particular before PNA and WCPFC meetings, provides the basis for effective decision-making processes that respond to serious and other important issues in a timely and adaptive manner while taking account of the wider implications of these decisions at the regional and sub-regional level.<br><br>It is less clear how effective these arrangements are at the domestic level. MFMR staff are required to manage the fishery in accordance with the provisions of the Act, however, the level of broader stakeholder consultation and the timeliness of input to local and regional serious and other important issues is unclear. This is partly due to the fact that a significant consultative mechanism, the FAC has not met since October 2014. There have been bilateral meetings between MFMR and the company operating in the UoA and also between MFMR and the TIASI. However, no evidence was provided that these meetings deal specifically with relevant research, monitoring, evaluation and consultation in a transparent, timely and adaptive manner nor that they discuss the wider implications of decisions.<br><br>As such, SG 60 requirements are met, however, SG 80 and SG 100 requirements are not met. | | |
| c | Guidepost | | Decision-making processes use the precautionary approach and are based on best available information. | |
| | Met? | | (Y/N) Y | |

| | | | | |
|---|---|---|---|---|
| | **Justification** | The WCPFC Convention and the MFMR Fisheries Management Plan 2015 require use of the precautionary approach and best available information. Medley and Powers provide the example of WCPFC using the precautionary approach WCPFC in the limitations on expansion of various fisheries, such as Southern Pacific Albacore, pending further development of management plans. MFMR invokes the precautionary approach in the tuna management plan, baitfish management plan and the NPOA-Sharks.<br><br>Moody Marine (2011) identified that the PNA did not use the precautionary approach or demonstrate use of best available information, and set a condition for the PNA fishery. Subsequently, Scott and Stokes (2013) found evidence that allowed closing the condition following the second surveillance audit with a score of SG80.<br>Therefore, evidence exists that decision making uses the precautionary approach and best available information, meeting the SG80. | | |
| **d** | **Guidepost** | Some information on fishery performance and management action is generally available on request to stakeholders. | Information on fishery 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 fishery performance and management actions and describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity. |

| 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 under assessment. | | |
|---|---|---|---|---|
| | **Met?** | (Y/N) Y | (Y/N) ~~N (at PCR)~~ ~~Y at 1st surveillance~~ N at 3rd surveillance | (Y/N) Not scored |
| | **Justification** | The WCPFC formally posts information related to research, monitoring, evaluation and performance review. Plenary session reports are readily available from the Commission's website. Similarly, Scientific Committee and Technical and Compliance Committee reports provide scientific and technical background that underpins management actions. The readily available information allows for stakeholder review and input, and for tracking progress. However, the available reports do not provide all the information used, no detailed explanation links information to the decisions, and the decisions provide minimal justification (Medley and Powers 2015). At the WCPFC level, SG 60 and SG 80 requirements are met.<br><br>Moody Marine (2011) identified that the PNA did not make information available or provide explanations for actions, and set a condition for the PNA fishery. Subsequently, Scott and Stokes (2013) found evidence that allowed closing the condition following the second surveillance audit with a score of SG80.<br><br>MFMR makes information available, as management plans, NPOA, and regulations undergo scrutiny by the Fishery Advisory Council and other stakeholders. Although the information on the rationale for decision making is not readily available (for example on the MFMR website), the FAC minutes provide rationale for FAC recommendations and are available upon request. ~~Therefore, information is available upon request and provides explanations from findings and relevant recommendations for actions taken. MFMR provides a letter to the Chair of the FAC with an explanation for not adopting recommendations. The assessment team received evidence that the explanations are available to the public, so it is clear that explanations are provided for any actions or lack of action associated with findings and relevant recommendations upon request. Therefore, this indicator meets the SG60 and SG80. Formal reporting to all interested stakeholders does not occur, so the fishery does not meet SG100.~~<br><br>**SI 3.2.2 d was re-opened in the 3rd year surveillance because the FAC has not met since 2015 and only limited evidence regarding discussion of fishery performance and management action could be provided to the assessment team.**<br><br>At the Solomon Islands level, the Fisheries Management Act 2015 and the Tuna Management and Development Plan 2015 both provide information on objectives and management parameters for the fishery. The Act sets the broad framework and overarching objectives and management structure. The Plan provides detailed information on the fishery and the goals and strategies to achieve the objectives set for the life of the Plan. The plan defines these activities and the means to measure performance via objectively verifiable indicators. The Plan also encourages a stable and logical policy environment. The Fisheries Advisory Council (FAC), established under the Act, is responsible for reviewing and monitoring all elements of the Plan. The last meeting of the FAC was in October 2014 prior to the approval of the Plan by the Minister and it has not met since. At that meeting the FAC endorsed the TMDP and recommended that the Minister approve it. Despite the role envisaged in the Fisheries Management Act 2015 and the TMDP, the FAC has not had an ongoing role in monitoring and reporting on the operations of the Plan.<br><br>The Plan states that "Information on fishery performance and management action is available on request, and explanations are provided to the Tuna Industry Association of the | | |

| | | | | |
|---|---|---|---|---|
| | | Solomon Islands (TIASI) for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring evaluation and review activity". Evidence was not provided to the extent to which this information has either been sought by the TIASI or provided to them, although no doubt specific issues have been raised during bilateral discussions with MFMR. Each of the four companies operating in the UoA meet annually with the MFMR to discuss and agree on the annual MoU and licence conditions. In addition, the TIASI meets with the MFMR as an industry body. Limited information is available from these meetings as only one set of minutes was provided. The information available suggests there may be some discussion on the performance of the fishery at these meetings although the extent to which this information is available is unclear.<br><br>Overall, SG 60 and SG 80 requirements are met for the WCPFC however, not all information is publicly available (National Part 2 Reports) and information is not comprehensive for all elements of the management system or available to all interested stakeholders, therefore SG100 is not met. For the Solomon Islands, due to a lack of evidence, it is unclear whether the arrangements set out in the TMDP are in fact being implemented. As such SG 60 requirements are met, however SG 80 and SG 100 requirements are not met. | | |
| **e** | **Guidepost** | 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 repeatedly violating the same law or regulation necessary for the sustainability for the fishery. | 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. |
| | **Met?** | (Y/N) Y | (Y/N) Y | (Y/N) Not scored |

| | | |
|---|---|---|
| **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 under assessment.** |
| | **Justification** | Judicial decisions arising from legal challenges have not occurred (through 2015) in the WCPFC. The Commission uses a consensus-based approach for decision- making, with intent of avoiding disputes. The consensus-based decision-making process has provisions 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. In addition, there are provisions for a decision to be reviewed by a review panel at the request of a Member (WCPFC, 2000 Article 20, paras 6-9).<br>MFMR is a party to all decisions at WCPFC level including participation in the Scientific Committee, and WCPFC general sessions where final decisions are taken at regional level. In the absence of legal disputes, this indicator meets SG60 and SG80. |
| **References** | | WCPFC Convention; MFMR Fisheries Management Plan 2015; WCPFC CMMs and Resolutions; MFMR management plans and NPOA; Medley and Powers 2015; Scott and Stokes 2013; letter from Dr. Christian Ramofafia, Permanent Secretaryof MFMR. |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | | **75** |
| **CONDITION NUMBER (if relevant): 7**<br><br>SI b) By the second surveillance audit of the reassessment, provide evidence that 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.<br><br>SI d) By the second surveillance audit of the reassessment, provide evidence that 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. | | |

# 6 Appendices

## 6.1 Evaluation Processes and Techniques

### 6.1.1 Site Visits

All meetings were by **a** remote interview with participants listed in Table 21. Table 22 shows the schedule of these meetings and the category of participants in each. Information was also obtained by **an** email exchange with Secretariat to the Pacific Community (SPC) representatives.

**Table 21. List of clients and stakeholders contacted during the surveillance audit.**

| Name | Role | Affiliation |
|---|---|---|
| **Alexander (Sandy) Morison** | Lead Auditor (P1, P2) | SCS |
| **Frank Meere** | Auditor (P3) | SCS |
| **Amanda Hamilton** | Client representative | TMI |
| **Angelina Tan Wei Li** | Client representative | TMI |
| **Frank Wickham** | Fishing company | NFD |
| **Cynthia Wickham** | Fishing company | NFD |
| **Eddie Honiwala** | Stakeholder | Solomon Islands, MFMR |
| **Charles Tobasala** | Stakeholder | Solomon Islands, MFMR |
| **Selina Lipa** | Stakeholder | Solomon Islands, MFMR |
| **Pamela Maru** | Stakeholder | FFA |
| **Tim Adams** | Stakeholder | FFA |
| **Hugh Walton** | Stakeholder | FFA |
| **Graham Pilling** | Stakeholder | SPC (by email) |
| **Peter Williams** | Stakeholder | SPC (by email) |

**Table 22. Audit Overview: Key meetings and participants**

| | Date | Location | Topic | Attendees |
|---|---|---|---|---|
| 1 | Monday 10 June | Teleconference | SI-PS-PL. Opening meeting with a client. Meeting with TMI, NFD representatives | SCS, Client, TMI, NFD |
| 2 | Tuesday 11 June | Teleconference | SI-PS-PL. Stakeholder consultation | SCS, Client, FFA |
| 3 | Tuesday 11 June | Teleconference | SI-PS-PL. Management consultation | SCS, Client, MFMR |
| 4 | Tuesday 11 June | Teleconference | Stakeholder consultation. | SCS, PNA representatives |
| 5 | Wed 12 June (Tuesday 11 June US time) | Teleconference | SI-PS-PL & TMI-WCP-PS. Closing meetings | SCS, Client, TMI |

### 6.1.2 Stakeholder Participation

SCS identified relevant stakeholders for this fishery through professional networks of SCS and the audit team and know-how of the organizations working in the area. A list of over 300 individuals from approximately 100 different organizations was compiled including representatives from the government, private sector and non-profit sectors working at regional and national levels. The main form of communication to stakeholders has been via email to personal or organizational email addresses. Stakeholders on the list received an email with the surveillance announcement, the MSC stakeholder template to provide input and an invitation to participate at the onsite.

One written stakeholder submission was received and it and the harmonized response are included in Section 6.4.

An announcement of the surveillance audit remote meeting was published to the MSC website on May 10th, 2019. Stakeholders were informed of the announcements through the MSC website and through email. An audit plan was provided to the client, management, scientists, and interested stakeholders by SCS before the meeting.

No stakeholders requested a private meeting with the team.

During surveillance meetings, the assessment team had discussions with representatives from the management agency (MFMR), the client group and stakeholders as shown above.

## 6.2 Stakeholder Submissions

**Table 23. Summary of Stakeholder Submissions**

| Organization | Representative | Date Received | Medium of submission (verbal/written) | Summary of verbal sub. /Section in report written sub. | Associated Quotes Numbers |
|---|---|---|---|---|---|
| PNAO | Richard Banks & Les Clark | 6 April 2019 for another assessment. | Attachment to email submission | Copy of written submission and response is included below. | |

**Table 24. Summary of Stakeholder Comments and Reponses by Performance Indicator**

| Comment Number | Performance Indicator | Summary | Team Response* |
|---|---|---|---|
| 1 | 1.2.1a | Scoring issue is met at SG100 level for SKJ at least | No agreement that HS meets SG80 level yet. With no HCR in place (just 'available') all the required elements of a HS are not present and therefore could not yet be considered to be working together. |
| 2 | 1.2.2a | HCRs are still not well defined (so SG80 is still not met) but they are 'generally understood' and 'in place' rather than just 'available' for SKJ. | No agreement that HCRs are generally understood for any tuna species. Conditional pass still only met using the availability criteria. |
| 3 | 1.2.2c | Because generally understood HCRs are 'in place' the tools in use can be evaluated and there is evidence that these are appropriate and effective meeting SG80. | No agreement that even generally understood HCRs are in place. Therefore SG80 requirements still cannot be met. |

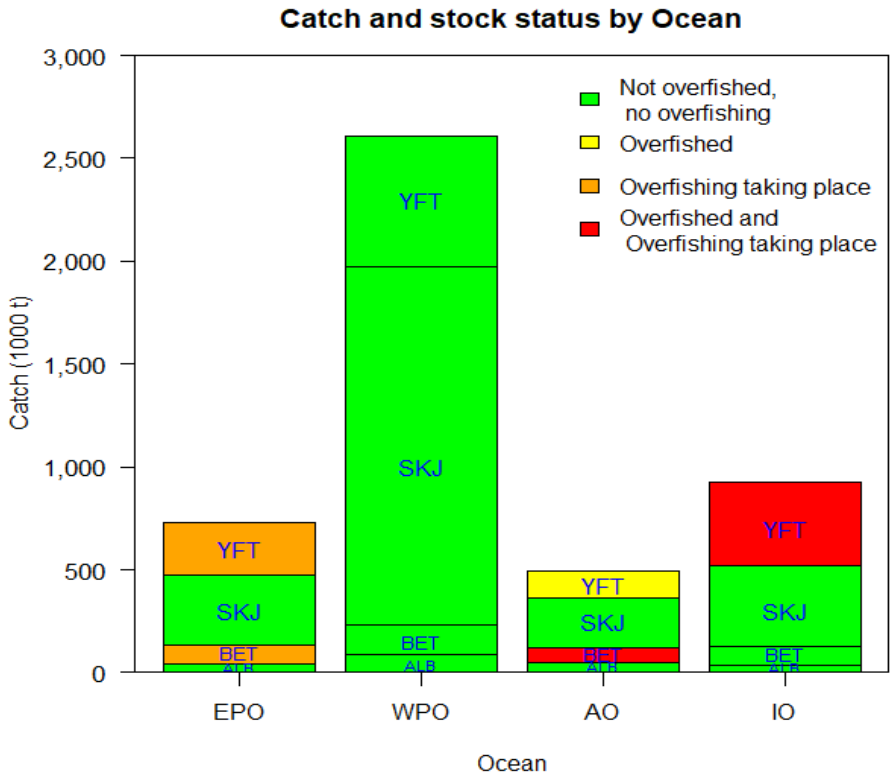
The PNAO submission and SCS's response are included below.

### PNAO SUBMISSION ON SKJ AND YFT HS and HCR

### FOR THE 1st SURVEILLANCE AUDIT ON THE RENEWED CERTIFICATION ON THE PNA WESTERN AND CENTRAL PACIFIC SKIPJACK AND YELLOWFIN, UNASSOCIATED / NON-FAD SET, TUNA PURSE SEINE FISHERY

**Overview**

The figure below illustrates the status of the 4 major tuna stocks (albacore, bigeye, skipjack, yellowfin) globally. The figure shows the superior performance of the WCPO harvest strategies in managing these stocks. At this point, the WCPO tuna fisheries are generally the only major tropical tuna fisheries globally where the major target stocks (bigeye, skipjack and yellowfin) are being fished sustainably. Notably, around 60% of the WCPO catch of tropical tunas indicated in the figure is taken in PNA waters and a significant amount in addition is taken by PNA flag vessels outside PNA waters.




Source: SPC Status of the WCPO stocks presentation to the 24th Annual meeting of the Palau Arrangement

In the view of the PNA, the WCPO outcome indicated in the figure is a result of the effective control of harvests in the WCPO, particularly under the VDS.

At a more detailed level, this figure, taken with the results of the most recent assessments for bigeye, skipjack and yellowfin, and the projections referred to below indicate that the management objectives for all 3 stocks as set out in the stream of Tropical Tuna CMMs over time:

a) Are currently being achieved;

b) Have always been achieved; and

c) Are likely to continue to be achieved

This is no accident and its not because the stocks are lightly exploited. In the PNAO view, this outcome results from the effectiveness of the current controls on harvests, particularly as a result of the PNA VDS. However, the harvest controls in place are not complete, and there are uncertainties, gaps and risks that require to be addressed to ensure that WCPO

tropical tuna fisheries continue to be sustainable. The adoption of more well-defined harvest control rules is a key element in that work, along with strengthening of other elements of harvest strategies.

**Specific Comments on Skipjack and Yellowfin Harvest Strategy and Harvest Control Rule Scoring Issues**

The notes below relate to the skipjack UoA, but the PNAO considers that the same comments broadly apply to the yellowfin tuna UoA.

### 1.2.1 Harvest strategy

#### 1.2.1a Harvest strategy design

PNAO sees three aspects in which new information point to increasing the score for this SI to 100. They are:

a) **The revision in the status of the bigeye stock**. Previously assessments on the skipjack stock have considered that:

> *"the record of failing to reduce fishing mortality on bigeye tuna so that they have now become overfished (see PI 2.1.1), reduces the level of confidence that the harvest strategy would be responsive to the state of the stock or that the elements will work together when required to do so to achieve the management objectives"* (WPSTA PCR, p167)

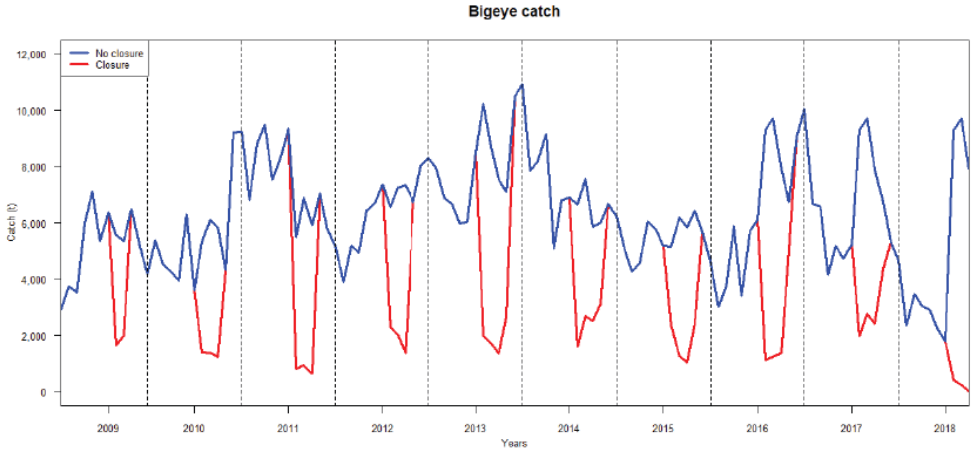
It is now clear that the bigeye tuna stock is not overfished, and never was overfished. It must therefore follow that the fact that the bigeye stock, and the yellowfin stock, and the skipjack stock are not overfished and have never been overfished at least removes the previous reduction in confidence in the responsiveness and effectiveness of the harvest strategy referred to above.

More generally, there is now evidence of:

i) effective actions being taken to reduce effort and catch when the scientific advice was that the stock was overfished, including as indicated below;

- the FAD closure

Resulted in about 16% reduction in bigeye catch for a 2-months FAD closure, 21% - 3-month and 26% in a 4-month closure. 22% overall for 2009-2017.




Source: SPC Status of Stocks Presentation to the 24thAnnual meeting of the Parties to the Palau Arrangement

and

- the measures adopted being likely to rebuild the stock:

**Table 1. Average rebuilding time to each bigeye stock rebuilding level (%$SB_{F=0,y\text{-}10\text{-}y\text{-}1}$), under scenarios of purse seine FAD effort and longline catch.**

| Average rebuilding level | Basis | Status quo | 'Pessimistic' | '2016 choices' | 'Optimistic' | 'Closure' |
|---|---|---|---|---|---|---|
| 20% $SB_{F=0}$ | Adopted LRP[1] | 7 years | 7 years | 6 years | 5 years | 2 years |
| 24% $SB_{F=0}$ | Consistent with 20% risk of falling below LRP | 10 years | 12 years | 7 years | 6 years | 3 years |
| 25% $SB_{F=0}$ | Consistent with 15% risk of falling below LRP | 12 years | 21 years | 8 years | 7 years | 4 years |
| 26% $SB_{F=0}$ | Consistent with 10% risk of falling below LRP | 14 years | >30 years | 9 years | 7 years | 4 years |
| 28% $SB_{F=0}$ | Consistent with 5% risk of falling below LRP | >30 years | >30 years | 11 years | 8 years | 5 years |

[1] this is consistent with a half of all runs falling below the LRP (a 50% risk)

Source: WCPFC13-2016-12: Biologically reasonable rebuilding timeframes for bigeye tuna WCPFC13-2016-12 https://www.wcpfc.int/node/28504

and

ii) action to allow increases in effort and catch consistent with scientific advice from the latest assessment that the unfished biomass was substantially higher than previously estimated (by 70%)

which must increase the level of confidence that the harvest strategy would be responsive to the state of the stock and that the elements will work together when required to do so to achieve the management objectives.

b) **The process of preparation of CMM 2017-01 and CMM 2018-01:** the preparation of the replacement Tropical Tuna CMM for CMM 2013-01 illustrates the way in which the current harvest strategy, including the "generally understood" HCR respond to the state of the stock. The key elements include:

i) updated assessments for skipjack (2016) and bigeye and yellowfin (2017, with a revised bigeye assessment in 2018)

ii) scientific advice on the status and management of these 3 stocks from the Scientific Committee;

iii) Two special sessions of the Commission in 2017 and priority attention to the Tropical Tuna Measure during the annual Commission sessions in 2017 and 2018

iv) Presentations to those sessions of a range of scientific analyses including

- Projections of spawning biomass and fishing mortality in relation to SBmsy and Fmsy (for bigeye and yellowfin); the TRP for skipjack and the LRPs for all 3 stocks presented to the 2017 special WCPFC session https://www.wcpfc.int/node/29808
- Evaluations of Management options presented to the 2017 and 2018 Commission sessions https://www.wcpfc.int/node/30045 and https://www.wcpfc.int/node/30171 . This analysis was a response to the Special WCPFC Intersessional Meeting to Progress the Draft Bridging Measure for Tropical Tunas held in August 2017. The meeting tasked SPC to evaluate the performance of a range of measures for skipjack management against these parameters:
    - Catches
    - Vulnerable biomass
    - the spawning biomass depletion ratio (SB/SBF=0) is to be maintained on average at the target reference point
    - the fishing mortality is to be maintained at or below the average fishing mortality level in 20112014
    - the fishing mortality at FMSY - the risk of breaching the adopted limit reference point of 20% of the estimated recent average spawning biomass in the absence of fishing
    - [relative impact on spawning biomass by fishery sector/gear]
- Preparation of the CMM as a "bridging" measure to the creation of a formal harvest strategy
- Systematic revision of the CMM based on the conclusions of the SPC Evaluation of Management Options with the aims of:

    i) achieving the objectives set in the measure, including keeping the SKJ TRP around the TRP; and

ii) ensuring a very low risk of breaching the LRPs for all 3 stocks

c) **The form of CMM 2017-01 and CMM 2018-01:** one of the rationales set down by some CABs for the previous scoring of 60 for SI 1.2.1 a) was that *the processes for determining VDS TAE and PAE are not transparent and that it is unclear how the TAE is determined, based on stock status advice".* This was never the case, but there were some complexities in the determination of the TAE which have now been simplified to make the process of determining the TAE even more transparent. That includes:

i) In CMM 2017-01 and 2018-01, EEZ effort limits have been reformulated as numbers of days rather than historical effort levels. The WCPFC effort limit for PNA EEZs is now clearly 44,033 days as set out in Table 1 of CMMs 2017-01 and 2018-01 where it was previously defined as the 2010 effort level ; with an associated TAE of 1,000 days for Tokelau which Table 1 indicates is *"managed cooperatively through the PNA Vessel Day Scheme"*

ii) the VDS TAE for 2019 has been determined at 45,033 days as set out below. In this formulation the Length Adjustment Factor has been kept at zero to clarify the link with Table 1 the Tropical Tuna CMMs.

**Proposed TAE for 2019 and Proposed Provisional TAE for 2020 and 2021**

| | Determining the TAE (days) | | | | |
|---|---|---|---|---|---|
| | **TAE 2017** | **TAE 2018** | **Provisional TAE for 2019** | **Proposed TAE for 2019** | **Proposed Provisional TAE for 2020 and 2021** |
| Estimated 2010 Logsheet effort | 44,033 | 44,033 | 44,033 | 44,033 | 44,033 |
| Length Adjustment factor | 1.30% | 0.0% | 0.0% | 0.0% | 0.0% |
| ***PNA TAE*** | ***44,605*** | ***44,033*** | ***44,033*** | ***44,033*** | ***44,033*** |
| Tokelau TAE | *985* | *972* | *972* | *1,000* | *1,000* |
| ***Total VDS TAE (PNA + Tokelau)*** | ***45,590*** | ***45,005*** | ***45,005*** | ***45,033*** | ***45,033*** |

The set of effort limits adopted in the CMM reflects

i) the scientific advice that the spawning biomass was around the TRP and action should be taken to keep the spawning biomass near the TRP; and

ii) the projection results which indicated that maintaining effort at recent levels would keep the SKJ spawning biomass around the TRP

### 1.2.2 Harvest Control Rules and Tools

#### 1.2.2a HCRs Design and Application

The re-assessment found that appropriate generally understood HCRs are "available". In the view of the PNAO, the available evidence now indicates that the generally understood HCRs should be considered as "in place".

Relevant MSC advice[4] includes (emphases added):

a) When determining whether there is a 'generally understood' HCR **in place** in the fishery under assessment, assessors need to determine whether the fishery will in future take appropriate management action in line with what they perceive as the 'generally understood' rule. Evidence that positive action has been taken in the past should be considered to be evidence that there is a generally understood rule **in place**.

b) Conservation and Management Measures (CMMs) approved by RFMO Commissions and for example regarded as 'active' resolutions, may thus be accepted as **in place** even if they might still be overturned at some point in the future.

c) Evidence and examples of the positive actions taken in response to generally understood HCRs should be provided for the target stock in the case that generally understood HCRs are **'in place'**

d) However, in some circumstances – where F has been constrained at F<FMSY by controls on effort or catches, then this could be given as part of the evidence that the 'generally understood' HCRs **are being effective**. Evidence for the effectiveness of an HCR should in fact require the consistent achievement of the target exploitation level

The fishery meets these tests in that:

a) There have been a series of management actions relating to skipjack tracing from the broadening of the Tropical Tuna CMMs by the Commission since CMM 2013-01 to include explicitly target the CMMs at managing skipjack as well as bigeye and yellowfin and the associated tightening of the VDS through to the process and outcomes of the preparation of CMMs 2017-01 and 2018-01. Notably this process has now been through a full cycle from the adoption of a 4 year measure in 2012 (for 2013-2017) to the adoption of a new 3 year measure in 2017 (for 2018-2000). This record of management actions provide evidence that there is a "generally understood" rule in place, and that appropriate management action will in future be taken in line with this "generally understood" rule.

b) The Tropical Tuna CMMs have been and continue to be, "in place."

c) Evidence and examples of the positive actions taken in response to the "generally understood" HCRs for skipjack are provided in a) above; and

d) The figure below illustrates the effectiveness of the PNA VDS working together with the WCPFC Tropical Tuna CMM to cap and bring down purse seine effort and skipjack fishing mortality since 2010 to achieve an exploitation level well below FMSY consistent with maintaining the spawning biomass around the TRP .

[4] From the MSC Interpretation on Harvest Control Rules (HCRs)

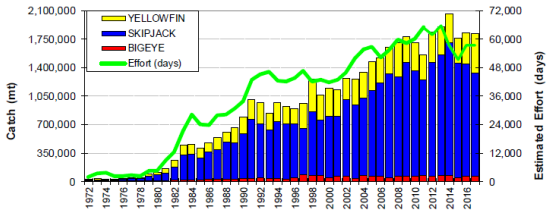


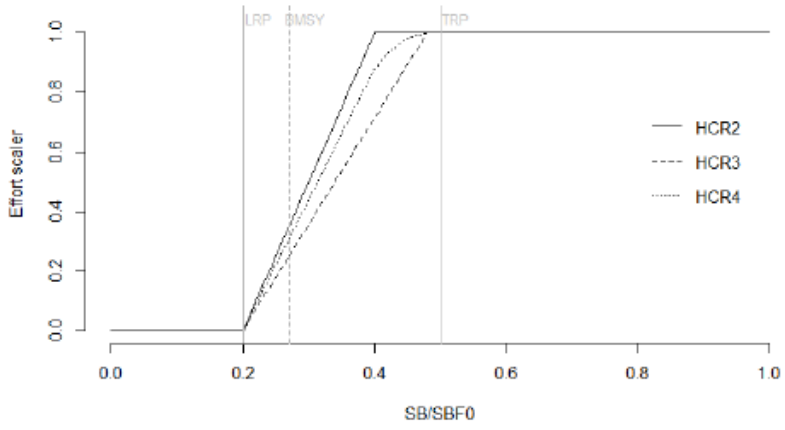

**Figure 3.1.2 Purse seine catch (mt) of bigeye, skipjack and yellowfin and estimated fishing effort (days fishing and searching) in the WCP–CA**

Source: Figure 3.1.2: WCPFC-SC14-2018/GN-WP-01: Overview of Tuna Fisheries in the Western and Central Pacific Ocean, including Economic Conditions – 2017: https://www.wcpfc.int/node/32155

In addition, further evidence of the "generally understood" HCR for skipjack being in place includes:

a) the process of preparation of the current Tropical Tuna CMM including the adoption of clear objectives for all 3 tropical tuna stocks; the evaluation of management options in the manner summarised above and the outcome in terms of the revision of the CMM in response to the status of the stock and the advice on the effectiveness of different management options to achieve the agreed management objectives.

b) The ongoing work on the design of a formal HCR for skipjack centred on the form of candidate HCRs illustrated below.




Source: Figure 1: Evaluation of candidate harvest control rules for the tropical skipjack purse seine fishery: SC12-MI-WP-06: https://www.wcpfc.int/node/27431

including work reported in:

- WCPFC-SC14-2018/ MI-WP-04: Performance indicators for comparing management procedures using the MSE modelling framework: https://www.wcpfc.int/node/30982
- WCPFC-SC14-2018/ MI-WP-05: Key decisions for managers and scientists under the harvest strategy approach for WCPO tuna stocks and fisheries; https://www.wcpfc.int/node/30993 and

c) The design of the current Tropical Tuna CMM to "create a bridge to the adoption of a harvest strategy for bigeye, skipjack, and yellowfin tuna stocks and/or fisheries in accordance with the work plan and indicative timeframes set out in the Agreed Work Plan for the Adoption of Harvest Strategies under CMM 2014-06".

### 1.2.2c HCRs Evaluation

This SI requires an assessment of evidence showing that the tools in use are effective in achieving the exploitation levels required under the HCRs.

The re-assessment considered that *"Given SIa finds HCRs are 'available', the tools are not considered to be in use and SG80 is not met."* consistent with the MSC advice that "*Due to the scoring rules, if HCRs are only regarded as 'available' in scoring issue (a), it is not possible to score more than 60 for issue (c) since the SG80 refers to the tools 'in use' in the fishery in assessment, not the tools 'in use or available'*

However, following the argument above that the available evidence now indicates that the generally understood HCRs should be considered as "in place" rather than "available", this rationale no longer applies and it follows that an assessment should be made of the extent to which *the tools in use are effective in achieving the exploitation levels required under the HCRs*.

The range of tools used to control skipjack harvests include effort limits and capacity limits. Other measures such as the FAD closure designed to management bigeye also have an effect on control of skipjack harvests. These measures are clearly "in use" and are effective because the exploitation levels required under the "generally understood" HCRs have all been achieved. If the tools weren't "in use" the harvests wouldn't have been controlled as effectively as they have been.

Therefore, on the basis that additional information indicates that the "generally understood" HCRs are "in place" rather than available, the PNAO view is that SIc should be assessed on the basis of the tools being "in use", and that SG80 is met.

### 1.2.3 – Information and Monitoring

#### 1.2.3b Monitoring

The re-assessment concluded that SG100 was not met for this SI because:

> *"…, there are aspects of the data collection which do not meet SG100 requirements. There are delays in the collation of data from the most recent year that prevent their inclusion in the assessment. For a short-lived species such as skipjack tuna, this could lead to a mismatch between estimates of stock status from the assessment, management actions, and the actual stock status (Rice et al. 2014). Also, operational level data are not provided by some WCPFC members (although some who do not provide it to WCPFC make their country's data available for assessment purposes). "*

The reference for this conclusion is the 2014 skipjack assessment report. The PNAO understanding is that data from the most recent year is included in the assessment i.e. 2015 data was used in the 2016 skipjack assessment. Similarly the PNAO understanding is that there are no significant shortfalls in the availability of operational data for the skipjack assessments.

These 2 points can be checked with SPC.

## SCS Response to 2019 PNAO Submission

This response is to the latest written submission provided to SCS on 6 April 2019 by PNAO as a stakeholder response for the PNG-FIA assessment which the PNAO also later requested to be considered for other assessments or surveillance audits which were being undertaken in early 2019. It has been drafted by SCS but reflects the outcomes of the most recent harmonization discussions. Harmonisation is one of the MSC's main priorities in ensuring the credibility of the standard. In 2016 CAB representative and team members participated in a Harmonisation Workshop which resulted in agreed scores for Principle 1 for the yellowfin tuna and skipjack tuna stocks in the western Pacific managed by the Western and Central Pacific Fisheries Commission (WCPFC). The input provided by the PNAO submission triggered harmonisation discussions amongst CABs to review the previously agreed-upon scores for these stocks. The harmonisation discussions did not result in a change to scores, however, they led CABs to seek further guidance on interpretation of the standard from MSC (See below).

In brief this submission argues that that the management objectives for all three main tuna stocks (skipjack, yellowfin and bigeye tuna) as set out in the stream of Tropical Tuna CMMs over time are currently being achieved, have always been achieved, and are likely to continue to be achieved.
Response: The good status of the key tuna stocks in the WCPO is noteworthy and is reflected in scores for PI 1.1.1 (unconditional passes for all key tuna species). The scoring of the harvest strategy, however, evaluates prescribed aspects of the system that delivered that outcome, and there is no guaranteed pass for those just because stock status is still good.

The subsequent detailed arguments for specific performance indicators in the PNAO submission were mainly focused on skipjack tuna but the PNAO considered that the same comments broadly applied to the yellowfin tuna UoA as well.

**PI 1.2.1a.** The PNAO submission argues that the score for this PI should be 100.

Response: The MSC identifies a Harvest Control Rule in place (even if just a generally understood one) as one of the key elements required in a harvest strategy (MSC Standard v2.01 GSA2.4) and so the lack of any form of HCR is relevant to the logic behind whether the harvest strategy elements (as defined by MSC) work together as required by the SG80 level for Scoring Issue a for PI 1.2.1. Applying the MSC definition of a harvest strategy, it is understood that a harvest strategy for a fishery could not be given an unconditional pass for PI 1.2.1 without a HCR being in place.

Nevertheless, SCS with other CABs recognize the potential validity of this argument, and have in response submitted an interpretation request to MSC on July 2019, to clarify this issue. No formal response has been received to the request to the date of the publication of this report.
In conclusion, there is still considered to be insufficient evidence that scoring issue 1.2.1a reaches the SG80 level.

**PI 1.2.2a.** The PNAO submission argues that a generally understood HCR is in place and not just available. This does not affect the score for this PI but could affect how PI 1.2.1a is scored and would also allow a different approach for PI 1.2.2c.

Response: There has previously been agreement among CABs that there is not even a generally understood HCR for skipjack tuna (or other tuna species). A 60 score has been achieved for 1.2.2a on the basis of 'available' HCRs not one that is 'in place'.

The PNAO submission provides a more detailed and coherent argument than has previously been submitted to CABs, however, it does not provide any new information that would be considered material to scoring. All measures introduced by WCPFC have been negotiated outcomes that, although important and positive for stock conservation, had not been considered to follow even a generally understood HCR.

The MSC Interpretation on HCRs instructs CABs that, when there is uncertainty over whether a HCR meets the requirements of 'generally understood', they should follow the precautionary approach and award a lower score. So, in the absence of new and stronger evidence that the previous decision was incorrect, the status quo should apply and a condition be maintained.

**PI 1.2.2c.** The PNAO submission argues that the available evidence indicates that the tools in use (not just available) are effective and that a score of 80 is warranted.

Response: As the HCRs are still not considered to be in place, then following MSC advice, it is not possible to score more than 60 for issue (c) since the SG80 refers to the tools 'in use' in the fishery in assessment, not the tools 'in use or available'.

*The CAB shall use the stakeholder input template:*
*1. To include all written stakeholder input during the stakeholder input opportunities and provide a summary of verbal stakeholder input received during the site visit, if any.*

*2. The team shall respond to all written stakeholder input identifying what changes to scoring, rationales and conditions have been made in response, where the changes have been made, and assigning a 'CAB response code'. The team may respond to the verbal summary.*

***[References: FCP 7.28]***

As described in detail below in Section 6.4, there was one stakeholder submission received by SCS concerning another MSC assessment. It was also relevant to this fishery and was the subject of cross-CAB harmonization discussions so has also been considered as part of this surveillance audit.

## 6.3 Tri Marine Position Statement on Harvest Strategies—WCPFC13

TRI MARINE

**TRI MARINE POSITION ON HARVEST STRATEGIES - WCPFC13**

**NADI, 4-9 DECEMBER 2017**

**Tri Marine:**

- Acknowledges that harvest strategies are considered a best-practice approach to fisheries management, reflecting the *UN Fish Stocks Agreement* and *WCPFC Convention's* call for application of the precautionary principle.
- Notes that the Marine Stewardship Council's certification scheme for sustainable fishing is underpinned by a harvest strategies approach to fisheries management.
- Notes that all MSC-certified tuna fisheries in the WCPO have conditions in place (including Tri Marine's Solomon Islands and US purse seine skipjack and yellowfin certifications) which requires robust and precautionary harvest strategies to be in place that are responsive to the state of the stock and work towards achieving management objectives reflected in the target and limit reference points, as well as well-defined harvest control rules that take into account the main uncertainties.
- Commends WCPFC's adoption of CMM 2014-06 on Establishing a Harvest Strategy for Key Fisheries and Stocks in the Western and Central Pacific, where each stock/fisheries' harvest strategy contains the following elements: i) defined management objectives and timeframes; ii) target and limit reference points; iii) acceptable levels of risk of not breaching limit reference points; iv) a monitoring strategy to assess performance against reference points; v) harvest control rules that are responsive to stock status to achieve the target reference point and avoid the limit reference point; and, vi) a management strategy evaluation of the proposed harvest control rules against management objectives.
- Supports WCPFC's Workplan for the Adoption of Harvest Strategies which establishes a process and timeframes to cover the Commission's activities from 2015-2018.
- Encourages WCPFC members to commit to fully implement WCPFC's Harvest Strategy Workplan within the designated timeframe; and, strongly discourages the use gaps in scientific information or political or commercial constraints as reasons for postponing or failing to adopt harvest strategies.
- Notes under the Harvest Strategy Workplan that WCPFC13 is tasked with: i) recording management objectives for all species; ii) agreeing on acceptable levels of risk for breaching limit reference points for all species; iii) establishing a timeframe to rebuild bigeye stock to the limit reference point; iv) establishing a target reference point for albacore; v) agreeing to a monitoring strategy for skipjack and albacore; and, vi) agreeing on performance indicators to evaluate harvest control rules for skipjack and albacore.
- Notes the immediate priority is developing harvest strategies for skipjack and albacore as these two stocks are the most economically significant to Pacific Island countries, as well as re-building bigeye given stocks are below the limit reference point.
- Cautions that progress on key harvest strategy elements for yellowfin should not be delayed or postponed, given yellowfin stocks are fully or over-exploited in some regions in the WCPO. Also, all WCPO purse seine yellowfin MSC certifications have conditions set in relation to the development a harvest strategy within five years of the certification being awarded.
- Supports proposals for a new tropical tunas measure (to replace CMM 2015-01 in 2017) which are in line with the harvest strategies approach to fisheries management.

**Table 25. Fishery surveillance program**

| Surveillance level | Year 1 | Year 2 | Year 3 | Year 4 |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Level 6 | On-site surveillance audit | Off-site surveillance audit | Off-site surveillance audit | On-site surveillance audit & re-certification site visit |

**Table 26. Timing of surveillance audit**

| Year | Anniversary date of certificate |
|---|---|
| 4 | July 11, 2021 |

**Table 27. Surveillance Level Rationale**

| Surveillance Level | Year 1 | Year 2 | Year 3 | Year 4 |
|---|---|---|---|---|
| Level 4 | On-site surveillance audit | Off-site surveillance audit | Off-site surveillance audit | On-site surveillance audit & re-assessment site visit |

On-site surveillance audit was undertaken in 2017 as MRAG scheduled an expedited scope extension assessment of the Solomon Islands Skipjack-Yellowfin Tuna fishery to include albacore tuna (*Thunnus alalunga*) as a target (Principle 1) species and to add longline gear. However, the scope extension assessment was postponed. Thus the order of off-site/on-site surveillance audits for years 1 (2017) and 2 (2018) has changed from the order in the PCR (Trumble and Stocker, 2016).

## 6.4 Harmonized Fishery Assessments

The fishery is subject to harmonization requirements due to its overlap with numerous other WCPO skipjack and yellowfin fisheries. A combined CAB variation request was submitted to the MSC in 2018 regarding harmonization of highly migratory species (HMS) fisheries in the MSC system. The MSC has now published a response to this request. The detail is available at https://fisheries.msc.org/en/fisheries/solomon-islands-skipjack-and-yellowfin-tuna-purse-seine-and-pole-and-line/@@assessments but in brief, the MSC has agreed that conditions for Principle 1 for all certified tuna fisheries under the jurisdiction of the WCPFC should be aligned with regard to timelines

and that these should follow the agreed Harvest Strategy Workplan adopted by WCPFC in 2017 (Attachment L to WCPFC14 report).

This means that for the fishery being evaluated here, some adjustment to the timeframes for the CAP is needed to match this agreed work plan. Although, as described above in Section 4.2, the timelines in this work plan were further amended in 2018, it is the timelines in the 2017 version that are too reflect in milestones in the CAP. In doing so we note that, because WCPFC meets in December each year, where it has proposed a specific year for achieving a particular outcome, the evaluation of the relevant milestone condition would occur in a fishery's surveillance audit the following year.

To further improve harmonization among fisheries there is also a new requirement for those fisheries that were originally scored under v1.3 (which this fishery was) will be re-scored under v2.0 as part of the next surveillance audit. Specifically, for fisheries scored against v1.3:

- they are to be upgraded to v2.0 at the next surveillance audit;
- CABs shall follow specific process requirements that have been prepared by the MSC specifically for P1 upgrades (see Appendix 9.5);
- Because the stock has already been fully assessed against FCR v2.0 at the time this rescoring will be done, a reduced upgrade process applies that does not require peer review and additional reporting requirements.

Harmonization discussions were held among CABs around potential changes to Principle 1 Conditions for overlapping WCPO fisheries after this surveillance audit was conducted. These discussions focused on written and oral submissions received from the PNAO to CABs (**Error! Reference source not found.**) that contained some new information and additional arguments to support increases to scores for PI 1.2.1a, PI 1.2.2a, and PI 1.2.2c. There was no agreement, however, that the evidence was insufficient to justify increasing scores and removing conditions for these PIs at this stage. Therefore no changes to scores are proposed for this fishery.

**Table 28. Overlapping fisheries**

| | Fishery Name | Gear Types | MSC Status |
|---|---|---|---|
| 1 | Pan Pacific yellowfin, bigeye and albacore longline fishery | Hooks and Lines - Longlines | In Assessment |
| 2 | PT Citraraja Ampat, Sorong pole and line Skipjack and Yellowfin Tuna | Hooks and Lines | In Assessment |
| 3 | Fiji Albacore and Yellowfin Tuna longline | Hooks and Lines - Longlines | Certified |
| 4 | SZLC CSFC & FZLC FSM EEZ Longline Yellowfin and Bigeye Tuna | Hooks and Lines - Longlines | In Assessment |
| 5 | Tri Marine Western and Central Pacific Skipjack and Yellowfin Tuna | Surrounding Nets - With purse lines (purse seines) | Certified |

| | | | |
|---|---|---|---|
| 6 | PNA Western and Central Pacific skipjack and yellowfin, unassociated / non-FAD set, tuna purse seine | Surrounding Nets - With purse lines (purse seines) | Certified |
| 7 | French Polynesia albacore and yellowfin longline fishery | Hooks and Lines - Longlines | Certified |
| 8 | American Samoa EEZ Albacore and Yellowfin Longline Fishery | Hooks and Lines - Longlines | Certified |
| 9 | SZLC, CSFC & FZLC Cook Islands EEZ South Pacific albacore & yellowfin longline | Hooks and Lines - Longlines | Certified |
| 10 | WPSTA Western and Central Pacific skipjack and yellowfin free school purse seine | Surrounding Nets - With purse lines (purse seines) | Certified |
| 11 | Japanese Pole and Line skipjack and albacore tuna fishery | Hooks and Lines - Handlines and pole-lines (hand-operated) | Certified |
| 12 | Talleys New Zealand Skipjack Tuna Purse Seine | Surrounding Nets - With purse lines (purse seines) | Certified |
| 13 | Ishihara Marine Products albacore and skipjack pole and line fishery | Hooks and Lines - Handlines and pole-lines (hand-operated) | In Assessment |
| 14 | Tropical Pacific yellowfin and skipjack free-school purse seine fishery | Surrounding Nets - With purse lines (purse seines) - one boat operated purse seines | In Assessment |
| 15 | Walker Seafood Australian albacore, yellowfin tuna, and swordfish longline | Hooks and Lines - Longlines | Certified |

## 6.5 P1 Upgrade Harmonization Report

# Solomon Islands Skipjack and Yellowfin Tuna Purse Seine Anchored FAD, Purse Seine Unassociated, and Pole and Line Fishery

*Harmonization Report*

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**January 9, 2020**

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# 2. Glossary

| | |
|---|---|
| CITES | Convention on International Trade in Endangered Species of Wild Fauna and Flora |
| EEZ | Exclusive Economic Zone |
| ETP | Endangered, Threatened or Protected species |
| FAO | Food and Agriculture Organization of the United Nations |
| FCM | Fisheries Certification Methodology |
| IFQ | Individual Fishing Quota |
| ITQ | Individual Transferable Quota |
| Kg | Kilogram |
| Lb. | Pound, equivalent to roughly 2.2 kg |
| LOA | Length Over-All |
| M | Million (lbs.) |
| MSC | Marine Stewardship Council |
| MSE | Management Strategy Evaluation |
| nm | nautical mile |
| OFL | Over-Fishing Level |
| PI | Performance Indicator |
| SCS | SCS Global Services |
| SI | Scoring Issue |
| SSB | Spawning Stock Biomass |
| t and mt | metric ton |
| TAC | Total Allowable Catch |
| WWF | World Wildlife Fund |

# 3. Executive Summary

**Table 29. Unit of Certification(s) and Unit of Assessment(s)**

| Stock/Species (FCP V2.1 7.5.2.a) | Method of Capture (FCP V2.1 7.5.2.b) | Fishing fleet (FCP V2.1 7.5.2.c) |
|---|---|---|
| Western and Central Pacific Ocean Skipjack Tuna<br><br>Western and Central Pacific Ocean Yellowfin Tuna | Gear 1 - Purse seine sets associated with anchored fish aggregating devices (FADs)<br>Gear 2 - Purse seine sets unassociated with fish aggregating devices<br>Gear 3 - Pole and line | The Main Group Archipelago (MGA) and Exclusive Economic Zone (EEZ) of the Solomon Islands. Vessels included /eligible to use the certificate are restricted to those that are operating on behalf of Tri Marine International Pte. Ltd., on behalf of National Fisheries Developments, Ltd. (NFD). |

### Fishery Operations Overview

This report presents the Marine Stewardship Council (MSC) assessment of the Solomon Islands Skipjack (*Katsuwonus pelamis*) and Yellowfin Tuna (*Thunnus albacares*) caught Purse Seine Anchored FAD, Purse Seine Unassociated, and Pole and Line fishery. Within the report, the Unit of Assessment will be referred to more simply as the Solomon Islands Purse-seine and Pole and Line fishery. The UoA and UoC includes vessels owned/chartered by Tri Marine International Pte. Ltd.'s, National Fisheries Development Ltd (NFD). The initial assessment was conducted by MRAG using MSC Certification Requirements (CR) v1.3. The fishery was certified on July 12, 2016.

### Assessment Overview

The team selected to undertake the assessment included two team members that collectively meet the requirements for MSC assessment teams. These were Dr. Robert J. Trumble and Max Stocker

The certificate was issued on the 12th of July, 2016.

The fishery has been subject to three surveillance audits since the original certificate was issued during which time no Principle 1 conditions were closed. This harmonization report is an Annex to the third (2019) surveillance audit report in compliance with instructions issued by the MSC in February 2019 for Principle 1 v2.0 assessment upgrade process. This upgrade was conducted by Principle 1 expert, Sandy Morison, during the 3rd year surveillance audit. Surveillance audit meetings were conducted via remote calls to relevant people between June 11 and June 18, 2019. Both audit team members, Mr. Morison, and Mr. Meere participated in each call.

## Summary of Findings

This report provides updated background information and the harmonized rationales and scores for each of the Performance Indicators (PIs) under Principle 1 (Stock status and Harvest strategy) of the MSC Standard. No PIs failed to reach the minimum Scoring Guidepost (SG) of 60, and the average scores for Principles 1 was above 80. The team originally issued scoring two issue-level conditions for each Unit of Certification for two different PIs that did not meet SG80 level. A Client Action Plan, detailed in Appendix 1.2., was produced to meet these original conditions.

In Principle 1 two of the PIs (1.2.1 and 1.2.2) received scores under SG80, these are related to the harvest strategy and the harvest control rule.

In this report we provide the harmonized rationales for all Principle 1 PIs.

# 4. Report Details

## 4.1 Authorship and peer review details

### Audit Team

The original audit team was comprised of Dr. Robert J. Trumble and Dr. Max Stocker.

*The audit team for the P1 harmonization and 3rd year surveillance audit consisted of:*

Mr Alexander Morison, Lead auditor and Principle 1 and Principle 2 Expert
Mr. Frank Meere, Principle 3 Expert

The qualifications for the original audit team and the P1 upgrade team were:

**Dr. Robert J. Trumble – MRAG – Team Lead**

**Dr. Robert J. Trumble (Assessment Team Leader)** joined MRAG Americas in 2000 as a senior research scientist and became Vice President in 2005. He has wide-ranging experience in marine fish science and management, fishery habitat protection, and oceanography. Dr. Trumble serves as Certification Manager for MRAG. He has overseen all MRAG pre-assessments and full assessments. He has received MSC training on numerous occasions, including the Risk-based Framework, and has led an RBF on three occasions.

Previously, he served as Senior Biologist of the International Pacific Halibut Commission in Seattle, Washington, in various research and management positions at the Washington Department of Fisheries, and with the US Naval Oceanographic Office. Dr. Trumble has extensive experience working with government agencies, commercial and recreational fisheries groups, Indian tribes, and national and international advisory groups. He received appointments to the Scientific and Statistical Committees of the South Atlantic Fishery Management Council and the Pacific Fishery Management Council, the Groundfish Management Team of the North Pacific Fishery Management Council, the affiliate faculty of Fisheries at the University of Washington, and the Advisory Committee of the Washington Sea Grant Program. Dr. Trumble received a Ph.D. in Fisheries from the College of Fisheries, University of Washington.

**Dr. Max Stocker - Stocker & Associates Consultants**

**Dr. Max Stocker** is a scientist with over 30 years of extensive experience in fisheries science. He is currently the proprietor of Stocker & Associates Consultants conducting Marine Stewardship Council certification projects. Dr. Stocker acted as marine fisheries consultant under contract with Fisheries and Oceans Canada (DFO) to provide scientific advice on highly migratory species in the Pacific Ocean. He was the lead Canadian scientist for highly migratory species for the Western and Central Pacific Fisheries Commission (WCPFC) and the Inter-American Tropical Tuna Commission (IATTC). He served as co-chair of the Stock Assessment Working Group of the Scientific Committee of the WCPFC and chaired the ISC Albacore

Working Group. From 1978-2006 Dr. Stocker held the position of research scientist with DFO at the Pacific biological Station conducting population dynamic studies, conducting peer reviewed stock assessments of many marine species, and communicating results to fisheries managers and stakeholders. He authored and co-authored over 90 scientific papers and reports, and made over 50 presentations in national and international scientific meetings. Dr. Stocker chaired the Pacific Scientific Advice Review Committee (PSARC) for many years and edited and published over 30 advisory documents on the stock status of marine species and the implications of harvest management on these stocks. Additionally, Dr. Stocker served as in-house stock assessment consultant to the New Zealand Fishing Industry Board in the early 1990s conducting peer reviewed stock assessments, participating in the peer review process, and advising the Board on inshore and deepwater fisheries.

**Alexander (Sandy) Morison– Morison Aquatic Sciences – Principle 1 Expert and Team Lead**

Mr. Morison is a consultant specializing in fisheries and aquatic sciences. He has over 30 years' experience in fishery science and assessment at state, national and international levels and has held senior research positions for state and national organizations in Australia. He is currently chair of the Ecologically Related Species Working Group of the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) and has been engaged in the Kobe process for harmonization of measures across the tuna RFMOs.

Mr. Morison has considerable experience with issues of tuna and other pelagic species through various positions in addition to his current role with CCSBT. He was Australia's representative on the Science Working Group during the establishment of the South Pacific Regional Fisheries Management Organisation and was the inaugural chair of the Jack Mackerel Working Group during that time. He has also chaired Australia's East Coast Tuna and Billfish Resource Assessment Group.

Mr. Morison has participated as part of a team undertaking MSC pre-assessments for several fisheries and is also trained as a lead auditor for MSC assessments.

- Heard Island and MacDonald Islands Mackerel Icefish: Reassessments and surveillance audits (Principle 1).
- Heard Island and MacDonald Islands Patagonian toothfish: First assessment, reassessment and surveillance audits (Principle 1).
- Lakes and Coorong Fishery (South Australia): Reassessments and surveillance audits (Principle 1).
- Macquarie Island Patagonian toothfish fishery: First assessment, reassessment and surveillance audits (Principle 1).
- Kyoto Danish Seine Fishery: Reassessment (Principle 1).
- Western Rock Lobster Fishery: Surveillance audits and reassessment. (Principle 1)
- PNA Western and Central Pacific unassociated purse seine fishery (skipjack tuna): Surveillance audits (Principle 1).
- PNA Western and Central Pacific unassociated purse seine fishery (yellowfin tuna): Expedited assessment (Principle 1).
- Northeastern Tropical Pacific purse seine yellowfin & skipjack tuna: first assessment (Principle 2).

- Tri Marine Western and Central Pacific skipjack and yellowfin tuna: first assessment (Team leader, Principle 1 and Principle 2).
- Peel-Harvey Inlet, blue swimmer crab and sea mullet fisheries (Principle 1).
- Western Australia deep-sea crab fishery (Principle 1).
- Australian pearl oyster fishery (Principle 1).
- Pre-assessments of three other fisheries (confidential).

Mr. Morison was the facilitator for an assessment of the ecological risks from Queensland's East Coast Trawl Fishery that looked at the full range of ecological components. He was senior author of the report that synthesized background information and the results of an expert workshop and was a co-author of the summary and technical reports that described the results of the project. He was subsequently engaged to assist with an assessment of this fishery's vulnerability to climate change.

Sandy is also contracted by the Australian Fisheries Management Authority to chair the South East Fisheries Resource Assessment Group and the Shark Fisheries Resource Assessment Group, is the Scientific Representative on the South East Fishery Management Advisory Committee and is a member of the South East Scalefish and Shark Fishery Resource Assessment Group. He has also been the scientific representative on other Resource Assessment Groups. Sandy has experience with the assessment of invertebrate, chondrichthyan and teleost fisheries including commercial and recreational fisheries in freshwater, estuarine and marine habitats and fisheries operating in tropical, temperate and polar environments.

He has particular expertise with fish age and growth and has been involved in the development and implementation of harvest strategies for several fisheries. He has over 20 publications in peer-reviewed scientific journals (8 as senior author), 8 book chapters, and over 100 project reports, technical reports, client reports and papers in workshop and conference proceedings.

For more details visit: www.morisonaqsci.com.au

Mr. Morison meets the team leader requirements laid out in FCRV2.0 Annex PC, Table PC1.

## Peer Reviewers

There were no peer reviewers for this report as this fishery qualified for a reduced harmonization process (MSC variation response, Appendix A).

## 4.2 Version details

**Table 30. Fisheries program documents versions**

| Document | Version number |
|---|---|
| **MSC Fisheries Certification Process** | **Version 2.1** |
| **MSC Fisheries Standard** | **Version 2.01** |
| **MSC General Certification Requirements** | **Version 2.3** |
| **MSC Reporting Template** | **Version 1.1** |

# 5. Unit(s) of Assessment and Certification and results overview

## 5.1 Unit(s) of Assessment (UoA) and Unit(s) of Certification

### 5.1.1 Unit(s) of Assessment & Unit(s) of Certification

**Table 31. Unit(s) of Assessment (UoA)**

| UoA | Description |
|---|---|
| Species | Skipjack Tuna (*Katsuwonus pelamis*) |
| Stock | Western and Central Pacific |
| Geographical area | The Main Group Archipelago (MGA) and Exclusive Economic Zone (EEZ) of the Solomon Islands |
| Harvest method / gear | Purse seine: Free school sets, unassociated with fish aggregating devices (FADs; WCPFC definition – See Box below)[5]<br><br>Purse seine sets associated with anchored fish aggregating devices (FADs)<br><br>Pole and line |
| Client group | Tri Marine International Pte. Ltd., on behalf of National Fisheries Developments, Ltd. (NFD). Only NFD vessels will be eligible. |
| Other eligible fishers | **NA** |
| **UoA** | **Description** |
| Species | Yellowfin Tuna (*Thunnus albacares*) |
| Stock | Western and Central Pacific |
| Geographical area | The Main Group Archipelago (MGA) and Exclusive Economic Zone (EEZ) of the Solomon Islands |

[5]The assessment team evaluated all unassociated sets as determined in the SPC observer database, which are classified as either unassociated or feeding on bait fish **at the beginning of the set**. The Unit of Certification, and product eligible to carry label, is determined by a more restrictive definition of "unassociated" given in detail in the box below, whereby sets are determined to be unassociated, based on the verified absence of aggregating devices, **at the end of the set.**

| | |
|---|---|
| Harvest method / gear | Purse seine: Free school sets, unassociated with fish aggregating devices (FADs; WCPFC definition – See Box below)[6]<br><br>Purse seine sets associated with anchored fish aggregating devices (FADs)<br><br>Pole and line |
| Client group | Tri Marine International Pte. Ltd., on behalf of National Fisheries Developments, Ltd. (NFD). Only NFD vessels will be eligible. |
| Other eligible fishers | **NA** |

Six Units of Certification have been identified as follows:

1. Pole and line fishery, yellowfin target stock, NFD vessels
2. Pole and line fishery, skipjack target stock, NFD vessels
3. Purse Seine fishery, yellowfin target stock, NFD vessels, unassociated sets
4. Purse seine fishery, skipjack target stock, NFD vessels, unassociated sets
5. Purse Seine fishery, yellowfin target stock, NFD vessels, anchored FAD sets
6. Purse seine fishery, skipjack target stock, NFD vessels, anchored FAD sets

Note: Although the purse seine fishery also sets on drifting FADs and logs, these will not be assessed.

This fishery has been found to meet scope requirements (FCP v2.1 7.4) for MSC fishery assessments as it

- Does not operate under a controversial unilateral exemption to an international agreement, use destructive fishing practices, does not target amphibians, birds, reptiles or mammals and is not overwhelmed by dispute. (FCP 7.4.2.1, 7.4.2.2, 7.4.3, 7.4.5)
- The fishery does not engage in shark finning, has mechanisms for resolving disputes (FCP 7.4.5.1), and has not previously failed assessment or had a certificate withdrawn.
- Is not an enhanced fishery, is not based on an introduced species, and does not represent an inseparable or practically inseparable species (FCP 7.5.1, 7.5.2, 7.5.8-13)
- Does not overlap with another MSC certified or applicant fishery (7.5.14),
- And does not include an entity successfully prosecuted for violating forced labor laws (7.4.4)
- The Unit of Assessment, the Unit of Certification, and eligible fishers have been clearly defined, traceability risks characterized, and the client has provided a clear indication of their position relative to certificate sharing (7.5.1-7.7.7).

***Definition of a FAD***

The definition of a FAD to be used for this Certification follows that used by the WCPFC which has been developed as part of CMMs specifying FAD closure periods. CMM 2008-01 states that "*For the purposes of these measures, the term Fish Aggregation Device (FAD) means any man-made device, or natural floating object, whether anchored or not, that is capable of aggregating fish.*"

This was expanded upon in CMM 2009-02 in defining the Rules for FAD Closures:

*"The definition of a FAD in footnote 1 to CMM 2008-01 shall be interpreted as including:*

*'any object or group of objects, of any size, that has or has not been deployed, that is living or non-living, including but not limited to buoys, floats, netting, webbing, plastics, bamboo, logs and whale sharks floating on or near the surface of the water that fish may associate with'*

3. *During the FAD closure period specified in CMM 2008-01, no purse seine vessel shall conduct any part of a set within one nautical mile of a FAD. That is, at no time may the vessel or any of its fishing gear or tenders be located within one nautical mile of a FAD while a set is being conducted.*
4. *The operator of a vessel shall not allow the vessel to be used to aggregate fish, or to move aggregated fish including using underwater lights and chumming.*
5. *A FAD and/or associated electronic equipment shall not be retrieved by a vessel during the period of a FAD closure unless:*
    a. *the FAD and/or associated electronic equipment are retrieved and kept on board the vessel until landed or until the end of the closure; and*
    b. *the vessel does not conduct any set either for a period of seven (7) days after retrieval or within a fifty (50) mile radius of the point of retrieval of any FAD.*
6. *In addition to paragraph 6, vessels shall not be used to operate in cooperation with each other in order to catch aggregated fish. No vessel shall conduct any set during the prohibition period within one nautical mile of a point where a FAD has been retrieved by another vessel within twenty four (24) hours immediately preceding the set.*

Codes to implement the above definition and to be used by observers to classify set types are listed in the WCPFC Regional Observer Program Minimum Standard Data Fields document (www.wcpfc.int/system/files/Table-ROP-data-fields-instructions.pdf). For "*Purse seine free school association (tuna)*" these may be either "*unassociated*" or "*feeding on bait fish*". Purse seine associated school associations (i.e. FAD sets) include sets on "*Drifting log, debris, dead animal; drifting raft; anchored raft; live whales/marine mammals; live whale shark; other floating object*".

**Set types are recorded by observers at the time a set commences but, on hauling, a whale shark or other object may be found to have been associated with the school. This occurs apparently because "*the whale shark may be not visible at the time of setting and so the set is recorded as another set type (e.g. unassociated, feeding on baitfish)". Subsequently, the observer discovers the animal in the net during the brailing process, and records it as an interaction*" (WCPFC8 - 2011-IP-01 (rev. 1)).**

**For the purposes of this assessment, such functionally associated hauls, discovered at the end of the set, are defined *post hoc* to be associated and therefore may not to be within the Unit of Certification, or carry the MSC ecolabel, regardless of the set type initially recorded by an observer.**

## 5.2 Assessment results overview

### 5.2.1 Determination, formal conclusion and agreement

The fishery attained a score of 80 or more against each of the MSC Principles and did not score less than 60 against any Indicators. The assessment team has concluded that the Solomon Islands Skipjack and Yellowfin Tuna fisheries (as defined in this report) should therefore be certified according to the Marine Stewardship Council Principles and Criteria for Sustainable Fisheries.

Following this Recommendation of the assessment team, and review by stakeholders and peer-reviewers, a determination is hereby made by the MRAG Americas Certification Decision Making Process to certify the Solomon Islands Pole and Line, Free School, and Anchored FAD Fisheries for Skipjack and yellowfin Tuna according to the Marine Stewardship Council Principles and Criteria for Sustainable Fisheries.

The P1 harmonization upgrade was conducted concurrently with the surveillance audit. Per the variation request process (Appendix B), the Harmonization report is included as an appendix to the 3rd year surveillance audit.

### 5.2.2 Principle level scores

### 5.2.3 Summary of conditions

**Table 32. Summary of conditions as of the third year surveillance audit**

| Condition number | Condition | Performance Indicator (PI) | Status | PI original score | PI revised score |
|---|---|---|---|---|---|
| 1 | By the first re-assessment surveillance audit (2022), demonstrate that the harvest strategy for Skipjack Tuna is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points | 1.2.1 Skipjack | On target | 70 | Not revised |
| 2 | SI a) By the first re-assessment surveillance audit (2022), demonstrate that well defined HCRs are in place for Skipjack Tuna 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.<br>SI b) By the first re-assessment surveillance audit (2022), provide evidence that the selection of the harvest control rules for Skipjack Tuna are robust to the main uncertainties.<br>SI c) By the first re-assessment surveillance audit (2022), provide evidence that indicates that the | 1.2.2 Skipjack | On target | 60 | Not revised |

| | | | | | |
|---|---|---|---|---|---|
| | tools in use for Skipjack Tuna are appropriate and effective in achieving the exploitation levels required under the harvest control rules. | | | | |
| 3 | By the first re-assessment surveillance audit (2022), demonstrate that the harvest strategy for Yellowfin Tuna is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points | 1.2.1 Yellowfin | On target | 70 | Not revised |
| 4 | SI a) By the first re-assessment surveillance audit (2022), demonstrate that well defined HCRs are in place for Yellowfin Tuna 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.<br>SI b) By the first re-assessment surveillance audit (2022), provide evidence that the selection of the harvest control rules for Yellowfin Tuna are robust to the main uncertainties.<br>SI c) By the first re-assessment surveillance audit (2022), provide evidence that indicates that the tools in use for Yellowfin Tuna are appropriate and effective in achieving the exploitation levels required under the harvest control rules. | 1.2.2 Yellowfin | On target | 60 | Not revised |
| 5 | By the third surveillance, the fishery client shall demonstrate that documented explanations provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity are made available on request to interested stakeholders. | 3.2.2 Decision making | Closed at 1st surveillance | 75 | 80 |
| 6 | By the second surveillance audit of the reassessment, provide evidence that the management system includes consultation processes that regularly seek and accept relevant information from a range of sources, including local knowledge. Additionally, the national management system demonstrates consideration of the information obtained. | PI 3.1.2 Management system | New Condition | 95 | 75 |
| 7 | SI b) By the second surveillance audit of the reassessment, provide evidence that decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a | PI 3.2.2 Decision making | New Condition | ~~75~~ 80* | 75 |

| | | | | | |
|---|---|---|---|---|---|
| | transparent, timely and adaptive manner and take account of the wider implications of decisions.<br><br>SI d) By the second surveillance audit of the reassessment, provide evidence that 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. | | | | |

# 7. Scoring

## 7.1 Summary of Performance Indicator level scores

**Table 33. Summary of Performance Indicator Scores and Associated Weights Used to Calculate Principle Scores for UoA 1 Skipjack Tuna (SKJ) and UoA 2 Yellowfin Tuna (YFT).**

| Principle | Component | Wt | Performance Indicator (PI) | | Wt | SKJ | YFT |
|---|---|---|---|---|---|---|---|
| One | Outcome | 0.333 | 1.1.1 | Stock status | 1.0 | 100 | 90 |
| | | | 1.1.2 | Stock rebuilding | 0.0 | N/A | N/A |
| | Management | 0.667 | 1.2.1 | Harvest strategy | 0.25 | 70 | 70 |
| | | | 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 |

**Table 34. Principle level scores**

| Principle | UoA 1 Skipjack | UoA 2 Yellowfin |
|---|---|---|
| Principle 1 – Target species | **85.83** | **82.50** |

### 7.1.1 Principle 1 background

**Skipjack Tuna (*Katsuwonus pelamis*)**

**Distribution**: Skipjack are found mainly in the tropical areas of the Atlantic, Indian and Pacific Oceans. Their geographic limits are 55-60° N and 45-50° S, with the greatest abundance seen in equatorial waters, being roughly limited to a 20°C surface isotherm (Hoyle et al., 2011). In the western Pacific, warm, pole ward-flowing currents near northern Japan and southern Australia seasonally extend their distribution to 40°N and 40°S (Rice et al. 2014).

Skipjack in the Western and Central Pacific Ocean are considered to comprise one stock for assessment and management purposes. A substantial amount of information on skipjack movement is available from tagging programs, which have documented some large-scale movement within the Pacific (Figure 3). In general, skipjack movement is highly variable (Sibert et al., 1999) but is thought to be influenced by large-scale oceanographic variability (Lehodey et al. 1997). Skipjack Tuna are also classified as a 'highly migratory species' and are listed as such in Annex I of UNCLOS. Analyses of the tagging data have, however, indicated that the median lifetime displacement of skipjack ranges from 420 to 470 nautical miles (Sibert and Hampton 2003). Other studies (Hoyle et al. 2011, Lehody et al. 2011) also indicate that mixing rates appear to be fairly restricted, particularly between the equatorial and sub-tropical/temperate North Pacific.

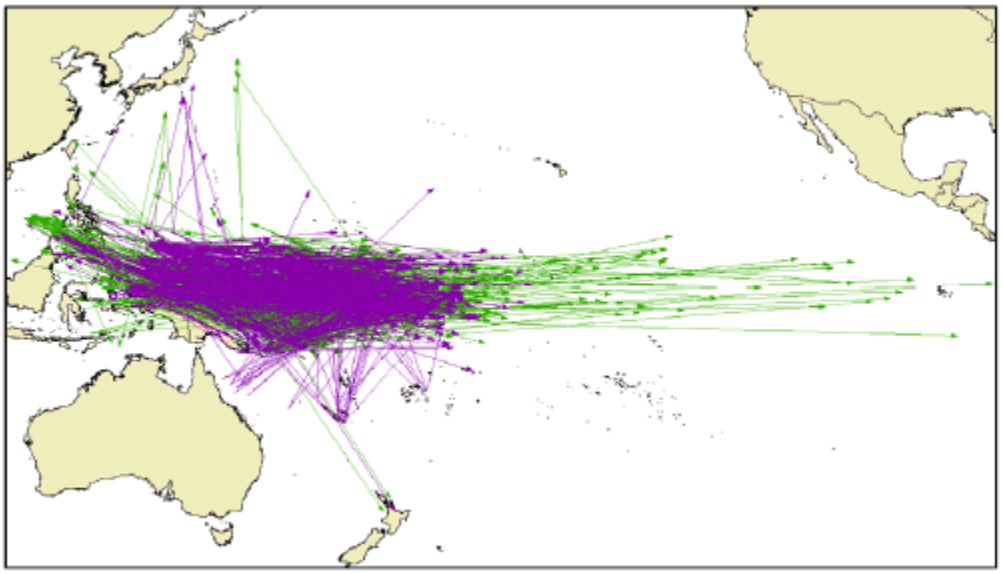

**Figure 3. Released and recaptured skipjack from the Regional Tuna Tagging Program (purple arrows) and Pacific Tuna Tagging Program (green arrow) tagging programs. Only recaptures >1,000 nautical miles shown (from Rice et al. 2014).**

**Biology:** Skipjack are the smallest of the major commercial tuna species, generally not exceeding 20 kg. They form both free schools and schools associated with FADs or other floating objects. Monthly observer

sampling of the catch indicates that, when fished as surface schooling adults, they are typically caught at 30 – 70 cm and 2-5 kg in size (Williams and Terawasi 2015). Depth distribution ranges from the surface to about 260 m during the day, but is limited to near surface waters at night.

Skipjack Tuna feed on fishes, crustaceans, cephalopods and mollusks; cannibalism is common. They are preyed upon by large pelagic fishes and sharks. Skipjack Tuna are not a Low Trophic Level species. Their trophic level is reported in Fishabase.org has been estimated at 4.4 (± 0.5 se).

Skipjack Tuna reach maturity at about 40 cm fork length (FL) and within their first year. They spawn in batches throughout the year in equatorial waters, and from spring to early fall in subtropical waters, with the spawning season becoming shorter as distance from the equator increases. Fecundity increases with size but is highly variable, the number of eggs per season in females of 41 to 87 cm fork length ranging between 80 000 and 2 million. For the Skipjack Tuna stock assessment, maturity and fecundity at size were not included in the maturity parameter, so in this assessment the term 'spawning biomass' refers to the biomass of adult fish (age >3 years), rather than spawning potential as in other tuna stock assessments (Rice et al. 2014).

Skipjack growth is rapid compared to yellowfin and bigeye tuna. In the Pacific, approximate age estimates from counting daily rings on otoliths suggest that growth may vary between areas. At 150, 200, 300 and 400 days, fork lengths (FLs) of 30, 33, 40, and 46 cm were estimated for fish sampled mostly in the north Pacific (Tanabe et al. 2003), but growth estimates were faster (42, 47, 55, and 60 cm) for fish sampled close to the equator (Leroy 2000). Growth has been found to vary spatially in the eastern Pacific (Maunder 2001) and in the Atlantic (Gaertner et al., 2008), based on analyses of tagging data.

Estimates of natural mortality rate have been obtained using a size-structured tag attrition model (Hampton 2000), which indicated that natural mortality was substantially larger for small skipjack (21-30 cm FL, M=0.8 mo-1) compared to larger skipjack (51–70 cm FL, M=0.12-0.15 mo-1). The longest period at liberty for a tagged skipjack was 4.5 years. Skipjack Tuna reach sexual maturity at about 40 cm FL.

### **Stock assessments and stock status**:

Stock assessments for Skipjack Tuna have been conducted regularly since 2000. Furthermore, an independent review of the 2011 bigeye tuna assessment (Ianelli et al., 2012) had several recommendations for improvement that apply equally to the skipjack assessment, and these have been incorporated into the current assessment wherever possible. The assessment model uses MULTIFAN-CL and is based mainly on catch and effort data for various fleets, size data and tagging data.

The main conclusions of the 2014 stock assessment (Rice et al., 2014) were as follows:

- A fluctuating but consistently high level of recruitment since the early 1970s has supported a robust fishery in all regions. The analysis suggests that the regional declines in spawning potential, in all regions except region 1, are being driven primarily by the fishing impacts.

Although the ratio of exploited to unexploited spawning potential is estimated to have declined, with some fluctuations, throughout the model period, the average total biomass of the last five years is estimated to be above the average total biomass of the first five years of the model.

- Latest catches slightly exceed MSY ($C_{latest}$/MSY = 1.08).
- Fishing mortality for adult and juvenile Skipjack Tuna is estimated to have increased continuously since the beginning of industrial tuna fishing, but fishing mortality still remains below the level that would result in the MSY ($F_{current}/F_{MSY}$ = 0.62).
- Recent levels of spawning potential are well above the level that will support the MSY.
- The estimated 2011 level of spawning potential represents approximately 52% of the unfished level, and is well above the limit reference point (LRP) of 20%SBF=0 agreed by WCPFC.
- Recent levels of spawning potential are in the middle of the range of candidate biomass related target reference points (TRPs) currently under consideration for Skipjack Tuna, i.e., 40-60% SBF=0.
- Stock status conclusions were most sensitive to alternative assumptions regarding steepness and growth. However, the main conclusions of the assessment are robust to the range of uncertainty that was explored.

Results are also summarized in Figure 4, Figure 5, Figure 7, Figure 6, Figure 7 and Figure 8.

The stock assessment has also considered the potential impact of some fleets changing their reporting practices mentioned above such that some searching days are reported as non-fishing transit days. “This practice essentially represents effort creep and we have not yet specifically corrected recent data to ensure consistency of reporting. Therefore the impact of this is not known, but it will be minimized by the practice of estimating frequent time-based changes in catchability.” (Rice et al, 2014). The issue was not identified as a major source of uncertainty for the assessment.

The assessment is undertaken by the Oceanic Fisheries Program (OFP) of the Secretariat for the Pacific Community (SPC) as the scientific advisory body for the WCPFC. It uses MULTIFAN-CL which is an integrated statistical modelling framework that with a large degree of flexibility as to which model components are fixed or estimated (including biological parameters, fishery characteristics and variances).

Draft results of assessments are submitted to the meeting of the Scientific Committee (SC) for discussion and review by members, after which it is revised and a final report presented to the WCPFC plenary, usually held in December.

The assessment reports contain descriptions of structural assumptions, model parameterization and priors. These have been progressively developed over the years and the latest report generally only contains details of changes to these assumptions which may be more fully described in earlier versions. For the latest assessment (Rice et al. 2014), there were six main differences in the input data and structural assumptions compared to the reference case from the previous, 2011 assessment:

i. Updated catch, size and tagging data to the end of 2012.
ii. Expanded the number of regions from 3 to 5.
iii. An additional 5 fisheries added to accommodate the 5 region structure, bringing the number to 23 from 18.
iv. Updated CPUE indices derived from operational catch and effort data from Japanese pole-and-line fisheries.
v. Set-based weighting of purse-seine length frequency samples to enhance representativeness of these data.
vi. Exclusion of the four terminal spatially-aggregated recruitment deviates from the parameter estimation process.

The impacts of each of these changes were examined in a stepwise development towards a new reference case model.

In addition to the reference case, a wide range of other model formulations were examined. The key uncertainties identified concerned the assumed steepness of the stock-recruitment relationship, the growth curve, the weighting of length samples and the tag mixing period. A grid of 36 combinations of the following factors: the steepness of the SRR (0.65, 0.80, or 0.95), and the growth model (2010 estimate, growth re-estimated or fixed growth curve externally estimated), and sample size weighting (20, 50), mixing period (1, 2 quarters). A separate model was run for each of the combinations in the grid.

A retrospective analysis has also been undertaken for the assessment, which involves rerunning the model after consecutively removing successive years of data to estimate model bias. The results of the retrospective analyses were the basis of a modification to the reference case whereby recruitment deviates for the last four quarters were not estimated and a better reference point developed for spawning potential depletion (the most recent year of the assessment).

For Skipjack Tuna an alternative model formulation was also explored using age- and season-specific movement rates based on the ecosystem model SEAPODYM (Lehodey et al, 2001) to test the plausibility of using ecosystem model output in the place of internal estimation. The use of the SEAPODYM movement parameters greatly degraded the likelihood and so this model was not included in the uncertainty grid described above.

As noted above, draft stock assessments are reviewed by the SC, which includes scientists from member countries. These are external to SPC, the agency undertaking the assessments, but are part of the internal WCPFC processes and we do not consider that this review constitutes an external review as intended by MSC requirements.

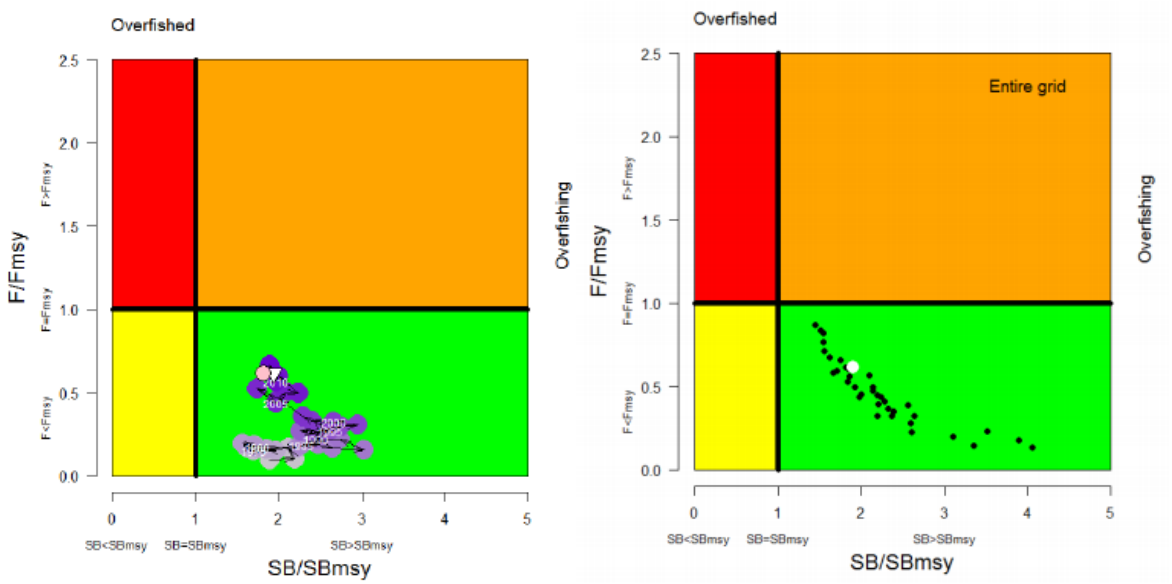


**Figure 4. Left: Temporal trend in annual stock status of Skipjack Tuna, relative to $SB_{MSY}$ (x-axis) and $F_{MSY}$ (y-axis) reference points, for the period 1972-2011 from the reference case. The colour of the points is graduated from mauve to dark purple through time and the points are labelled at 5-year intervals. The white triangle (obscured behind pink circle) represents the average for the current (2008-2011) period and the pink circle the latest period (2011). Right: Summary of the latest stock status (2011) for the reference case (white dot) and the entire grid of sensitivities that were explored (from Rice et al. 2014).**

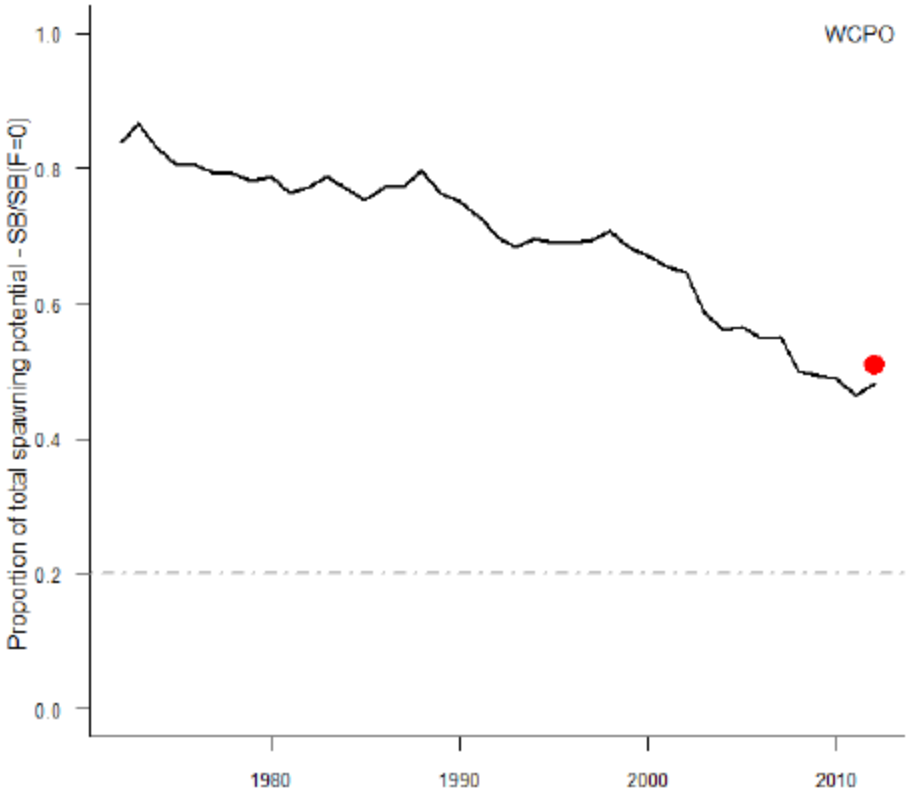


**Figure 5. Ratio of exploited to unexploited spawning potential of Skipjack Tuna for the WCPO for the reference case. The current WCPFC limit reference point of 20%$SB_{F=0}$ is provided for reference as the grey dashed line and the red circle represents the level of spawning potential depletion based on the agreed method of calculating $SB_{F=0}$ over the last ten years of the model (excluding the last year) (from Rice et al. 2014).**

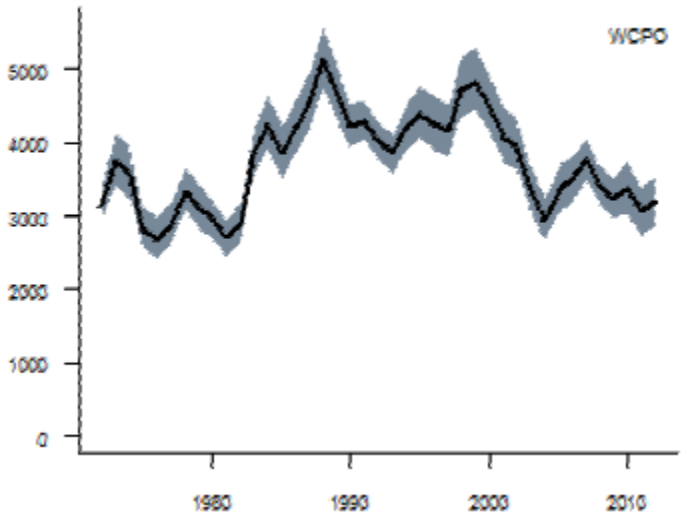


**Figure 6. Estimated annual average spawning potential for the WCPO for the reference case. The shaded areas indicate the approximate 95% confidence intervals (from Rice et al. 2014).**

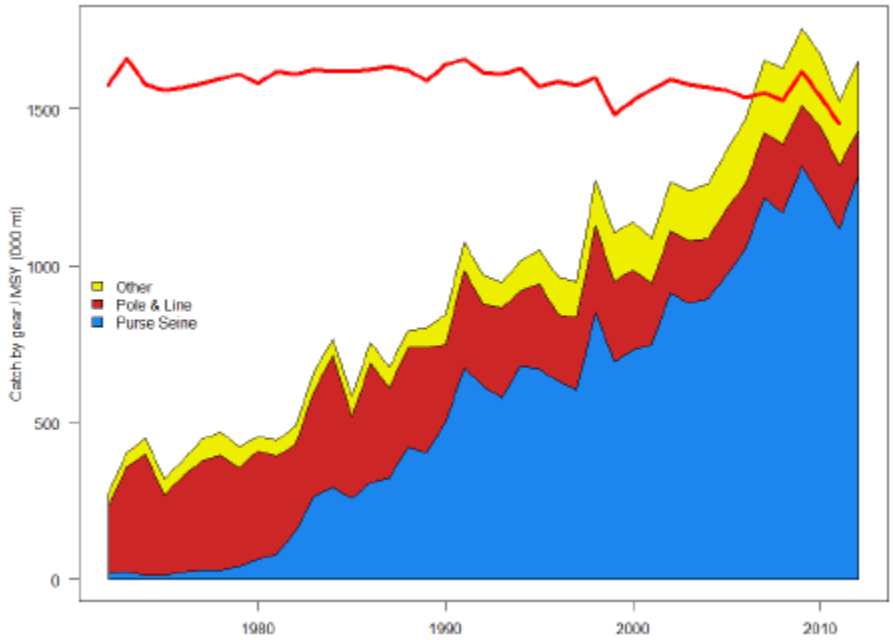


**Figure 7. Skipjack Tuna: History of the annual estimates of MSY (red line) compared with annual catch split into three sectors for the reference case (from Rice et al. 2014).**

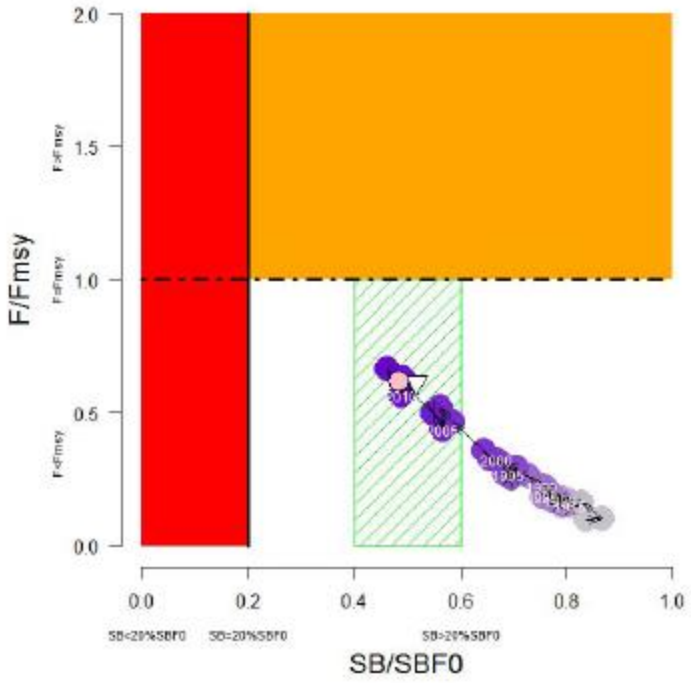


**Figure 8.** Skipjack Tuna: An alternative representation of stock status of Skipjack Tuna as a potential step towards displaying stock status with target and limit reference points. The red zone represents spawning potential levels lower than the agreed limit reference point which is marked with the solid black line. The orange region is for fishing mortality greater than FMSY (F=FMSY is marked with the black dashed line). The lightly shaded green rectangle covering 0.4-0.6SBF=0 is the 'space' that WCPFC has asked for consideration of a TRP for skipjack. The white triangle represents the average for the current period (2008-2011) and the pink circle the latest period (2011) (from Rice et al. 2014).

## History of fishing and management:

The spatial distribution of catches in the WCPO over the past ten years is provided in Figure 9, and a regional breakdown by major gear category by year is provided in Figure 10 . It is noteworthy that archipelagic waters, which include the Solomon Islands Main Group Archipelago, are not within the Convention Area, in line with UNCLOS declaring archipelagic waters to be under sovereign state control. However, WCPFC members with archipelagic waters (i.e., Solomon Islands, PNG) are required to implement compatible measures or, if measures are adopted in areas under national jurisdiction, they must not undermine the effectiveness of measures adopted by the Commission under its Convention in respect to the same stocks (WCPFC, 2000, Article 8 (3)).

Catches in the northern region are highly seasonal, as are the domestic pole-and-line fisheries operating in the regions 2 and 3 (see Figure 17 for location of regions). A number of significant trends in the fisheries have occurred over the model period, specifically:

- The development of the Japanese offshore purse seine fishery in region 1 since the mid-1990s;
- The virtual cessation of the domestic pole-and-line fisheries in Papua New Guinea and Fiji and the recent low catches from the Solomon Islands fishery;

- The general decline in the Japanese distant-water pole-and-line fisheries in the equatorial regions, particularly region 3;
- The development of the equatorial purse-seine fisheries from the mid-1970s and the widespread use of FADs since the mid-1990s, allowing an expansion of the purse-seine fishery in region 3;
- Large changes in the purse seine fleet composition and increasing size and efficiency of the fleet.
- The steady increase in catch for the domestic fisheries of Indonesia and the Philippines.

Skipjack Tuna were not included in the earlier tuna specific Conservation and Management Measures (CMMs) passed by the WCPFC because there were no concerns about the status of the species. They were first included in CMM 2012-01 and have been included in the later iterations of this CMM – CMM 2013-01 and 2014-01. CMM 2014-01 deals with skipjack, yellowfin and bigeye tuna and includes the following requirements for purse seine effort control:

*Exclusive Economic Zones*
*20. Coastal States within the Convention Area that are Parties to the Nauru Agreement (PNA) shall restrict the level of purse seine effort in their EEZs to 2010 levels through the PNA Vessel Days Scheme (VDS).*

*21. CCMs shall support the ongoing development and strengthening of the PNA VDS including implementation and compliance with the requirements of the VDS as appropriate.*

*22. Other coastal States within the Convention Area with effort in their EEZs exceeding 1,500 days annually over the period 2006-2010 shall limit effort in their EEZs to 2001-2004 average or 2010 levels.*

*23. Other coastal States within the Convention Area other than those referred to in paragraph 20 and paragraph 22 shall establish effort limits, or equivalent catch limits for purse seine fisheries within their EEZs that reflect the geographical distributions of skipjack, yellowfin, and bigeye tunas, and are consistent with the objectives for those species. Those coastal States that have already notified limits to the Commission shall restrict purse seine effort and/or catch within their EEZs in accordance with those limits.*

*High Seas purse seine effort limits*
*25. For 2015, non-SIDS CCMs shall restrict the level of purse seine effort on high seas to the limits indicated in Attachment D.7 The Commission shall review these limits at its meeting in 2015 and agree on high seas purse seine effort limits to apply after 2015.*

*26. Notwithstanding any agreement that may be reached at its annual meetings in 2014, 2015 and 2016 on high seas purse seine effort limits the total effort level for non-SIDS CCMs shall not exceed the total level of effort in Attachment D.*

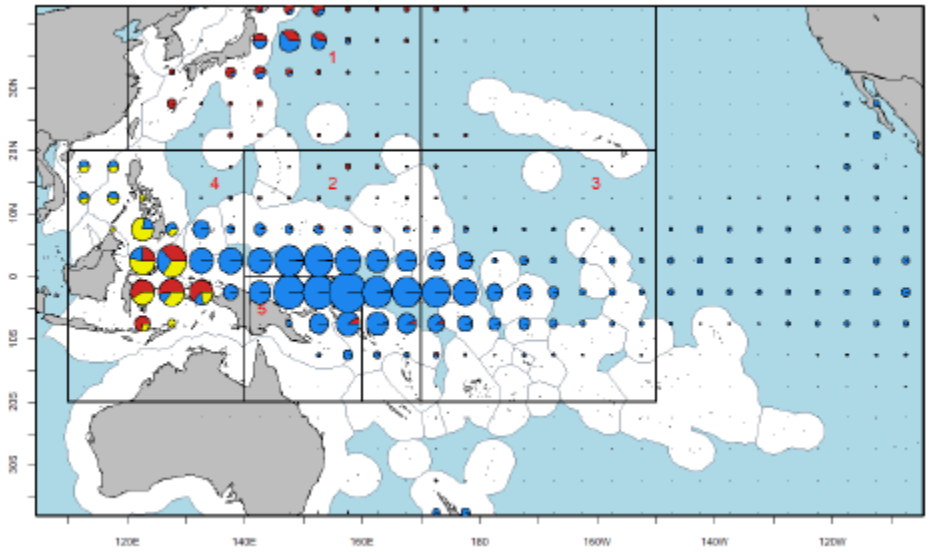


**Figure 9. Catch distribution (2003-2012) of Skipjack Tuna by 5 degree squares of latitude and longitude and fishing method: longline (green), purse-seine (blue), pole-and-line (red), and other (yellow). Overlayed are the subregions for the assessment model. Note there is in fact no break at 170 E in Region 1 (from Rice et al. 2014).**

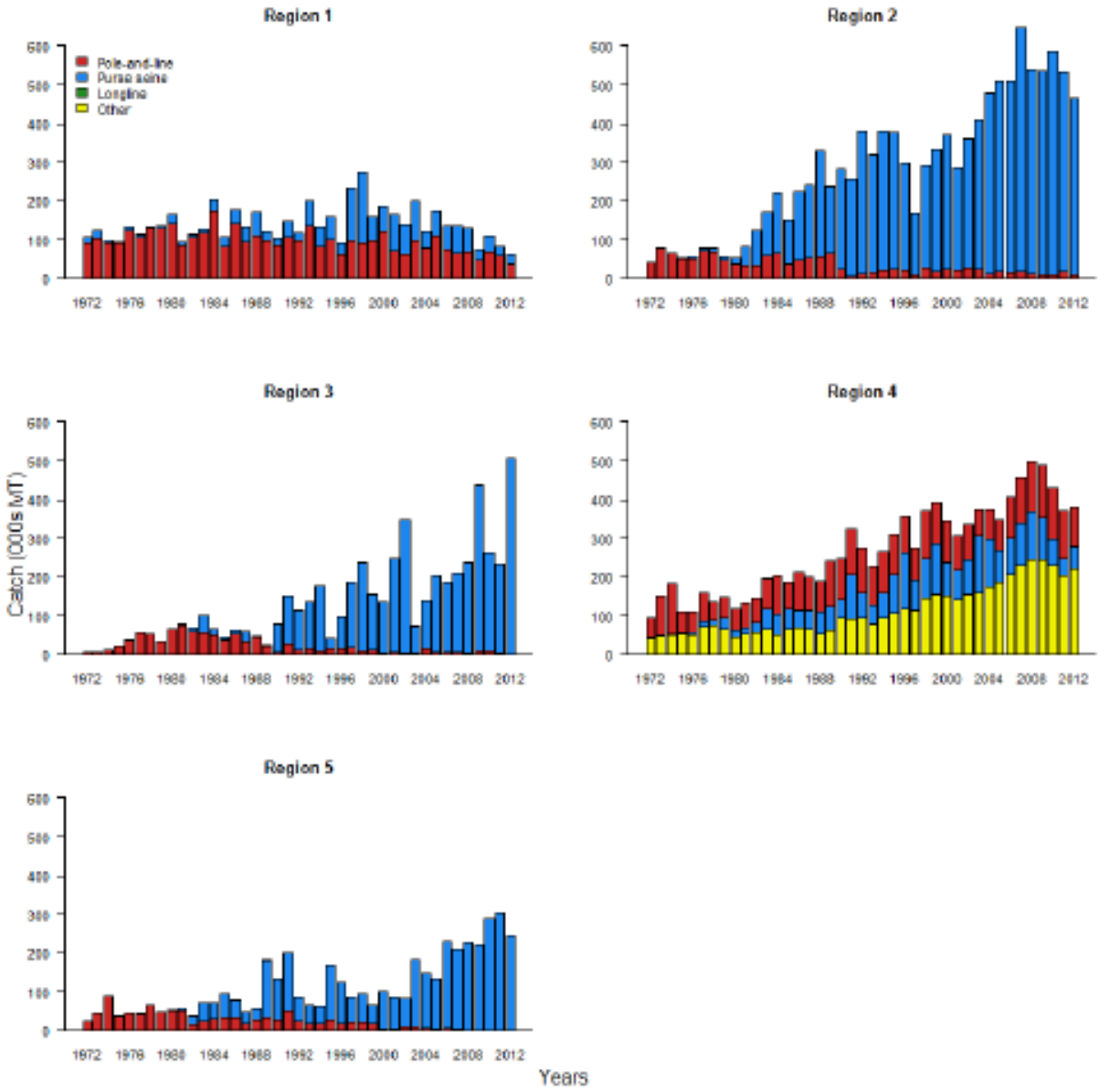


**Figure 10. Total annual catch (1000s mt) of Skipjack Tuna by fishing method and assessment subregion from the 2014 assessment's reference case model (from Rice et al. 2014). Regions are the same as shown in Figure 9.**

## Yellowfin Tuna (*Thunnus albacares*)

**Distribution**: Yellowfin Tuna are found worldwide in tropical and subtropical seas. The thermal boundaries of occurrence are roughly 18° and 31°C.

Although the distribution of Yellowfin Tuna in the Pacific is nearly continuous, lack of evidence for long-ranging east-west or north-south migrations of adults suggests that there may not be much exchange between the Yellowfin Tuna from the eastern and the central Pacific, nor between those from the

western and the central Pacific. This suggests the existence of subpopulations. There is a large amount of tagging data (1989-2012) which indicates extensive latitudinal movements among the equatorial regions but also a level of longitudinal movements to and from the sub-tropical latitudes (Figure 11). For the purpose of WCPFC yellowfin stock assessments, the stock within the domain of the model area (essentially the WCPO, west of 210°E, Figure 12) has been considered as a discrete stock unit (Davies et al. 2014).

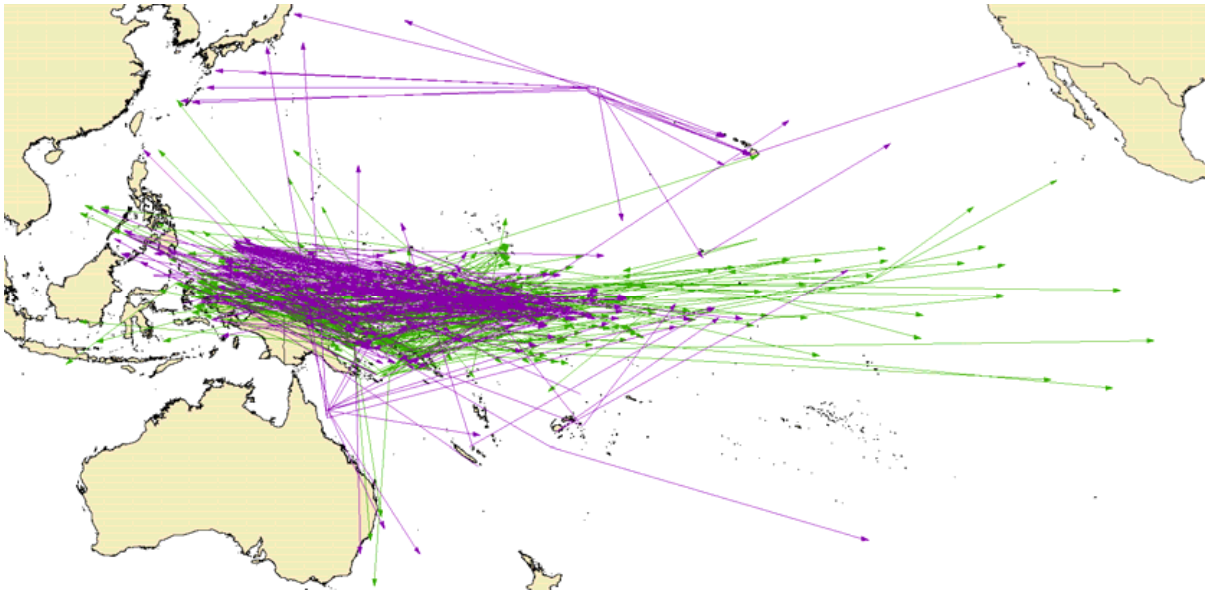

**Figure 11. Long-distance (>1,000 nmi) displacements of tagged yellowfin in the Pacific Ocean from data available to SPC. The green arrows are data from the Pacific Tuna Tagging Programme (2008-current). The purple arrows are from earlier SPC tagging in the western Pacific (Regional Tuna Tagging Project, 1989-1992), the IATTC in the eastern Pacific and the University of Hawaii in the North Pacific around Hawaii (from Davies et al. 2014).**

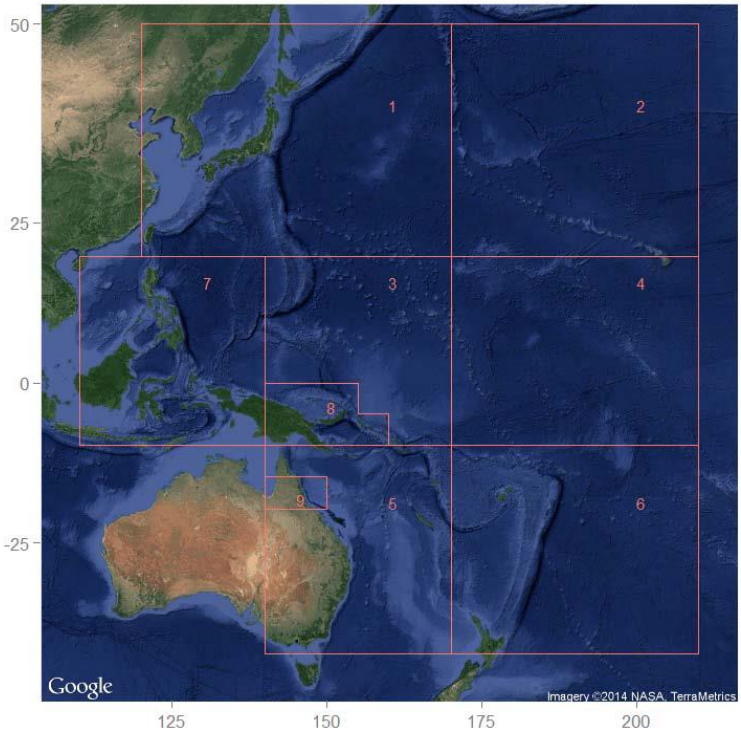


**Figure 12. Yellowfin Tuna: Regional structure of the reference case model (from Davies et al. 2014).**

## **Biology**:

Yellowfin Tuna start to mature at 5 years of age but when information on sex ratios, maturity at age, fecundity, and spawning fraction are included, the reproductive output is found to peak between 10 and 15 years of age (Figure 13). Spawning occurs throughout the year in the core areas of distribution, but peaks are always observed in the northern and southern summer months respectively. Individuals may spawn every few days over the spawning period. Larval distribution in equatorial waters is transoceanic the year round but there are seasonal changes in larval density in subtropical waters.

Growth in length for Yellowfin Tuna is estimated to continue throughout their life (Figure 14). The estimated mean length of the final age-class is 153.4 cm but maximum fork length is over 200 cm.

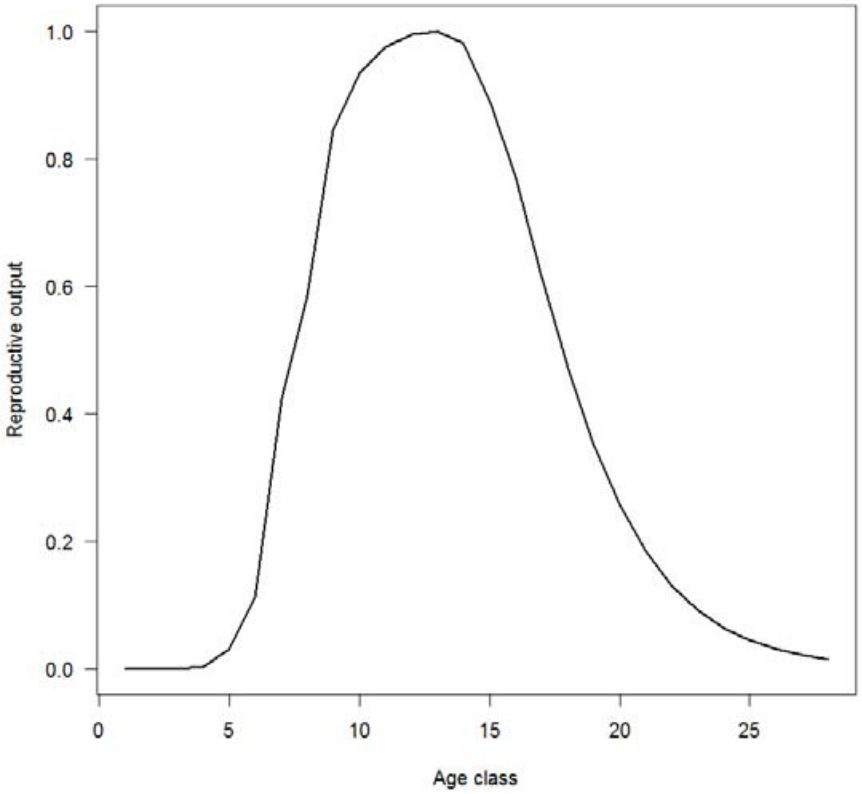


**Figure 13. Yellowfin Tuna: Index of spawning potential incorporating information on sex ratios, maturity at age, fecundity, and spawning fraction (from Davies et al. 2014).**

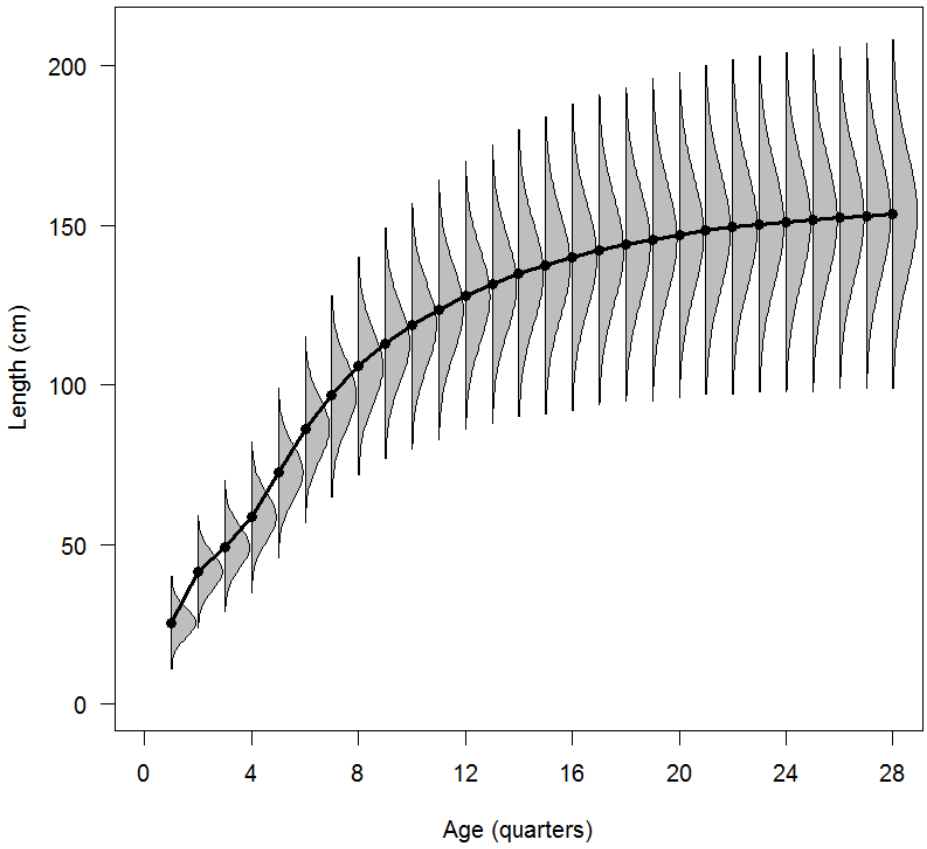


**Figure 14. Yellowfin Tuna: Estimated growth for the reference case. The black line represents the estimated mean length (FL, cm) at age and the grey area represents the estimated distribution of length at age (from Davies et al. 2014).**

Yellowfin Tuna feed on other fish, crustaceans and squid. Their trophic level has been estimated at 4.4 ± 0.4 se.

Natural mortality is estimated to vary with age and by sex. The generally increasing proportion of males in the catch with increasing size is assumed to be due to an increase in the natural mortality of females, associated with sexual maturity and the onset of reproduction. The assessment model used fixed externally-estimated values for natural mortality-at-age but also examined the sensitivity to estimating this during the model fitting process.

### Stock assessments and stock status:

Stock assessments for Yellowfin Tuna have been conducted regularly and almost annually since 1999. Furthermore, an independent review of the 2011 bigeye tuna assessment (Ianelli et al., 2012) had several recommendations for improvement that apply equally to the yellowfin assessment, and these have been incorporated into the current assessment wherever possible. The assessment model uses MULTIFAN-CL and is based mainly on catch and effort data for various fleets, size data and tagging data.

The main conclusions of the 2014 stock assessment (Davies et al. 2014) were as follows:

1. The new regional structure appeared to work well for yellowfin, and in combination with other modelling and data improvements, provided a more informative assessment than in the past.
2. Spatially-aggregated recruitment was estimated to decline in the early part of the assessment, but there was no persistent trend post-1965.
3. There appeared to be confounding between the estimates of regional recruitment distribution and movement such that certain regions had very low recruitments. While adding complexity to the recruitment process of age 1 fish, this did not add to the uncertainty over the range of runs considered in this assessment.
4. Latest catches marginally exceeded the MSY ($C_{latest}/MSY = 1.04$).
5. Recent levels of fishing mortality were most likely below the level that will support the MSY ($F_{current}/F_{MSY} – 0.76$).
6. Recent levels of spawning potential were most likely above (based on 2008-11 average and based on 2012) the level which will support the MSY ($SB_{current}/SB_{MSY} = 1.37$, $SB_{latest}/SB_{MSY} = 1.29$).
7. Recent levels of spawning potential were most likely above (based on 2008-11 average and based on 2012) the limit reference point of 20%SBF=0 agreed by WCPFC.
8. Recent levels of spawning potential were most likely higher (by 1%, based on 2008-11 average) and lower than (by 2% based on 2012) the candidate biomass-related target reference points (TRPs) currently under consideration for Skipjack Tuna, i.e., 40-60%SBF=0.
9. Stock status conclusions were most sensitive to alternative assumptions regarding the modelling of tagging data, assumed steepness and natural mortality. However, the main conclusions of the assessment were robust to the range of uncertainty that was explored.

Results are also summarized in Figure 16, Figure 17, Figure 18, Figure 19, Figure 20 and Figure 21. There has been a substantial decline in the estimate of MSY since 1970s (Figure 19). Prior to this time, the WCPO yellowfin fishery was almost exclusively conducted using longlines, with a low exploitation of small yellowfin but the increased development of fisheries that catch younger yellowfin has reduced MSY levels (Davies et al. 2014).

The stock assessment has also considered the potential impact of some fleets changing their reporting practices mentioned above such that some searching days are reported as non-fishing transit days. “This practice essentially represents effort creep and we have not yet specifically corrected recent data to ensure consistency of reporting. Therefore, the impact of this is not known, but it will be minimized by the practice of estimating frequent time-based changes in catchability” (Davies et al. 2014). The issue was not identified as a major source of uncertainty for the assessment.

The assessment for yellowfin follows a similar process to that for skipjack described above: it is undertaken by SPC’s OFP, uses MULTIFAN-CL, draft results of assessments are submitted to the SC for discussion and review, and a final report presented to the WCPFC plenary. For yellowfin there was also a pre-assessment workshop that 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.

The assessment reports contain descriptions of structural assumptions, model parameterization and priors. These have been progressively developed over the years and the latest report generally only contains details of changes to these assumptions which may be more fully described in earlier versions. For the latest assessment (Davies et al. 2014), aside from updating the input data (catch, effort, size frequencies, and standardised CPUE derived from aggregate and operational data), there were five main differences in the input data and structural assumptions of the current (2014) assessment compared to the 2011 assessment

i. Spatial structure was expanded from six to nine regions.
ii. Fishery structure has been expanded from 25 to 33 fisheries; and features the first inclusion of some Japanese and Vietnamese coastal fishery catches and consequent revisions to the definition of WCPO fisheries.
iii. Incorporation of CPUE indices derived from either Japanese logsheet data, or all operational data from all fleets (combined flags) available to SPC.
iv. A revised protocol for deriving the length- and weight size compositions for the principal longline fisheries.
v. The correction of the purse-seine length frequency data collected by observers to account for sampling bias and the inclusion of Pago Pago port sampling data, with all data weighted in respect of the set catch weight

The impacts of each of these changes were examined in a stepwise development towards a new reference case model.

In addition to the reference case a wide range of other model formulations were examined. The key uncertainties were identified and the effect of this uncertainty was explored through a grid of 48 combinations of model options:

- Tag mixing period: 2 different levels
- Steepness: Ref. Case (0.8), h_0.65 (0.65), h0.95 (0.95)
- CPUE: 2 different series
- Size data weighting: 2 options
- Natural mortality: fixed values or estimated.

A separate model was run for each of the combinations in the grid.

A retrospective analysis has also been undertaken for the yellowfin assessment, which involves rerunning the model after consecutively removing successive years of data to estimate model bias. The results of the retrospective analyses were the basis of a modification to the reference case whereby recruitment deviates for the last four periods were not estimated.

As noted above, draft stock assessments are reviewed by the SC, which includes scientists from member countries. These are external to SPC, the agency undertaking the assessments, but are a part of the internal WCPFC processes and we do not consider that this review constitutes an external review as intended by MSC requirements.

The assessment team has also become aware of two reviews of the previous Yellowfin Tuna assessment (Haddon 2010 and Maguire 2010) which were commissioned by the USA through the Center for

Independent Experts (CIE). A response to these reviews was provided by SPC to SC7 (SPC-OFP 2011) but there was no reference to the findings of this review or the response in the latest stock assessment (Davies et al. 2014). There is, however, extensive consideration of the results of the review of the bigeye tuna assessment (Ianelli et al. 2012). The SPC response also notes that the review was not initiated by SPC or WCPFC and was conducted without the knowledge of SPC or any direct contact with SPC by either CIE or the reviewers.

## History of fishing and management:

Total annual catches by major gear categories for the WCPO are shown in Figure 22 and a regional breakdown is provided in Figure 23. The spatial distribution of catches over the past ten years in provided in Figure 24. The catch identified as "other" is dominated by the domestic fisheries of the Philippines and Indonesia, principally catching smaller fish using a variety of small-scale gear types (e.g. pole-and-line, ringnet, gillnet, handline and seine net) but also including small to medium sized purse seines (Davies et al. 2014). The annual yellowfin tuna catch in the WCPO increased from 100,000 mt in the 1960s to about 550,000 mt in recent years (Figure 19). In 2008, a record catch of 650,000 mt was reported. The catch reported for 2012 was 612,797 mt; purse-seine catch was 61% of the total catch in 2012, while the longline fleet caught 16-20% of the annual catch in recent years. The remainder of the catch is dominated by the domestic fleets of the Philippines and Indonesia catching smaller fish with a variety of small scale gear (Davies *et al*., 2014). Latest catches marginally exceed MSY (WCPFC, 2014a). Of this total catch, the Solomon Islands accounts for 15,000 to 20,000 mt of yellowfin annually (MRMR 2015), with the NFD fleet accounting for 10,000 to 15,000 m (Table 35).

**Table 35: Total Tuna Catch - Solomon Islands Waters (Mt): 2011-2014 (Source: SPC Catch & Effort Database, 1 June 2015)**

| Gear Type & Flag | 2011 | | | | | 2012 | | | | | 2013 | | | | | 2014 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SKJ | YFN | BET | ALB | TOTAL | SKJ | YFN | BET | ALB | TOTAL | SKJ | YFN | BET | ALB | TOTAL | SKJ | YFN | BET | ALB | TOTAL |
| PS - SI Flag | 16,686 | 7,900 | 933 | 0 | 25,520 | 17,115 | 8,854 | 531 | 0 | 26,500 | 15,608 | 8,381 | 763 | 0 | 24,752 | 20,908 | 19,117 | 646 | 0 | 40,670 |
| PS -Foreign/Charter | 104,703 | 21,474 | 4,135 | 0 | 130,312 | 36,421 | 8,097 | 1,485 | 0 | 46,003 | 62,962 | 17,537 | 2,737 | 0 | 83,237 | 40,063 | 25,222 | 1,571 | 0 | 66,855 |
| PL - SI Flag | 722 | 149 | 0 | 0 | 871 | 1,877 | 258 | 0 | 0 | 2,135 | 1,389 | 277 | 0 | 0 | 1,666 | 535 | 114 | 0 | 0 | 649 |
| LL - Foreign/Charter | 115 | 5,904 | 1,950 | 10,426 | 18,394 | 43 | 9,353 | 1,714 | 11,668 | 22,777 | 96 | 4,873 | 1,120 | 11,452 | 17,542 | 362 | 15,738 | 4,769 | 24,617 | 45,486 |
| **TOTAL** | **122,226** | **35,428** | **7,018** | **10,426** | **175,097** | **55,456** | **26,562** | **3,729** | **11,668** | **97,415** | **80,056** | **31,068** | **4,621** | **11,452** | **127,197** | **61,867** | **60,190** | **6,986** | **24,617** | **153,660** |

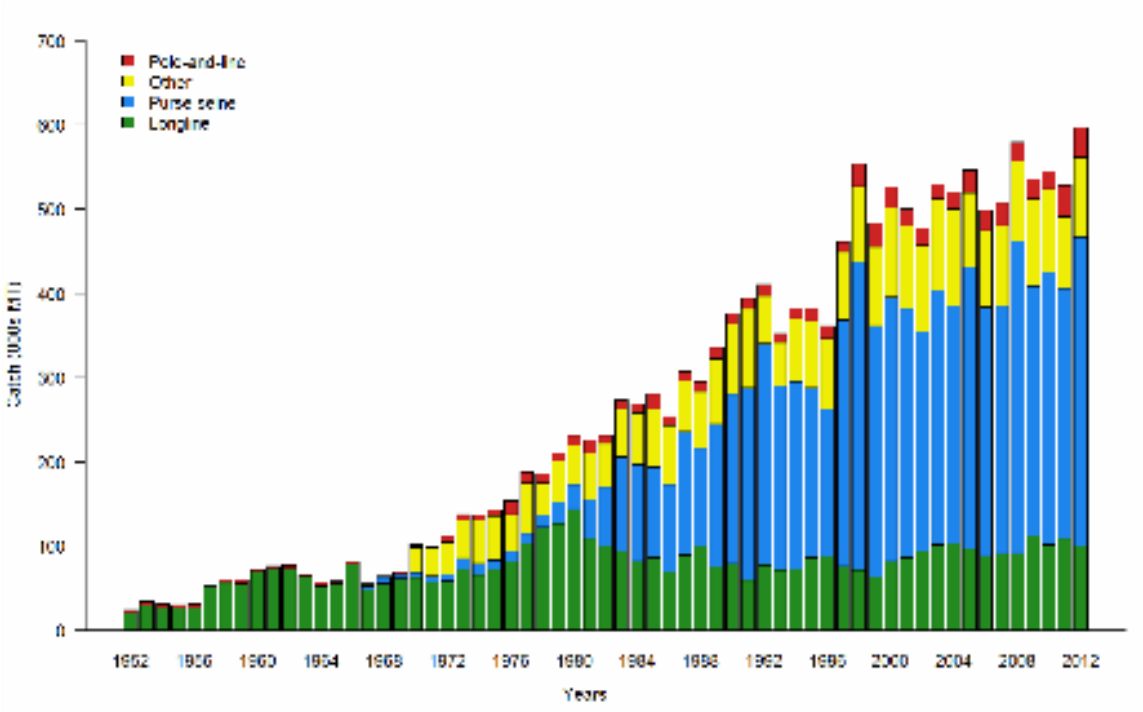


**Figure 15: Total annual catch (1000s mt) by fishing gear from the reference case model (Davies et al., 2014).**

Notes under Skipjack Tuna above about trends in the fisheries are also relevant to Yellowfin Tuna.

Yellowfin have been subject to the provisions of CMMs since CMM 2005-01 was passed which included the requirement that "CCMs shall take necessary measures to ensure that purse seine effort levels do not exceed either 2004 levels, or the average of 2001 to 2004 levels, in waters under their national jurisdiction, beginning in 2006." The most recent measure is CMM 2014-01 and the purse seine effort control measures it contains are provided above under Skipjack Tuna.

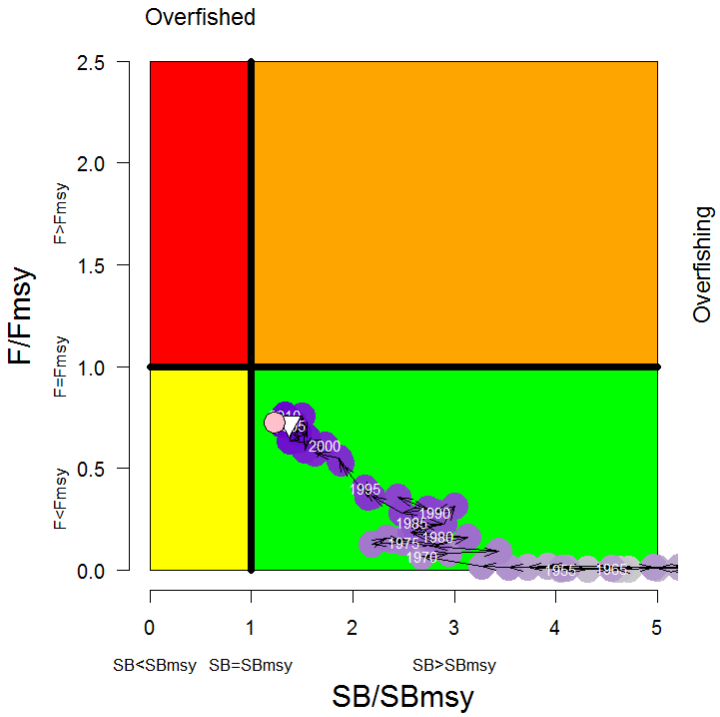


**Figure 16. Yellowfin Tuna: Temporal trend in annual stock status, relative to $SB_{MSY}$ (x-axis) and FMSY (y-axis) reference points, for the period 1952–2011 from the reference case. The colour of the points is graduated from mauve to dark purple through time and the points are labelled at 5-year intervals. The white triangle represents the average for the current period and the pink circle the latest period (from Davies et al. 2014).**

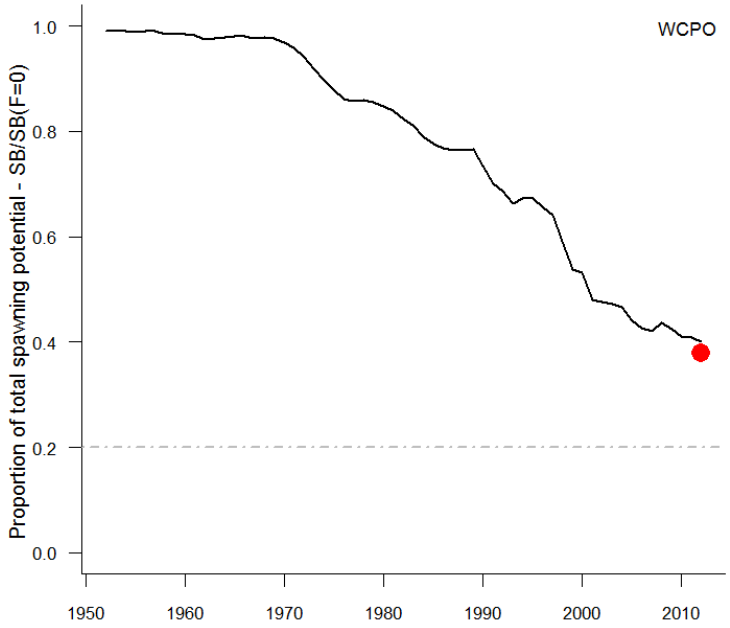


**Figure 17. Yellowfin Tuna: Ratio of exploited to unexploited spawning potential, $SB/SB_{F=0}$, for the WCPO for the reference case. The current WCPFC limit reference point of $20\%SB_{F=0}$ is provided for reference as the grey**

**dashed line and the red circle represents the level of spawning potential depletion based on the agreed method of calculating $SB_{F=0}$ over the last ten years of the model (excluding the last year) (from Davies et al. 2014).**

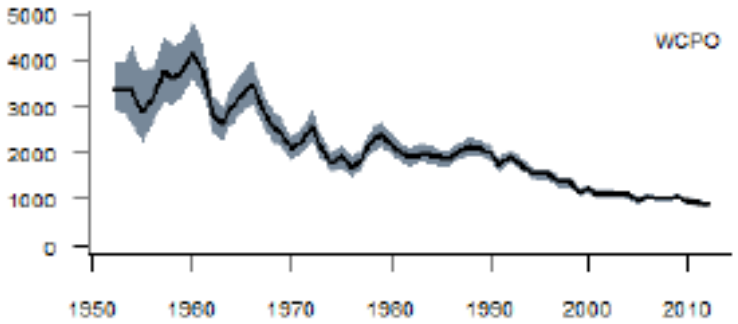


**Figure 18. Estimated annual average spawning potential for the WCPO for the reference case. The shaded areas indicate the approximate 95% confidence intervals (From Davies et al. 2014).**

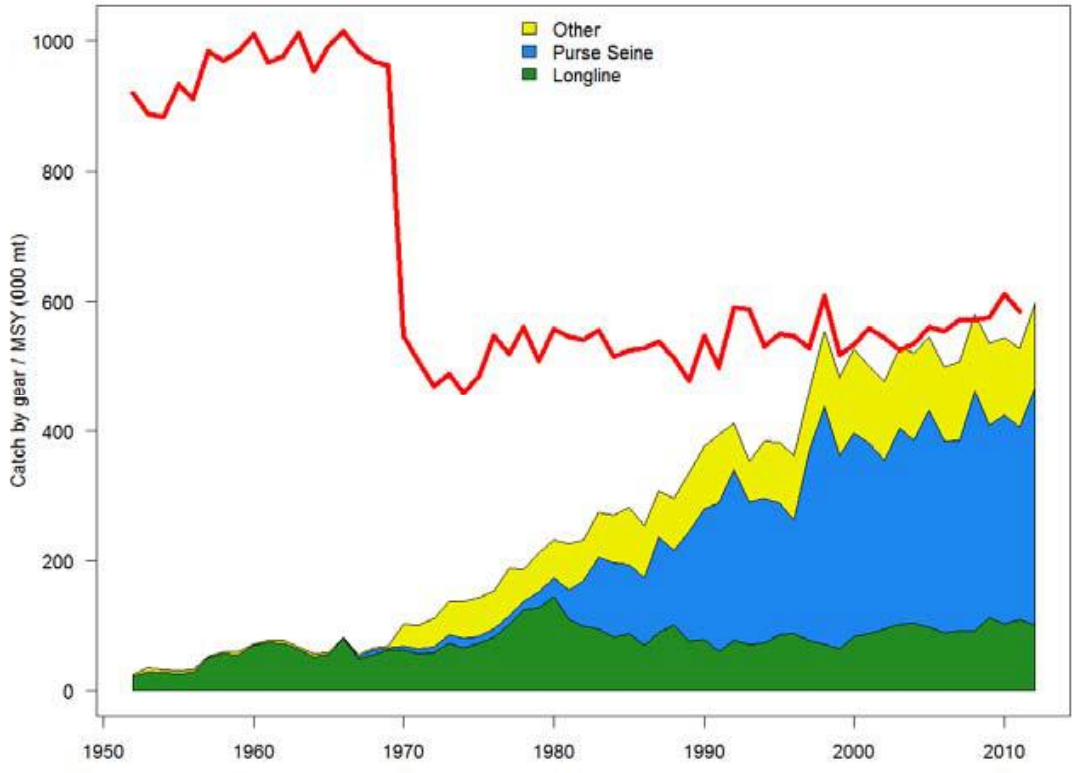


**Figure 19. Yellowfin Tuna: History of the annual estimates of MSY (red line) compared with annual catch split into three sectors for the 2014 assessments' reference case (Davies et al.2014).**

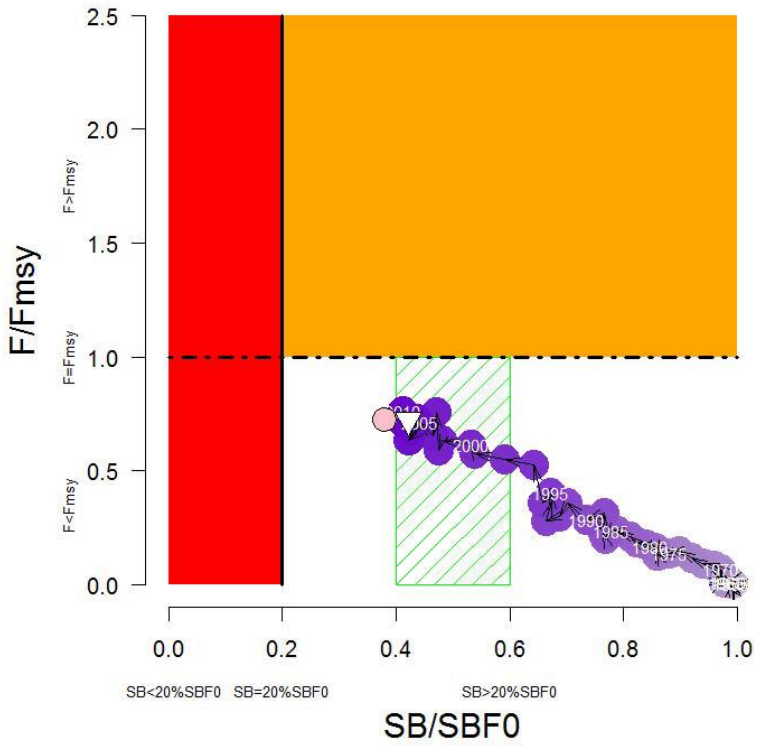


**Figure 20. Yellowfin Tuna: Alternative portrayal of stock status with target and limit reference points. The red zone represents spawning potential levels lower than the agreed limit reference point which is marked with the solid black line. The orange region is for fishing mortality greater than FMSY (F=FMSY is marked with the black dashed line). The lightly shaded green rectangle covering 0.4- 0.6SBF=0 is the 'space' that WCPFC has asked for consideration of a TRP for skipjack (from Davies et al. 2014).**

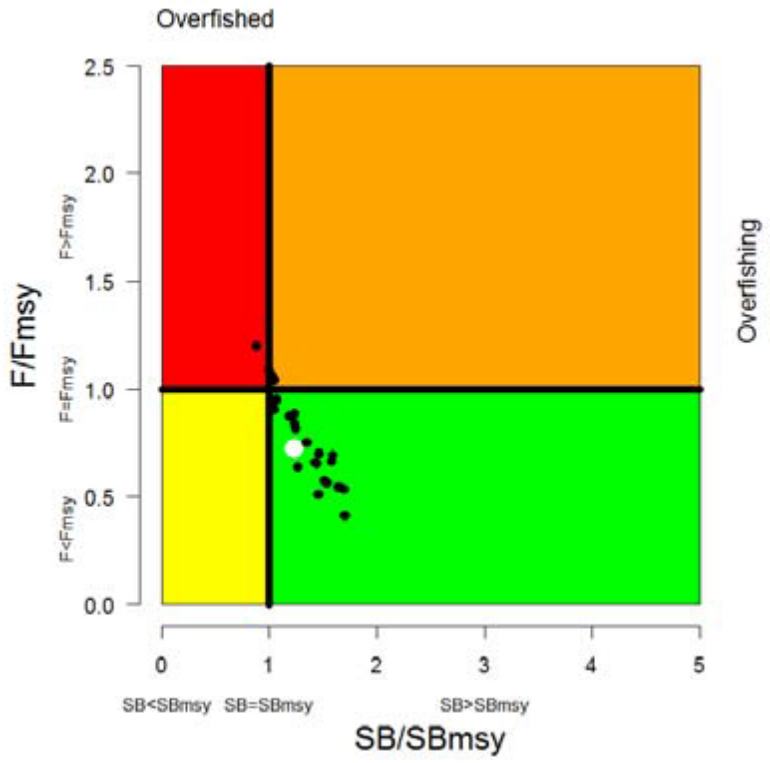


**Figure 21. Yellowfin Tuna: Plot of versus for the 48 model runs undertaken for the structural uncertainty analysis in black, and the reference case model by the large white circle (from Davies et al. 2014).**

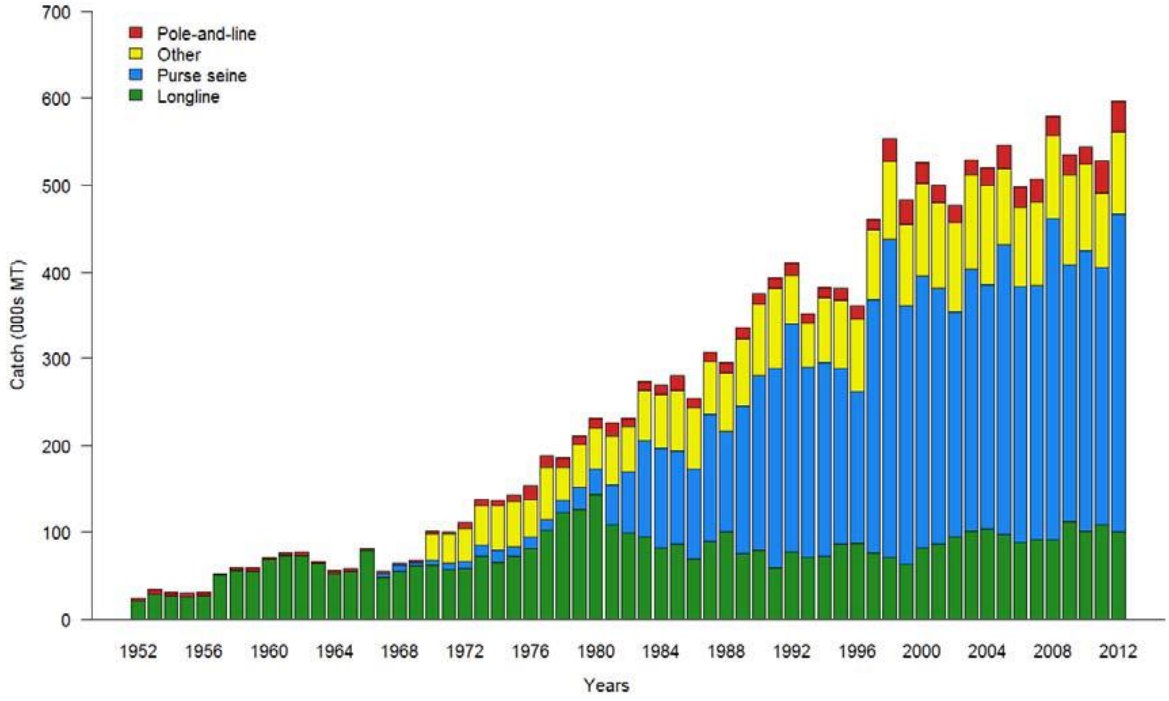


**Figure 22. Total annual catch (1000s mt) of Yellowfin Tuna by fishing gear as used in the 2014 stock assessment's reference case model (from Davies et al. 2014).**

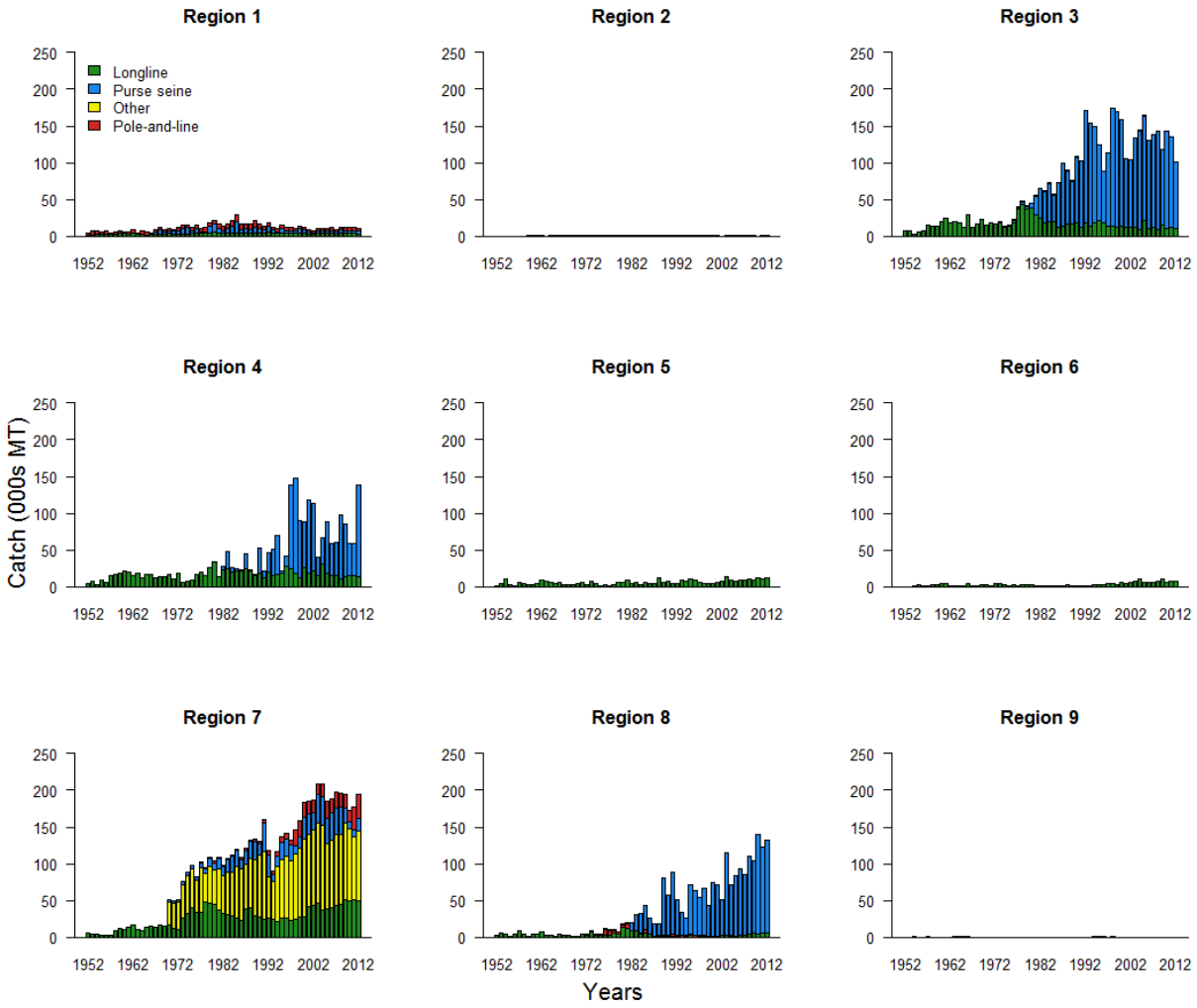


**Figure 23. Total annual catch (1000s mt) of Yellowfin Tuna by fishing method and assessment region from the 2014 assessment's reference case model (from Davies et al. 2014).**

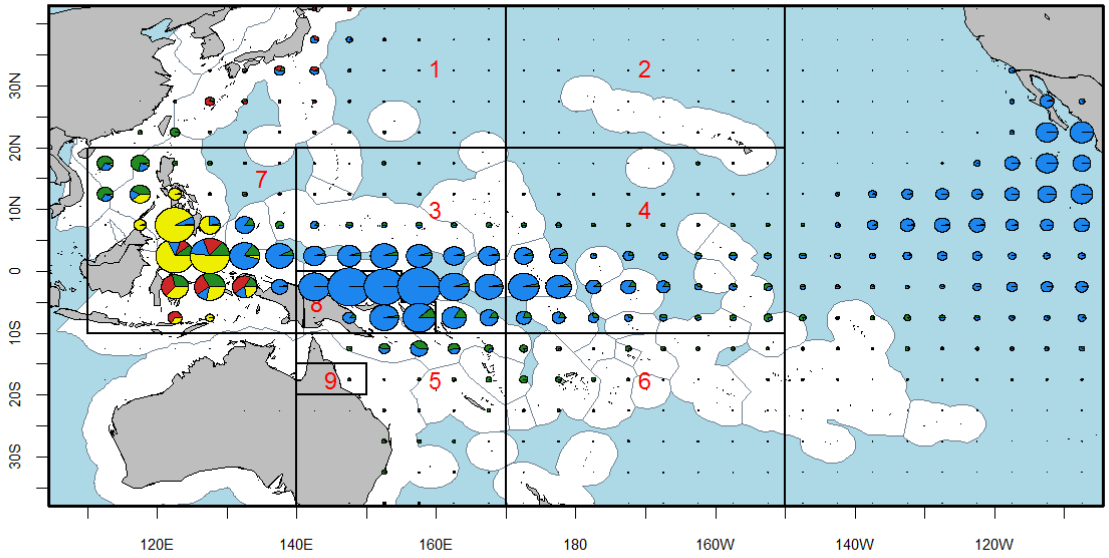


**Figure 24. Catch distribution (1990-2010) for Yellowfin Tuna by 5 degree squares of latitude and longitude and fishing method: longline (green), purse-seine (blue), pole-and-line (red), and other (yellow). Overlaid are the regions for the 2014 assessment model (from Davies et al. 2014).**

## 7.2 Principle 1 Performance Indicator scores and rationales

### Evaluation Table for PI 1.1.1 Skipjack Tuna – 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 | | | |
| | Guidepost | 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 |
| | Justification | The reference case from the 2019 stock assessment (Vincent et al. 2019) estimated that the stock is currently moderately exploited, and the level of fishing mortality is sustainable. The trajectory of the median spawning biomass depletion indicates a long-term trend, and has been under the interim TRP ($50\%SB_{F=0}$) since 2009 (for 10 years) and was well above the limit reference point, $20\%SB_{F=0}$.<br><br>The analysis of model structural uncertainty in the assessment (Vincent et al., 2019), using a crosswise grid of alternative model formulations, produced results which were spread relatively closely around the target reference point and well away from the limit reference point, and no models met, or even approached the thresholds of formal definitions of “overfishing" or “overfished."<br><br>Previous modelling had indicated that a biomass of this level for Skipjack Tuna had a greater than 95% likelihood of being above the limit reference point of 20% of unfished levels (SPC-OFP 2014). A stock above this limit reference point is considered above the point where recruitment would be impaired. The 2019 stock assessment includes additional data and a range of model improvements such as a change to the maturity schedule used in this assessment, with length-at-maturity now larger than in the previous assessment, which has resulted in a reduction in the estimate of potential spawning biomass, relative to the 2016 assessment.<br><br>Vincent et al. (2019) noted that the median level of spawning potential depletion from the uncertainty grid was SBrecent/SBF=0 = 0.44 with a probable range of 0.37 to 0.53 (80% probability interval). There were no individual models where SBrecent/SBF=0 < 0.2, which indicated that the probability that recent spawning biomass was below the LRP was zero.<br><br>Additionally, the grid median Frecent/FMSY was 0.45, with a range of 0.34 to 0.60 (80% probability interval) and that no values of Frecent/FMSY in the grid exceed 1. Therefore, SC15 noted that there was a zero probability that the recent fishing mortality exceeds FMSY.<br><br>There is, therefore, a high degree of certainty that the stock is above the point where recruitment would be impaired, which meets the requirements of scoring issue a at the SG 60, SG 80 and SG 100 levels. | | |
| b | Stock status in relation to achievement of MSY | | | |

| 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 |
| | Guidepost | | 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 |
| | Justification | The 2019 assessment (Vincent et al., 2019) provides estimates of recent and current spawning biomass (SB) relative to unfished levels ($SBF_{=0}$) and that which would support MSY ($SB_{MSY}$), for the selected stock assessment models, sensitivities and the structural uncertainty analysis. These include estimates for the 'recent' biomass ($SB_{recent}$) which is the average over the period 2015-2018 and 'latest' ($SB_{latest}$) which is for 2018. The target reference point (TRP) for Skipjack Tuna was set at an initial level of 50% $SB_{F=0}$ in CMM 2015-06.<br><br>The 2019 assessment estimated $SB_{recent}/SB_{F=0}$ = 0.44 with an 80% probability interval of 0.37 to 0.53 and $SB_{latest}/SB_{F=0}$ = 0.41 with an 80% probability interval of 0.36 to 0.49 for the reference case, and ranged between 0.32 and 0.48 across the one off sensitivity models explored<br>These results indicate that the stock is at or close to the target reference point of 50%$SB_{F=0}$ 50%.<br><br>The 2019 assessment also estimated $SB_{latest}/SB_{MSY}$ = 2.47 with an 80% probability interval of 1.78 to 3.36 and $SB_{recent}/SB_{MSY}$ = 2.62 with an 80% probability interval of 1.89 to 3.61 for the reference case, and ranged between 1.60 and 3.11 across the one off sensitivity models explored.<br>These results indicate that there isn approximate a 5% chance of the stock being below $B_{MSY}$ over the period 2015-2018.<br><br>These results indicate that there is a high degree of certainty that is has been above a level consistent with MSY over recent years.<br>This meets the requirements of scoring issue b at the SG 80 and SG 100 levels. | | |
| References | | Pilling et al. 2014a; Rice et al. 2014; SPC-OFP 2014; Vincent et al., 2019 | | |
| 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 (SIa) | | Level of spawning biomass in the absence of fishing ($SB_{F=0}$)<br>LRP: 20% $SB_{F=0}$ | $SB_{F=0}$ = 6,220,675 t 0.2X $SB_{F=0}$ = 1,244,135 t | $SB_{latest}/SB_{F=0}$ = 0.41 > LRP<br>$SB_{recent}/SB_{F=0}$ = 0.44 > LRP |
| Reference point used in scoring stock relative to MSY (SIb) | | Level of spawning biomass in the absence of fishing ($SB_{F=0}$)<br>TRP: 50% $SB_{F=0}$ | $SB_{F=0}$ = 6,220,675 t<br>0.5X$SB_{F=0}$=3,110,338 t<br><br>$SB_{MSY}$=1,100,947 t | $SB_{latest}/SB_{F=0}$ = 0.41< TRP<br>$SB_{recent}/SB_{F=0}$ = 0.44 < TRP<br><br>$SB_{latest}/SB_{MSY}$ = 2.44 |

| 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 |
| | Level of spawning biomass relative to MSY ($SB_{MSY}$) | | $SB_{recent}/SB_{MSY}$ = 2.62 |
| OVERALL PERFORMANCE INDICATOR SCORE: | | | 100 |
| CONDITION NUMBER (if relevant):<br>Click here to enter text. | | | |

## Evaluation Table for PI 1.1.2 Skipjack Tuna – Stock rebuilding

| PI 1.1.2 | | Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe | | |
|---|---|---|---|---|
| Scoring Issue | | SG 60 | SG 80 | SG 100 |
| a | **Rebuilding timeframes** | | | |
| | Guidepost | A rebuilding timeframe is specified for the stock that is **the shorter of 20 years or 2 times its generation time**. For cases where 2 generations is less than 5 years, the rebuilding timeframe is up to 5 years. | | The shortest practicable rebuilding timeframe is specified which does not exceed **one generation time** for the stock. |
| | Met? | Not scored | | Not scored |
| | Justification | Not scored- Stock does not require rebuilding | | |
| b | Rebuilding evaluation | | | |
| | Guidepost | Monitoring is in place to determine whether the rebuilding strategies are effective in rebuilding the stock within the specified timeframe. | There is evidence that the rebuilding strategies are rebuilding stocks, or it is likely based on simulation modelling, exploitation rates or previous performance that they will be able to rebuild the stock within the specified timeframe. | There is strong evidence that the rebuilding strategies are rebuilding stocks, or it is highly likely based on simulation modelling, exploitation rates or previous performance that they will be able to rebuild the stock within the specified timeframe. |
| | Met? | Not scored | Not scored | Not scored |
| | Justification | Not scored- Stock does not require rebuilding | | |
| References | | | | |
| OVERALL PERFORMANCE INDICATOR SCORE: | | | | Not scored |
| CONDITION NUMBER (if relevant): | | | | |

## Evaluation Table for PI 1.2.1 Skipjack Tuna – 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 | | | |
| | Guidepost | 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 | Not scored |
| | Justification | The harvest strategy for WCPO skipjack has several contributing components, with WCPFC, PNA and national and archipelagic waters management actions being supported by a robust stock assessment and extensive monitoring frameworks. There are, however, no formal harvest control rules.<br>The conservation and management measures applied to Skipjack Tuna and the elements they contain are assessed as being expected to achieve stock management objectives meeting the requirements of the SG 60 level.<br>The skipjack stock is well above levels that would raise concerns about potential impairment of recruitment, so measures to reduce the catch have not been required to date. Nevertheless, the absence of agreed harvest control rules within WCPFC or PNA for any other tuna species, and the record of failing to reduce fishing mortality on bigeye tuna so that they have now become overfished (see PI 2.1.1), reduces the level of confidence that the harvest strategy would be responsive to the state of the stock or that the elements will work together when required to do so to achieve the management objectives.<br>The original PNA skipjack assessment (Banks et al. 2011) scored that fishery as meeting the SG 80 level on the basis that “the Commission responded to the change in the results of the skipjack assessment and the more cautionary tone of the scientific advice in 2010 by deciding to address the management of skipjack explicitly in the preparation of a CMM to replace CMM 2008-01 beyond 2011.” At the time of that assessment the specific measures to be contained in the CMM had not been agreed or adopted. CMM 2012-01 (and subsequent tuna CMMs) do contain measures to restrict purse seine fishing effort but there is no explicit linkage to stock status of any species.<br>These concerns prevent the conclusion that the elements of the strategy are working together to achieve stock management objectives.<br>This conclusion is consistent with the results of extensive harmonisation discussions among CABs as described in detail in Section 4.1.<br>Furthermore, we have considered a submission from the PNAO concerning PI 1.2.1 for skipjack as outlined in SCS (2017). This submission contained an account of the processes followed by WCPFC and PNA in making adjustments to management arrangements for Skipjack Tuna. This submission has also been considered by other CABs as part of harmonisation discussions on this issue. We, and the other CABs, remained of the view that the deficiencies in the harvest strategy for Skipjack Tuna identified in the initial assessment still remain, particularly while there was no harvest control rule. Specifically, core concerns in the scoring of skipjack under PI 1.2.1 relative to PNA have been identified as:<br>There is a lack of a clear link between the PAE and scientific advice on stock status | | |

| PI 1.2.1 | | There is a robust and precautionary harvest strategy in place | | |
|---|---|---|---|---|
| | | There is no clear linkage between potential catch and allocated effort<br>It is not possible to transparently understand how the VDS/PAE will deal with effort creep and concomitant increase in Q.<br>Because Principle 1 is evaluated stock-wide, If PNA unilaterally develops their own HCR, it will become necessary for a formal commitment from PNA to reduce effort to compensate for removals by non-PNA fishery participants in the WCPO, if necessary, to assure that overall PNA removals remain compliant with any HCR and the overall PNA HS.<br><br>Skipjack Tuna is therefore considered to meet the SG 60 level of this scoring issue but not the SG 80 or SG 100 levels. | | |
| b | Harvest strategy evaluation | | | |
| | Guidepost | 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 | Not scored |
| | Justification | The most recent stock assessment (Vincent et al., 2019) indicates that fishing mortality for Skipjack Tuna has always been below the $F_{MSY}$ level and that the stock has not declined below the default target of $B_{MSY}$. This constitutes good evidence that the harvest strategy is meeting its objectives.<br>The harvest strategy has not been fully evaluated.<br>Therefore, Skipjack Tuna is considered to meet the requirements of both the SG 60 and SG 80 of this scoring issue. | | |
| c | Harvest strategy monitoring | | | |
| | Guidepost | Monitoring is in place that is expected to determine whether the harvest strategy is working. | | |
| | Met? | Y | | |
| | Justification | Monitoring in place for the purse seine fishery for Skipjack Tuna include mandatory logbooks with records of catch and effort for each fishing operation, a VMS, 100% observer coverage of fishing operations including detailed recording of catch composition, tagging data, biological studies and port inspections. These support a sophisticated stock assessment process that provides robust estimates of stock status that is sufficient to determine whether the harvest strategy is working. This meets the SG 60 requirements. | | |
| d | Harvest strategy review | | | |
| | Guidepost | | | The harvest strategy is periodically reviewed and improved as necessary. |
| | Met? | | | Not scored |
| | Justification | Not scored as not all SG 80 requirements are met. | | |
| e | Shark finning | | | |

| PI 1.2.1 | | There is a robust and precautionary harvest strategy in place | | |
|---|---|---|---|---|
| | Guidepost | 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? | Not relevant | Not relevant | Not relevant |
| | Justification | Sharks are not a target species of this fishery. This PI is therefore not relevant. Shark finning is addressed, however, under PI 2.1.2 | | |
| f | **Review of alternative measures** | | | |
| | Guidepost | 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 **biannual** 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? | Not relevant | Not relevant | Not relevant |
| | Justification | CMM 2015-01 (and its predecessors) requires that "To create a disincentive to the capture of small fish and to encourage the development of technologies and fishing strategies designed to avoid the capture of small tunas and other fish, CCMs shall require their purse seine vessels fishing in EEZs and on the high seas within the area bounded by 20ºN and 20ºS to retain on board and then land or transship at port all bigeye, skipjack, Yellowfin Tuna." Exceptions to this requirement are possible where the fish are unfit for human consumption for reasons other than size or when serious malfunction of equipment occurs. Reporting of discards is done via vessel logbooks and Observer Programs (100% observer coverage). Compliance with CMM 2015-01 (and its predecessors) is verified by observers, with any violations (such as illegal discards) being reported to the WCPFC via the Observer authority. Reported discards for the UoA represented 1.3% of the total catch for 2014 and 2015. Discarded catches of skipjack across the whole fleet are also estimated to be minor and are ignored in the stock assessment (Vincent et al., 2019).<br>The rules in place indicate that this scoring issue is not relevant to the UoA. | | |
| References | | McKechnie et al. 2016; Vincent et al., 2019 | | |

| OVERALL PERFORMANCE INDICATOR SCORE: | Score |
|---|---|
| CONDITION NUMBER: 1<br>By the first re-assessment surveillance audit (2022), demonstrate that the harvest strategy for Skipjack Tuna is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points. | 70 |

## Evaluation Table for PI 1.2.2 Skipjack Tuna – 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 | | | |
| | Guidepost | 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 | Not scored |
| | Justification | A generally understood HCR is taken here to mean one that is not well defined, as otherwise there is no distinction between requirements at the SG60 and SG80 levels. This PI is also assessed taking account the guidance for scoring 'available' HCRs at SG60 containing in SA2.5.2, SA2.5.3 and SA2.5.5.<br>The first option for scoring 'available' HCRs is intended to cover the situation where even generally understood HCRs are not yet clearly in place for a fishery. For WCPFC fisheries, including Skipjack Tuna, there are measures for controlling fishing effort through closures, limits on fishing capacity and, for vessels involved, through limits on fishing days under the VDS. There are expectations about responses and examples of how actions have been implemented for species such as bigeye tuna, but there is no clear linkage or explicit process that links changes in stock status to emergent associated management actions. Therefore we do not consider that there are even generally understood HCRs *that are also "in place"* ; the options for 'available' HCRs are therefore evaluated below.<br>The second question to address, is whether there are HCRs that meet the requirements for being considered as 'available'.<br>The guidance in SA2.5.2a indicates that teams shall accept 'available' HCRs in cases where, "…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 BMSY within the next 5 years".<br>As noted at PI 1.1.1 scoring issue (b), the 2016 assessment provides probabilistic estimates of parameters of interest, and has been extensively explored using a crosswise grid of sensitivity tests (McKechnie et al, 2016). The stock assessment estimates spawning biomass for Skipjack Tuna, SB, to be at 48% of unfished levels ($SB_{F=0}$) and 2.56 times $SB_{MSY}$. The stock is estimated to have never been reduced to $SB_{MSY}$ and has hence been above $SB_{MSY}$ in all years.<br>According to WCPFC (2014a), paragraph 48, "Future status under *status quo* projections (assuming 2012 conditions) was robust to assumptions on future recruitment. Under either assumption, spawning biomass remained relatively constant and it is exceptionally unlikely (0%) for the stock to become overfished ($SB_{2032}<0.2SB_{F=0}$) or for the spawning biomass to fall below $SB_{MSY}$, and it is exceptionally unlikely (<1%) for the stock to become subject to overfishing ($F>F_{MSY}$)."<br>An estimate of the generation time of Skipjack Tuna using the MSC definition (Box GSA4 in CR v2.0) is not available but SPC have produced an estimate of 2 years by a different | | |

| PI 1.2.2 | | There are well defined and effective harvest control rules (HCRs) in place | | |
|---|---|---|---|---|
| | | method (Berger et al. 2013) and by any method of estimation 2 generation times will be much less than the 20 years used in the projections mentioned above.<br>The CR v2.0 SA2.5.2a condition is therefore met and HCRs are therefore considered to be 'available'.<br>The third question to address is whether these available HCRs meet the requirement for reducing the exploitation rate as the LRP is approached. The guidance in SA2.5.3 requires that "Teams shall recognise 'available' HCRs as 'expected to reduce the exploitation rate as the point of recruitment impairment is approached' only in cases where,<br>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<br>An agreement or framework in place that requires the management body (*in this case WCPFC*) to adopt HCRs before the stock declines below Bmsy".<br>There are CMMs that are in place for a range of tuna species within the WCPFC (including skipjack) that contain a range of management measures that are designed to constrain fishing mortality to acceptable levels. Nevertheless, none are more highly developed than the measures currently in place for Skipjack Tuna and therefore they do not offer an example of effectiveness in reducing exploitation as the PRI is approached. Option a. is therefore not considered to be met.<br>Option b. examines plans for the introduction of an effective HCR. WCPFC Conservation and Management Measure CMM 2014-06 (WCPFC, 2014) sets out definitions of harvest strategies to be developed and implemented. The definitions include target and limit reference points and decision rules or ("harvest control rules"), with a clear intention that harvest control rules, tested using simulation approaches, will be part of the implemented harvest strategies. The Commission agreed to adopt a work plan at its 2015 annual meeting, which was revised in 2016, with application to skipjack, bigeye, yellowfin, Pacific bluefin, and South and North Pacific albacore tunas. In fact, work towards establishing reference points and harvest control rules was progressed through the Management Objectives Workshop (MOW) process.<br>We note that there is no specific requirement in CMM 2014-06 linking implementation of the HCRs to stock projections. Nevertheless, given that Skipjack Tuna are projected to remain well above $B_{MSY}$ for many years and that the process CMM 2014-06 describes has already been initiated – considered in place - we have considered that the requirements of Option b. SA2.5.3b are met. The requirements of the SG60 level are therefore considered to be met.<br>In summary, generally understood HCRs are not in place. Skipjack is a stock that has not previously been reduced below MSY, which has always been maintained well above the TRP and has an improbably low likelihood of becoming overfished or to experience overfishing. Therefore, this stock meets the requirements to be considered against "availability" requirements. In the WCPF, HCRSs are not effectively used in any other WCPFC-managed UoAs. However, there is a framework that is in place, expected to develop further that will require the WCPFC to take action on HCRs before there is any detectable, projected risk that skipjack stock status could decline below $B_{MSY}$. | | |
| b | HCRs robustness to uncertainty | | | |
| | Guidepost | | 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. |

<table>
<tr><td colspan="2">PI 1.2.2</td><td colspan="3">There are well defined and effective harvest control rules (HCRs) in place</td></tr>
<tr><td rowspan="2"></td><td>Met?</td><td></td><td>N</td><td>Not scored</td></tr>
<tr><td>Justification</td><td colspan="3">The ‘available’ harvest control rules are not sufficiently articulated to allow an evaluation of the extent to which they are robust to the main uncertainties. When well-defined HCRs are developed, they can be evaluated as to whether this is the case.<br>The SG80 requirements are not considered to be met.</td></tr>
<tr><td rowspan="4">c</td><td colspan="4">HCRs evaluation</td></tr>
<tr><td>Guidepost</td><td>There is some evidence that tools used or available to implement HCRs are appropriate and effective in controlling exploitation.</td><td>Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.</td><td>Evidence clearly shows that the tools in use are effective in achieving the exploitation levels required under the HCRs.</td></tr>
<tr><td>Met?</td><td>Y</td><td>N</td><td>Not scored</td></tr>
<tr><td>Justification</td><td colspan="3">As noted under scoring issue “a” above, following SA2.5.3b, we have recognised ‘available’ HCRs as ‘expected to reduce the exploitation rate as the point of recruitment impairment is approached’.<br>SA2.5.5b, which requires that teams shall include in their rationale a description of the formal agreement or legal framework that the management body has defined, and the indicators and trigger levels that will require the development of HCRs.<br>The agreement is contained in CMM 2014-06 whose objective is “To agree that the Commission shall develop and implement a harvest strategy approach for each of the key fisheries or stocks under the purview of the Commission according to the process set out in this conservation and management measure.”<br>This CMM contains general principles (including a description of a harvest strategy) and principles and elements of the proposed harvest strategies (which are consistent with the MSC definitions). The definitions include target and limit reference points and decision rules (or “harvest control rules”), with a clear intention that harvest control rules, tested using simulation approaches, will be part of the implemented harvest strategies. The specified timelines are that:<br>“The Commission shall agree a workplan and indicative timeframes to adopt or refine harvest strategies for skipjack, bigeye, yellowfin, South Pacific albacore, Pacific bluefin and northern albacore tuna by no later than the twelfth meeting of the Commission in 2015. This workplan will be subject to review in 2017.”<br>Work towards establishing reference points and harvest control rules was initiated before this CMM was passed through the Management Objectives Workshop process and requires no additional trigger for their development.<br>The requirements of SA2.5.5b are therefore considered to be met.<br>Furthermore, SA2.5.6 requires that, in scoring issue (c) for “evidence” teams shall include consideration of the current levels of exploitation in the UoA, such as measured by the fishing mortality rate or harvest rate, where available.<br>The most recent stock assessment for Skipjack Tuna (Vincent et al., 2019) and the earlier status quo projections (Pilling et al. 2014a) provide some evidence that the tools in use (the VDS and WCPFC effort limits) are effective in controlling exploitation of Skipjack Tuna and achieving the exploitation levels that are required. As noted above, these indicate that fishing mortality for Skipjack Tuna has always been below the $F_{MSY}$ level, that the stock has not declined below $B_{MSY}$ and that it is exceptionally unlikely (<1%) that fishing mortality will increase above the $F_{MSY}$ level by 2032. The current levels of exploitation are therefore acceptable and the requirements of SA2.5.6 are met.<br>This meets the requirements of the SG60 level.</td></tr>
</table>

| PI 1.2.2 | | There are well defined and effective harvest control rules (HCRs) in place |
|---|---|---|
| | | The HCRs are only regarded as being 'available' in scoring issue (a) and not 'in place', so we have considered that **it is not possible to score more than 60 for issue (c) since the SG80 refers to the tools 'in use' in the fishery and not the tools 'in use or available'**. In any case, not all available evidence indicates that current exploitation is adequately contained by the existing main tools (VDS and WCPFC effort limits) as catches of skipjack are still increasing and, although fishing mortality remains below the $F_{MSY}$ level, it has increased continuously since the beginning of industrial tuna fishing. So the effectiveness of the CMM 2014-01 for restricting fishing mortality to previous levels is not well demonstrated. The requirements of the SG80 level are therefore not clearly met. |
| References | | Berger et al. 2015, McKechnie et al. 2016, Pilling et al. 2014a, WCPFC (2014a), WCPFC 2014 (CMM for HCRs) |
| OVERALL PERFORMANCE INDICATOR SCORE: | | 60 |
| CONDITION NUMBER (if relevant):<br>Condition 2<br>SI a) By the first re-assessment surveillance audit (2022), demonstrate that well defined HCRs are in place for Skipjack Tuna 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.<br>SI b) By the first re-assessment surveillance audit (2022), provide evidence that the selection of the harvest control rules for Skipjack Tuna are robust to the main uncertainties.<br>SI c) By the first re-assessment surveillance audit (2022), provide evidence that indicates that the tools in use for Skipjack Tuna are appropriate and effective in achieving the exploitation levels required under the harvest control rules. | | |

## Evaluation Table for PI 1.2.3 Skipjack Tuna – 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 | | | |
| | Guidepost | 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 is 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 |
| | Justification | The monitoring system that is in place for the fishery collects a comprehensive range of information on related to the fishery: this includes mandatory logbooks with records for each fishing operation, a VMS, 100% observer coverage of fishing operations providing a detailed record of catch composition, and port inspections. Information is also available on stock structure (from tagging and other work), and all other key aspects of the species' biology. Data on environmental conditions is collected and is known to be important for understanding shifts in the distribution of the stock and the fishery. This information has been used to produce complex models of the ecological system (SEAPODYM) that are beyond what is needed for implementation of the harvest strategy.<br>This is considered to meet the requirements of the SG 60, SG 80 and SG 100 levels. | | |
| b | Monitoring | | | |
| | Guidepost | 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 |
| | Justification | Stock abundance and removals are monitored at a level of accuracy and coverage that is sufficient to support the harvest control measures in place.<br>There is not, however, a high degree of certainty about all the information required. Delays in the finalization of data from the most recent year prevented the most recent data being used in the assessment and, particularly for a short lived species such as Skipjack Tuna, this could lead to a mismatch between estimates of stock status from the assessment, management actions, and the actual stock status on the water (Rice et al. 2014). | | |

| PI 1.2.3 | | Relevant information is collected to support the harvest strategy | | |
|---|---|---|---|---|
| | | Furthermore, the Japanese pole-and-line fishery, which provides the standardised CPUE indices in regions 1, 2, and 3, represents less than 10% of the total catch of Skipjack Tuna and even less in the main equatorial zone, but remains the only fishery that can provide long-term information on relative biomass levels (McKechnie et al. 2016). These authors also report that there is a limited understanding of the factors driving the patterns observed in these data which are the basis for the key index that drives estimated abundance trends. Nevertheless, the accuracy and coverage of the estimates of removal and abundance have been shown to be sufficient to support an assessment and harvest strategy.<br>Operational level data are also not provided by some WCPFC members (although some who do not provide it to WCPFC make their country's data available for assessment purposes).<br><br>The issues raised above mean that we do not consider there to be a high degree of certainty about stock abundance or the robustness of the assessment to this uncertainty.<br><br>This meets the requirements for the SG 60 and SG 80 levels but not the SG 100 level. | | |
| c | Comprehensiveness of information | | | |
| | Guidepost | | There is good information on all other fishery removals from the stock. | |
| | Met? | | Y | |
| | Justification | Other fishery removals from the stock include catches by other WCPFC members including removals with fishing gears other than purse seine. Catches by members are required to be reported to the WCPFC. Article 5 of the Convention requires CCMs to "collect and share, 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 programmes."<br>This scoring issue was the subject of particular attention in the PNA Skipjack Tuna assessment (Banks et al. 2011) and in particular whether there was good information on the level of fishery removals from some countries.<br>The conclusion was that "despite a number of deficiencies in compilation and analysis from the Indonesia and Philippines, this reaches SG 80".<br>Since that assessment there has been additional work to improve the level of data available (noted in the Surveillance Reports for the PNA Skipjack Tuna: Lewis and Scott 2012, Scott and Stokes 2013) and we conclude that the requirements of the SG 80 level are also met for this fishery. | | |
| References | | Banks et al. 2011; Lewis and Scott 2012; Vincent et al. 2019; Scott and Stokes 2013 | | |
| OVERALL PERFORMANCE INDICATOR SCORE: | | | | 90 |
| CONDITION NUMBER (if relevant):<br>Click here to enter text. | | | | NA |

## Evaluation Table for PI 1.2.4 Skipjack Tuna – 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 | | | |
| | Guidepost | | 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 |
| | Justification | The most recent assessment applied to Skipjack Tuna (Vincent et al., 2019), like other recent assessments, is an integrated, model-based assessment that is undertaken by an experienced and internationally recognised stock assessment program at the SPC. It takes into account major features relevant to the biology and the nature of the fishery.<br>It therefore meets the requirements of the SG 80 and SG 100 levels of this scoring issue. | | |
| b | Assessment approach | | | |
| | Guidepost | 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 | |
| | Justification | The assessment reports provide a wide range of estimates of stock status relative to indicators of interest to management including both the target and limit reference points that have been agreed for Skipjack Tuna.<br>This therefore meets the requirements of the SG 60 and SG 80 levels. | | |
| c | Uncertainty in the assessment | | | |
| | Guidepost | 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 |
| | Justification | The assessment of Skipjack Tuna has provided explicit commentary on the major sources of uncertainty, has assessed the sensitivity of the assessment to these uncertainties, and has evaluated current and future stock status relative to these in a probabilistic way.<br>This meets the requirements of the SG 60, SG 80 and SG 100 levels of this scoring issue | | |
| d | Evaluation of assessment | | | |
| | Guidepost | | | The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored. |
| | Met? | | | Y |
| | Justification | There is an ongoing program of review of assessment assumptions and approaches by the staff in the SPC-OFP. Alternative hypotheses are continually being explored (within funding and time constraints) and assessments are updated and modified as required. | | |

| PI 1.2.4 | | There is an adequate assessment of the stock status | | |
|---|---|---|---|---|
| | | Model structure has been updated to reflect the availability of new data or new interpretations of existing data and a suite of sensitivity analyses have been undertaken to explore the impact of options such as changing assumptions for fixed parameters or different treatments of the data. Furthermore, retrospective analyses have been undertaken to explore any systematic biases in the model and the results used to adjust the reference case.<br>The assessment for Skipjack Tuna has been shown to be robust and therefore meets the requirements of this scoring issue.<br>We note that there has been no simulation testing of the model, but such testing is not necessary to meet the requirements. | | |
| e | Peer review of assessment | | | |
| | Guidepost | | The assessment of stock status is subject to peer review. | The assessment has been internally and externally peer reviewed. |
| | Met? | | Y | N |
| | Justification | Internal reviews are undertaken by SPC and there has been an external review of the assessment of Bigeye tuna (Ianelli et al. 2012) which provided recommendations that were also applicable to other similar assessments such as for Skipjack Tuna. Many of those recommendations have been addressed with the latest skipjack assessment.<br>There have also been external reviews commissioned of different aspects of the data analyses that feed into the skipjack and other tuna assessments.<br>There is also a level of external review provided by submission to the scientific committee of the WCPFC, at which experienced scientific staff from several countries attend, but we consider this to be internal to WCPFC processes.<br>Therefore, there has been no external review of the Skipjack Tuna stock assessment and we consider that this scoring issue is met at the SG 80 level but not at the SG 100 level | | |
| References | | Ianelli et al. 2014, Vincent et al. 2019 | | |
| OVERALL PERFORMANCE INDICATOR SCORE: | | | | 95 |
| CONDITION NUMBER (if relevant):<br>Click here to enter text. | | | | NA |

## Evaluation Table for PI 1.1.1 Yellowfin Tuna Stock – 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 | | | |
| | Guidepost | 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 |
| | Justification | The diagnostic case from the 2017 stock assessment (Tremblayer-Boyer et al. 2017) estimated that the spawning biomass was at 40% of unfished levels in 2015 and was well above the WCPFC limit reference point, 20%$SB_{F=0.5}$. Recruitment was also estimated to have been stable since the mid-1960s.<br>In the analysis of model structural uncertainty in the assessment (Tremblayer-Boyer et al. 2017), using a crosswise grid of 72 alternative model formulations, only two runs (<5%) fell below the limit reference point.<br>Previous modelling had also indicated that a biomass of this level for Yellowfin Tuna had a greater than 95% likelihood of being above the limit reference point of 20% of unfished levels (SPC-OFP 2014). A stock above this limit reference point is considered to be above the point where recruitment would be impaired.<br>Furthermore, Pilling et al. (2014) used stochastic projections under status quo conditions to estimate that it was exceptionally unlikely (<1%) that the yellowfin stock would fall below the limit reference point level or that fishing mortality would increase above the $F_{MSY}$ level by 2032, and dependent upon the future recruitment assumption, it was exceptionally unlikely (<1%; long-term recruitment deviate assumption) or very unlikely (<10%; recent recruitment assumption) to fall below $B_{MSY}$.<br>There is, therefore, a high degree of certainty that the stock is above the point where recruitment would be impaired, which meets the requirements of scoring issue a at the SG 60, SG 80 and SG 100 levels. | | |
| b | Stock status in relation to achievement of MSY | | | |
| | Guidepost | | 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 | N |
| | Justification | There is no explicit target reference point for Yellowfin Tuna but there is considered to be an implicit target of BMSY (supported by CMM 2016-01).<br>The grid medians for both SBrecent/SBMSY and SBlatest/SBMSY in the most recent assessment were 1.42 (Tremblayer-Boyer et al. 2017) which is well above this (default) target reference point and, given the estimated stock trajectory, would have done so over the whole period modelled.<br>This meets the requirements of scoring issue b at the SG 80 level.<br>Following SA2.2.1.3 a high degree of certainty means greater than or equal to the 95th percentile of a distribution. This assessment (unlike the previous one) does not provide 95% confidence intervals for the ratios SBrecent/SBMSY and SBlatest/SBMSY but across | | |

| 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 |
| | | the grid of uncertainties only two runs (<5%) fell below the chance of the stock being below BMSY over recent years. This finding might suggest that that Yellowfin Tuna now meets the requirements of scoring issue b at the SG 100 level.<br>Nevertheless, previous assessment scores for Yellowfin Tuna, based on the 2014 stock assessment (Rice et al. 2014), were that the SG 100 level was not met because the lower 95% confidence intervals for B/BMSY was less than 1 and the upper 95% confidence interval for F/FMSY was greater than 1. The 2017 assessment was slightly more optimistic but as the stock has recently been estimated to have been below that threshold the SG 100 requirement that stock be above MSY over recent years is still not met. | | |
| References | | Pilling et al. 2014, Rice et al. 2014, Tremblayer-Boyer et al. 2017 | | |

| 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 (SIa) | Level of spawning biomass in the absence of fishing ($SB_{F=0}$)<br>LRP: 20% $SB_{F=0}$ | $SB_{F=0}$ = 2,592,702 t<br>0.2X $SB_{F=0}$ = 518,540 t | $SB_{latest}/SB_{F=0}$ = 0.46 > LRP<br>$SB_{recent}/SB_{F=0}$ = 0.42 > LRP |
| Reference point used in scoring stock relative to MSY (SIb) | Level of spawning biomass relative to MSY ($SB_{MSY}$) | $SB_{MSY}$=750,100 t | $SB_{latest}/SB_{MSY}$ = 1.58<br>$SB_{recent}/SB_{MSY}$ = 1.46 |

| OVERALL PERFORMANCE INDICATOR SCORE: | Score |
|---|---|
| CONDITION NUMBER (if relevant): | 90 |

## Evaluation Table for PI 1.1.2 Yellowfin Tuna – Stock rebuilding

| PI 1.1.2 | | Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe | | |
|---|---|---|---|---|
| Scoring Issue | | SG 60 | SG 80 | SG 100 |
| a | **Rebuilding timeframes** | | | |
| | Guidepost | A rebuilding timeframe is specified for the stock that is **the shorter of 20 years or 2 times its generation time**. For cases where 2 generations is less than 5 years, the rebuilding timeframe is up to 5 years. | | The shortest practicable rebuilding timeframe is specified which does not exceed **one generation time** for the stock. |
| | Met? | Not scored | | Not scored |
| | Justification | Not scored- Stock does not require rebuilding. | | |
| b | Rebuilding evaluation | | | |
| | Guidepost | Monitoring is in place to determine whether the rebuilding strategies are effective in rebuilding the stock within the specified timeframe. | There is evidence that the rebuilding strategies are rebuilding stocks, **or it is likely** based on simulation modelling, exploitation rates or previous performance that they will be able to rebuild the stock within the specified timeframe. | There is **strong** evidence that the rebuilding strategies are rebuilding stocks, **or it is highly likely** based on simulation modelling, exploitation rates or previous performance that they will be able to rebuild the stock within the specified timeframe. |
| | Met? | Not scored | Not scored | Not scored |
| | Justification | Not scored- Stock does not require rebuilding. | | |
| References | | [List any references here] | | |
| OVERALL PERFORMANCE INDICATOR SCORE: | | | | Score |
| CONDITION NUMBER (if relevant):<br>Click here to enter text. | | | | N/A |

## Evaluation Table for PI 1.2.1 Yellowfin Tuna – 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 | | | |
| | Guidepost | The harvest strategy is **expected** to achieve stock management objectives reflected in PI 1.1.1 SG 80. | 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 SG 80. | 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 SG 80. |
| | Met? | Y | N | Not scored |
| | Justification | Agreed harmonized score: 60<br><br>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).<br><br>The harvest strategy for WCPO yellowfin has several contributing components, with WCPFC, PNA and national and archipelagic waters management actions being supported by a robust stock assessment and extensive monitoring frameworks. There are, however, no formal harvest control rules. This conclusion is consistent with the results of extensive harmonisation discussions among CABs as described in detail in Section 4.1.<br><br>The range of measures applied to the sectors that fish for Yellowfin Tuna are expected to achieve stock management objectives meeting the requirements of the SG 60 level.<br><br>Nevertheless, the general stock decline for yellowfin (albeit with a recent increase in stock size), the absence of agreed harvest control rules within WCPFC or PNA for any other tuna species, and the record of the Commission failing to reduce fishing mortality on bigeye tuna when it was thought to have been subject to overfishing, reduces the level of confidence that the harvest strategy would be responsive to the state of the stock or that the elements will work together when required to do so to achieve the management objectives.<br><br>It is also not clear that coherent management actions are applied throughout the range of the stock, particularly in Indonesia and the Philippines.<br>Overall this prevents the conclusion that the strategy is designed to achieve stock management objectives.<br>Yellowfin Tuna is therefore considered to meet the SG 60 level of this scoring issue but not the SG 80 or SG 100 levels. | | |
| b | Harvest strategy evaluation | | | |
| | Guidepost | 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 |

| PI 1.2.1 | | There is a robust and precautionary harvest strategy in place | | |
|---|---|---|---|---|
| | | | | to maintain stocks at target levels. |
| | Met? | Y | Y | Not scored |
| | Justification | Yellowfin Tuna have been estimated to be above default target levels and the status quo stock projections undertaken indicate that "it was exceptionally unlikely (<1%) that the yellowfin stock would fall below the limit reference point level or that fishing mortality would increase above the $F_{MSY}$ level by 2032" (Pilling et al. 2014a).<br>Furthermore, the most recent stock assessment (Tremblayer-Boyer et al. 2017) indicates that fishing mortality for Yellowfin Tuna has always been below the $F_{MSY}$ level and that the stock has not declined below the default target of $B_{MSY}$. This constitutes good evidence that the harvest strategy is meeting its objectives.<br>Therefore, Yellowfin Tuna is considered to meet both the SG 60 and SG 80 levels of this scoring issue | | |
| c | Harvest strategy monitoring | | | |
| | Guidepost | Monitoring is in place that is expected to determine whether the harvest strategy is working. | | |
| | Met? | Y | | |
| | Justification | Monitoring in place for the longline fishery for Yellowfin Tuna include mandatory logbooks with records of catch and effort for each fishing operation, a VMS, tagging data, biological studies and port inspections. There is, however, only very limited observer coverage of fishing operations so there are relatively few data on the discarded component of the catch, but few yellowfin would be expected to be discarded. The data that are collected do support a sophisticated stock assessment process that provides robust estimates of stock status that is sufficient to determine whether the harvest strategy is working. This meets the SG 60 requirements. | | |
| d | Harvest strategy review | | | |
| | Guidepost | | | The harvest strategy is periodically reviewed and improved as necessary. |
| | Met? | | | Not scored |
| | Justification | Not scored as not all SG 80 requirements are met. | | |
| e | Shark finning | | | |
| | Guidepost | 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? | Not relevant) | Not relevant | Not relevant |
| | Justification | Sharks are not a target species (or even a main retained species) of this fishery. This PI is therefore not relevant. | | |
| f | **Review of alternative measures** | | | |
| | Guidepost | 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 | There is a **biannual** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the |

| PI 1.2.1 | | There is a robust and precautionary harvest strategy in place | | |
|---|---|---|---|---|
| | | | are implemented as appropriate. | target stock, and they are implemented, as appropriate. |
| | Met? | Not relevant | Not relevant | Not relevant |
| | Justification | CMM 2015-01 (and its predecessors) requires that "To create a disincentive to the capture of small fish and to encourage the development of technologies and fishing strategies designed to avoid the capture of small tunas and other fish, CCMs shall require their purse seine vessels fishing in EEZs and on the high seas within the area bounded by 20ºN and 20ºS to retain on board and then land or transship at port all bigeye, skipjack, Yellowfin Tuna." Exceptions to this requirement are possible where the fish are unfit for human consumption for reasons other than size or when serious malfunction of equipment occurs. Reporting of discards is done via vessel logbooks and Observer Programs. Compliance with CMM 2015-01 (and its predecessors) is verified by observers with any violations (such as illegal discards) being reported to the WCPFC via the Observer authority. Reported discards for the UoA represented 0.9% of the total catch for 2014 and 2015. Discarded catches of yellowfin across the whole fleet are also estimated to be minor and are ignored in the stock assessment (Tremblayer-Boyer et al. 2017).<br>The rules in place indicate that this scoring issue is not relevant to the UoA. | | |
| References | | Pilling et al. 2014, Tremblayer-Boyer et al. 2017 | | |
| OVERALL PERFORMANCE INDICATOR SCORE: | | | | Score |
| CONDITION NUMBER: 3<br>By the first re-assessment surveillance audit (2022), demonstrate that the harvest strategy for Yellowfin Tuna is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points. | | | | 70 |

## Evaluation Table for PI 1.2.2 Yellowfin Tuna – 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 | | | |
| | Guidepost | **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 | Not scored |
| | Justification | A generally understood HCR is taken here to mean one that is not well defined, as otherwise there is no distinction between requirements at the SG 60 and SG 80 levels. This PI is also assessed taking account the guidance for scoring 'available' HCRs at SG 60 containing in SA2.5.2, SA2.5.3 and SA2.5.5.<br>The first option for scoring 'available' HCRs is intended to cover the situation where even generally understood HCRs are not yet clearly in place for a fishery. For WCPFC fisheries, including Yellowfin Tuna, there are measures for controlling fishing effort through closures, limits on fishing capacity and, for vessels involved, through limits on fishing days under the VDS. There are expectations about responses and examples of how actions have been implemented for species such as bigeye tuna, but there is no clear linkage or explicit process that links changes in stock status to emergent associated management actions. Therefore we do not consider that there are even generally understood HCRs *that are also "in place"* ; and the options for 'available' HCRs are evaluated below.<br>The second question to address, is whether there are HCRs that meet the requirements for being considered as 'available'.<br>The guidance in SA2.5.2a indicates that teams shall accept 'available' HCRs in cases where, "…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".<br>As noted at PI 1.1.1 scoring issue (b), the 2017 assessment provides probabilistic estimates of parameters of interest, and has been extensively explored using a crosswise grid of sensitivity tests (Tremblayer-Boyer et al. 2017). The stock assessment estimates spawning biomass for Yellowfin Tuna, SB, to be at 46% of unfished levels ($SB_{F=0}$) and 1.58 times $SB_{MSY}$. The stock is estimated to have never been reduced to $SB_{MSY}$ and has hence been above $SB_{MSY}$ in all years.<br><br>According to WCPFC (2014a), paragraph 37, "Future status under *status quo* projections (assuming 2012 conditions) depends upon assumptions on future recruitment. When spawner-recruitment relationship conditions are assumed, spawning biomass is predicted to increase and the stock is exceptionally unlikely (0%) to become overfished ($SB_{2032}<0.2SB_{F=0}$) or to fall below $SB_{MSY}$, nor to become subject to overfishing ($F>F_{MSY}$). If recent (2002-2011) actual recruitments are assumed, spawning biomass will remain relatively constant, and the stock is exceptionally unlikely (0%) to become overfished or to | | |

| PI 1.2.2 | | There are well defined and effective harvest control rules (HCRs) in place |
|---|---|---|
| | | become subject to overfishing, and it was very unlikely (2%) that the spawning biomass would fall below $SB_{MSY}$."<br><br>An estimate of the generation time of Yellowfin Tuna using the MSC definition (Box GSA4 in CR v2.0) is not available but SPC have produced an estimate of 5 years by a different method (Berger et al. 2013) and by any method of estimation 2 generation times will be much less than the 20 years used in the projections mentioned above.<br>The CR v2.0 SA2.5.2a condition is therefore met and HCRs are therefore considered to be 'available'.<br>The third question to address is whether these available HCRs meet the requirement for reducing the exploitation rate as the LRP is approached. The guidance in SA2.5.3 requires that "Teams shall recognise 'available' HCRs as 'expected to reduce the exploitation rate as the point of recruitment impairment is approached' only in cases where,<br>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<br>An agreement or framework in place that requires the management body (*in this case WCPFC*) to adopt HCRs before the stock declines below Bmsy".<br>There are CMMs that are in place for a range of tuna species within the WCPFC (including yellowfin) that contain a range of management measures that are designed to constrain fishing mortality to acceptable levels. Nevertheless, none are considered to be more highly developed than the measures currently in place for Yellowfin Tuna and therefore they do not offer an example of effectiveness in reducing exploitation as the PRI is approached. Option a. is therefore not considered to be met.<br>Option b. examines plans for the introduction of an effective HCR. WCPFC Conservation and Management Measure CMM 2014-06 (WCPFC, 2014) sets out definitions of harvest strategies to be developed and implemented. The definitions include target and limit reference points and decision rules or ("harvest control rules"), with a clear intention that harvest control rules, tested using simulation approaches, will be part of the implemented harvest strategies. The Commission agreed to adopt a work plan at its 2015 annual meeting, which was revised in 2016 and 2017, with application to skipjack, bigeye, yellowfin, Pacific bluefin, and South and North Pacific albacore tunas. In fact, work towards establishing reference points and harvest control rules was progressed through the Management Objectives Workshop (MOW) process.<br><br>We note that there is no specific requirement in CMM 2014-06 linking implementation of the HCRs to stock projections. Nevertheless, given that Yellowfin Tuna are projected to remain well above $B_{MSY}$ for many years and that the process CMM 2014-06 describes has already been initiated – considered in place - we have considered that the requirements of Option b. SA2.5.3b are met. The requirements of the SG 60 level are therefore considered to be met.<br>In summary, generally understood HCRs are not in place. Yellowfin is a stock that has not previously been reduced below MSY, which has always been maintained well above the TRP and has an improbably low likelihood of becoming overfished or to experience overfishing. Therefore this stock meets the requirements to be considered against "availability" requirements. In the WCPF, HCRs are not yet effectively used in any other WCPFC-managed UoAs. However, there is a framework that is in place, expected to develop further that will require the WCPFC to take action on HCRs before there is any detectable, projected risk that yellowfin stock status could decline below $B_{MSY}$. |
| b | HCRs robustness to uncertainty | |

| PI 1.2.2 | | There are well defined and effective harvest control rules (HCRs) in place | | |
|---|---|---|---|---|
| | Guidepost | | 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 | Not scored |
| | Justification | Agreed harmonized score: SG 80 is not met.<br>The 'available' harvest control rules are not sufficiently articulated to allow an evaluation of the extent to which they are robust to the main uncertainties. When well-defined HCRs are developed they can be evaluated as to whether this is the case.<br>The SG80 requirements are not considered to be met. | | |
| c | **HCRs evaluation** | | | |
| | Guidepost | 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 | Not scored |
| | Justification | As noted under scoring issue a above, following SA2.5.3b, we have recognised 'available' HCRs as 'expected to reduce the exploitation rate as the point of recruitment impairment is approached'.<br>SA2.5.5b, which requires that teams shall include in their rationale a description of the formal agreement or legal framework that the management body has defined, and the indicators and trigger levels that will require the development of HCRs.<br>The agreement is contained in CMM 2014-06 whose objective is "To agree that the Commission shall develop and implement a harvest strategy approach for each of the key fisheries or stocks under the purview of the Commission according to the process set out in this conservation and management measure."<br>This CMM contains general principles (including a description of a harvest strategy) and principles and elements of the proposed harvest strategies (which are consistent with the MSC definitions). The definitions include target and limit reference points and decision rules (or "harvest control rules"), with a clear intention that harvest control rules, tested using simulation approaches, will be part of the implemented harvest strategies. The specified timelines are that:<br>"*The Commission shall agree a workplan and indicative timeframes to adopt or refine harvest strategies for skipjack, bigeye, yellowfin, South Pacific albacore, Pacific bluefin and northern albacore tuna by no later than the twelfth meeting of the Commission in 2015. This workplan will be subject to review in 2017.*"<br>Work towards establishing reference points and harvest control rules was initiated before this CMM was passed through the Management Objectives Workshop process and requires no additional trigger for their development.<br>**The requirements of SA2.5.5b are therefore considered to be met.**<br>Furthermore, SA2.5.6 requires that, in scoring issue (c) for "evidence" teams shall include consideration of the current levels of exploitation in the UoA, such as measured by the fishing mortality rate or harvest rate, where available. | | |

| PI 1.2.2 | | There are well defined and effective harvest control rules (HCRs) in place |
|---|---|---|
| | | The most recent stock assessment for Yellowfin Tuna (Tremblayer-Boyer et al. 2017) and the earlier *status quo* projections (Pilling et al. 2014a) provide some evidence that the tools in use (the VDS and WCPFC effort limits) are effective in controlling exploitation of Yellowfin Tuna and achieving the exploitation levels that are required. As noted above, these indicate that fishing mortality for Yellowfin Tuna has always been below the $F_{MSY}$ level, that the stock has not declined below $B_{MSY}$ and that it is exceptionally unlikely (<1%) that fishing mortality will increase above the $F_{MSY}$ level by 2032. **The current levels of exploitation are therefore acceptable and the requirements of SA2.5.6 are met.**<br>**This meets the requirements of the SG 60 level.**<br>The HCRs are only regarded as being 'available' in scoring issue (a) and not 'in place', so we have considered that **it is not possible to score more than 60 for issue (c) since the SG 80 refers to the tools 'in use' in the fishery and not the tools 'in use or available'**. In any case, not all available evidence indicates that current exploitation is adequately contained by the existing main tools (VDS and WCPFC effort limits) as catches of yellowfin (althought slightly lower in 2015) are still generally increasing and, although fishing mortality remains below the $F_{MSY}$ level, it has increased continuously since the beginning of industrial tuna fishing. So the effectiveness of the CMM 2014-01 for restricting fishing mortality to previous levels is not well demonstrated.<br>The requirements of the SG 80 level are therefore not clearly met. |
| References | | Berger et al. 2015, Tremblayer-Boyer et al. 2017, Pilling et al. 2014a, WCPFC (2014a), WCPFC 2014 (CMM for HCRs) |

| OVERALL PERFORMANCE INDICATOR SCORE: | **Score** |
|---|---|
| CONDITION NUMBER: 4<br>SI a) By the first re-assessment surveillance audit (2022), demonstrate that well defined HCRs are in place for Yellowfin Tuna 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.<br>SI b) By the first re-assessment surveillance audit (2022), provide evidence that the selection of the harvest control rules for Yellowfin Tuna are robust to the main uncertainties.<br>SI c) By the first re-assessment surveillance audit (2022), provide evidence that indicates that the tools in use for Yellowfin Tuna are appropriate and effective in achieving the exploitation levels required under the harvest control rules. | **60** |

## Evaluation Table for PI 1.2.3 Yellowfin – 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 | | | |
| | Guidepost | 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 is 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 | N |
| | Justification | Stock structure - the WCPO yellowfin fishery is assessed and managed as a single stock. However, suggestive evidence for population structure is emerging for the tropical tunas (e.g. Kolody et al., 2013).<br><br>Williams (2013) identified data gaps (for all key species, rather than yellowfin in particular) as follows:<br>• Vietnamese domestic fleet: no annual catch data provided (but this now appears to be provided – see Davies et al. 2014);<br>• Philippines and Indonesian fleets: catch data not broken down by gear type; operation (logsheet) data not provided;<br>• Chinese Taipei fleet: no operational data, aggregated effort data or size data prior to 2004; likewise, for the Japanese coastal fleet up to the present data; likewise, for the Japanese pole and line fleet prior to 1972;<br>• Several countries may have historical data which has not been identified<br>• Historical estimates of coverage rates from logsheets and port sampling are missing in some cases;<br>• Some key (distant water) fleets provide only aggregated rather than operation level data – this is identified as a constraint on stock assessments, and on the use of more detail's spatial models such as SEAPOPDYM.<br><br>Overall, given the size and complexity of the fishery, the range and comprehensiveness of the data available is impressive and improving all the time. Nonetheless, these data gaps do constrain stock assessments – as does bias and lack of precision in some of the data sets, particularly historical data. Perhaps more importantly, the stock assessment continues to rely on commercial CPUE as an index of stock abundance, and although these data are carefully analysed and standardised as far as possible, there are no fishery-independent data sets with which they can be compared, while issues such as spatial and temporal changes in catchability remain problematic. On this basis, the team concluded that SG 80 is met, but SG 100 is not met. | | |

| PI 1.2.3 | | Relevant information is collected to support the harvest strategy | | |
|---|---|---|---|---|
| b | Monitoring | | | |
| | Guidepost | 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 |
| | Justification | Stock abundance and removals are monitored at a level of accuracy and coverage that is sufficient to support the harvest control measures in place.<br>There is not, however, a high degree of certainty about all the information required. Operational level data are not provided by some WCPFC members (although some who do not provide it to WCPFC make their country's data available for assessment purposes).<br><br>The issues raised above mean that we do not consider there to be a high degree of certainty about stock abundance or the robustness of the assessment to this uncertainty.<br>.<br>This meets the requirements for the SG 60 and SG 80 levels but not the SG 100 level. | | |
| c | Comprehensiveness of information | | | |
| | Guidepost | | There is good information on all other fishery removals from the stock. | |
| | Met? | | Y | |
| | Justification | This scoring issue was the subject of particular attention in the original Skipjack Tuna assessment (Banks et al. 2011) and in particular whether there was good information on the level of fishery removals from some countries.<br>The conclusion was that "despite a number of deficiencies in compilation and analysis from the Indonesia and Philippines, this reaches SG 80".<br>Since that assessment there has been additional work to improve the level of data available (noted in the Surveillance Reports for Skipjack Tuna) and we conclude that the requirements of the SG 80 level are also met for Yellowfin Tuna. | | |
| References | | Banks et al. 2011, Tremblayer-Boyer et al. 2017 | | |
| OVERALL PERFORMANCE INDICATOR SCORE: | | | | 80 |
| CONDITION NUMBER (if relevant):<br>Condition | | | | N/A |

## Evaluation Table for PI 1.2.4 Yellowfin Tuna – 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 | | | |
| | Guidepost | | 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 |
| | Justification | The most recent assessment applied to Yellowfin Tuna (Tremblayer-Boyer et al. 2017), like other recent assessments, is an integrated, model-based assessment that is undertaken by an experienced and internationally recognised stock assessment program at the SPC. It takes into account major features relevant to the biology and the nature of the fishery.<br>It therefore meets the requirements of the SG 80 and SG 100 levels of this scoring issue | | |
| b | Assessment approach | | | |
| | Guidepost | 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 | |
| | Justification | The assessment reports provide a wide range of estimates of stock status relative to indicators of interest to management including both the target and limit reference points that have been agreed for Yellowfin Tuna.<br>This therefore meets the requirements of the SG 60 and SG 80 levels | | |
| c | Uncertainty in the assessment | | | |
| | Guidepost | 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 |
| | Justification | The assessment of Yellowfin Tuna has provided explicit commentary on the major sources of uncertainty, has assessed the sensitivity of the assessment to these uncertainties, and has evaluated current and future stock status relative to these in a probabilistic way.<br>This meets the requirements of the SG 60, SG 80 and SG 100 levels of this scoring issue | | |
| d | Evaluation of assessment | | | |
| | Guidepost | | | The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored. |
| | Met? | | | Y |

| PI 1.2.4 | | There is an adequate assessment of the stock status | | |
|---|---|---|---|---|
| | Justification | There is an ongoing program of review of assessment assumptions and approaches by the staff in the SPC-OFP. Alternative hypotheses are continually being explored (within funding and time constraints) and assessments are updated and modified as required.<br>Model structure has been updated to reflect the availability of new data or new interpretations of existing data and a suite of sensitivity analyses have been undertaken to explore the impact of options such as changing assumptions for fixed parameters or different treatments of the data. Furthermore, retrospective analyses have been undertaken to explore any systematic biases in the model and the results used to adjust the reference case.<br>The assessment for Yellowfin Tuna has been shown to be robust and therefore meets the requirements of this scoring issue.<br>We note that there has been no simulation testing of the model, but such testing is not necessary to meet the requirements. | | |
| E | Peer review of assessment | | | |
| | Guidepost | | The assessment of stock status is subject to peer review. | The assessment has been internally and externally peer reviewed. |
| | Met? | | Y | N |
| | Justification | Internal reviews are undertaken by SPC and there has been an external review of the assessment of Bigeye tuna (Ianelli et al. 2012) which provided recommendations that were also applicable to other similar assessments such as for Yellowfin Tuna. Many of those recommendations have been addressed with the latest yellowfin assessment.<br>There have also been external reviews commissioned of different aspects of the data analyses that feed into the assessments.<br>This is also a level of review provided by submission to the scientific committee of the WCPFC, at which experienced scientific staff from several countries attend, but we consider this to be internal to WCPFC processes.<br>We note, as discussed in the background, there have been two earlier reviews of the previous Yellowfin Tuna assessment (Haddon 2010 and Maguire 2010) which were commissioned by the USA through the Center for Independent Experts (CIE). A response to these reviews was provided by SPC to SC7 (SPC-OFP 2011) but there was no reference to the findings of this review or the response in the subsequent stock assessment (Davies et al. 2014). Given the manner of its initiation (it was not commissioned by the WCPFC or SPC) and the lack of a clear response in the subsequent assessment we are inclined to take a conservative approach in not considering scoring the last scoring issue to have been met at the SG 100 level. An effective external review should lead to an acknowledgment of deficiencies identified and evidence of a response in the subsequent assessment.<br>Therefore, we consider that this scoring issue is met at the SG 80 level but not at the SG 100 level. | | |
| References | | Davies et al. 2014, Haddon 2010, Ianelli et al. 2012, Maguire 2010, SPC-OFP 2011, Tremblayer-Boyer et al. 2017 | | |
| OVERALL PERFORMANCE INDICATOR SCORE: | | | | 95 |
| CONDITION NUMBER (if relevant):<br>Condition | | | | N/A |

# 8. Appendices

## 8.1 Assessment information

The assessment information for the Principle 1 v2.0 assessment upgrade for this fishery is presented here. The reader is directed back to the PCR of the fishery for information on the initial site visit.[7]

All meetings were by **a** remote interview with participants listed in Table 21. Table 22 shows the schedule of these meetings and the category of participants in each. Information was also obtained by **an** email exchange with Secretariat to the Pacific Community (SPC) representatives.

**Table 36. List of clients and stakeholders contacted during the surveillance audit.**

| Name | Role | Affiliation |
|---|---|---|
| **Alexander (Sandy) Morison** | Lead Auditor (P1, P2) | SCS |
| **Frank Meere** | Auditor (P3) | SCS |
| **Amanda Hamilton** | Client representative | TMI |
| **Angelina Tan Wei Li** | Client representative | TMI |
| **Frank Wickham** | Fishing company | NFD |
| **Cynthia Wickham** | Fishing company | NFD |
| **Eddie Honiwala** | Stakeholder | Solomon Islands, MFMR |
| **Charles Tobasala** | Stakeholder | Solomon Islands, MFMR |
| **Selina Lipa** | Stakeholder | Solomon Islands, MFMR |
| **Pamela Maru** | Stakeholder | FFA |
| **Tim Adams** | Stakeholder | FFA |
| **Hugh Walton** | Stakeholder | FFA |
| **Graham Pilling** | Stakeholder | SPC (by email) |
| **Peter Williams** | Stakeholder | SPC (by email) |

**Table 37. Audit Overview: Key meetings and participants**

| | Date | Location | Topic | Attendees |
|---|---|---|---|---|
| 1 | Monday 10 June | Teleconference | SI-PS-PL. Opening meeting with a client. Meeting with TMI, NFD representatives | SCS, Client, TMI, NFD |
| 2 | Tuesday 11 June | Teleconference | SI-PS-PL. Stakeholder consultation | SCS, Client, FFA |
| 3 | Tuesday 11 June | Teleconference | SI-PS-PL. Management consultation | SCS, Client, MFMR |
| 4 | Tuesday 11 June | Teleconference | Stakeholder consultation. | SCS, PNA representatives |
| 5 | Wed 12 June (Tuesday 11 June US time) | Teleconference | SI-PS-PL & TMI-WCP-PS. Closing meetings | SCS, Client, TMI |

[7] https://fisheries.msc.org/en/fisheries/tri-marine-western-and-central-pacific-skipjack-and-yellowfin-tuna/@@view

### 8.1.1 Stakeholder Participation

SCS identified relevant stakeholders for this fishery through professional networks of SCS and the audit team and know-how of the organizations working in the area. A list of over 300 individuals from approximately 100 different organizations was compiled including representatives from the government, private sector and non-profit sectors working at regional and national levels. The main form of communication to stakeholders has been via email to personal or organizational email addresses. Stakeholders on the list received an email with the surveillance announcement, the MSC stakeholder template to provide input and an invitation to participate at the onsite.

One written stakeholder submission was received and the harmonized responses are included in Section 6.4. The stakeholder submission and SCS's response is included as an Appendix in the surveillance audit report.

An announcement of the surveillance audit remote meeting was published to the MSC website on May 10th, 2019. Stakeholders were informed of the announcements through the MSC website and through email. An audit plan was provided to the client, management, scientists, and interested stakeholders by SCS before the meeting.

No stakeholders requested a private meeting with the team.

During surveillance meetings, the assessment team had discussions with representatives from the management agency (MFMR), the client group and stakeholders as shown above.

### 8.1.2 Evaluation techniques

One of the most significant, and difficult, aspects of the MSC certification process is ensuring that the assessment team acquires a complete and thorough grounding in all aspects of the fishery under evaluation. In even the smallest fishery, this is no easy task as the assessment team typically needs information that is fully supported by documentation in all areas of the fishery from the status of stocks, to ecosystem impacts, through management processes and procedures.

Under the MSC program, it is the responsibility of the applying organizations or individuals to provide the information required proving the fishery or fisheries comply with the MSC standards. It is also the responsibility of the applicants to ensure that the assessment team has access to any and all scientists, managers, and fishers that the assessment team identifies as necessary to interview in its effort to properly understand the functions associated with the management of the fishery. Last, it is the responsibility of the assessment team to make contact with stakeholders that are known to be interested, or actively engaged in issues associated with fisheries in the same geographic location.

In addition to information provided by the client and information gained during the site visit, the assessment team gathered information using a range of methods. The website of the WCPFC (www.wcpfc.int) was a key source of documentation about the target species, other retained species, CMMs and other management arrangements. The PNA website (www.pnatuna.com) was also used to source information relevant to fishing in PNA waters. Direct approaches were made to the SPC for data on the fishery including data from logbooks and observers. The pre-assessment report (a draft copy of which was provided to the assessment team) was used as background.

Stakeholders were informed primarily via announcements posted on the MSC website, and via direct email outreach. None were identified.

Scoring was completed by consensus through team meetings and exchanging rationales by email and draft score and report sharing. The decision rule for MSC certification is as follows:

- No PIs score below 60 (cannot receive certification)
- The aggregate score for each Principle, rounded to the nearest whole number, is 80 or above
- The aggregate score for each Principle is calculated by taking the average score for each section followed by the average of all the section scores (see Principle Level Scores).

The scoring elements considered under each of the Principles are outlined in Table 4.3. None were considered data deficient and requiring the use of the RBF for the assessment.

**Table 38.** Scoring elements considered in assessing the fishery.

| Component | Scoring elements | Main/not main | Data-deficient or not |
|---|---|---|---|
| Target species | Skipjack tuna | N/A | Not data deficient |
| | Yellowfin tuna | N/A | Not data deficient |
| Retained species | Bigeye tuna | Main | Not data deficient |
| Bycatch species | Silky shark | Not main | Not data deficient |
| ETP species | Sharks and rays (10 species) | N/A | Not data deficient |

| | | | |
|---|---|---|---|
| | Cetaceans (9 species) | N/A | Not data deficient |
| | Turtles (6 species) | N/A | Not data deficient |
| | Seabirds (various) | N/A | Not data deficient |
| Habitats | Pelagic habitats | N/A | Not data deficient |

## Scoring and Report Development Process

**Onsite Visit:** Scoring was initiated during the 3rd year surveillance held in June 2019.

## Scoring Methodology

The assessment team followed guidelines in MSC FCP v2.1 Section 7.10 "Scoring the fishery". Scoring in the MSC system occurs via an Analytical Hierarchy Process and uses decision rules and weighted averages to produce Principle Level scores. There are 28 Performance Indicators (PIs), each with one or more Scoring Issues (SIs). Each of the scoring issues are considered at the 60, 80, and 100 scoring guidepost levels. The decision rule described in Table 10 determines the Performance Indicator score, which must always be in an increment of 5. If there are multiple 'elements[8]' under consideration (e.g. multiple main primary species), each element is scored individually for each relevant PI, then a single PI score is generated using the same set of decision rules described in Table 10.

**Table 39. Decision Rule for Calculating Performance Indicator Scores based on Scoring Issues, and for Calculating Performance Indicator Scores in Cases of Multiple Scoring Elements. (Adapted from MSC FCPV2.1 Table 4)**

| Score | Combination of individual SIs at the PI level, and/or combining multiple element PI scores into a single PI score. |
|---|---|
| <60 | Any scoring element/SI within a PI which fails to reach SG60 shall not be assigned a score as this is a pre-condition to certification. |
| 60 | All elements (as scored at the PI level) or SIs meet SG60 and only SG60. |
| 65 | All elements/SIs meet SG60; a few achieve higher performance, at or exceeding SG80, but most do not meet SG80. |
| 70 | All elements/SIs meet SG60; half* achieve higher performance, at or exceeding SG80, but some do not meet SG80 and require intervention action to make sure they get there. |
| 75 | All elements/SIs meet SG60; most achieve higher performance, at or exceeding SG80; only a few fail to achieve SG80 and require intervention action. |
| 80 | All elements/SIs meet SG80, and only SG80. |
| 85 | All elements/SIs meet SG80; a few achieve higher performance, but most do not meet SG100. |
| 90 | All elements/SIs meet SG80; half achieve higher performance at SG100, but some do not. |

[8] MSC FCRV2.0 7.10.7: In Principle 1 or 2, the team shall score PIs comprised of differing scoring elements (species or habitats) that comprise part of a component affected by the UoA.

| | |
|---|---|
| 95 | All elements/SIs meet SG80; most achieve higher performance at SG100, and only a few fail to achieve SG100. |
| 100 | All elements/SIs meet SG100. |

**MSC FCPV2.1 uses the word 'some' instead of half. SCS considers 'half' a clearer description of the methodology utilized.*

## 8.2 Peer Review reports

This fishery was eligible for a reduced P1 upgrade (Appendix A) from the variation request submitted to the MSC for all tuna fisheries. Fisheries assessed under a reduced upgrade are not subject to peer review.

## 8.3 Stakeholder input

No stakeholder written comments were received prior to the closing of the 30 day consultation period. No stakeholders requested a private meeting with the team. However, one stakeholder submission was received by SCS concerning another MSC assessment. It was also relevant to this fishery as it pertains to yellowfin and skipjack and was the subject of cross-CAB harmonisation discussions (described in 4.2 Harmonization Considerations) so the submission has also been considered as part of this surveillance audit/P1 Upgrade. The stakeholder submission and SCS's response is included as an Appendix in the Year 3 Surveillance audit report.

## 8.4 Conditions

The condition timelines for Principle 1 for Skipjack and Yellowfin below specify improved performance of the fishery to at least SG80 outside the time period of the term of the initial certification period. This qualifies as an 'exceptional circumstance' per FCP v2.1 (7.18.1.5) as the condition timelines were required, under the P1 v2.0 Upgrade Process, to be harmonized across all tuna fisheries targeting the same stock. Milestones have been set such that SG80 will be met by the first surveillance audit to take place in 2022 under the second certificate of the fishery (should it be successfully renewed). Progress against the milestone in the first surveillance audit will be judged against the outcomes of the Commission meeting held in December of 2021.

**Condition 1 PI 1.2.1 Skipjack**

| **Table 40. Condition 1 Skipjack[9]** | |
|---|---|
| **Performance Indicator** | **PI 1.2.1a (Skipjack). There is a robust and precautionary harvest strategy in place** |
| **Score** | PI score: 70 |
| **Rationale** | See rationale for PI 1.2.1a (Skipjack): Evaluation Table for PI 1.2.1 Skipjack tuna – Harvest strategy |
| **Condition** | By the first re-assessment surveillance audit (2022), demonstrate that the harvest strategy for Skipjack Tuna is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points |
| **Milestones** | The milestones reflect the updated Proposed Revisions to Harvest Strategy Work plan (WCPFC14-2017-DP27_rev2): [10]<br><br>**1. 4th Surveillance (2020):** SC provide advice on performance of candidate harvest control rules; TCC consider the implications of candidate harvest control rules; Commission consider advice on progress towards harvest control rules. Score 70.<br><br>**2. 1st Surveillance audit of re-assessment (2022):** Harvest Strategy for Skipjack in place. Score 80.[11]<br><br>**<u>Original milestones</u>**<br><br>~~At the end of the second and third years, the client shall provide evidence that achieving the condition will occur by the end of the fourth year.~~ |

[9] The Principle 1 milestones and timelines for this fishery are harmonized with other MSC tuna fisheries in the WCPO. The milestones have been set one year after the WCPFC workplan so that the assessment team can review the outcomes of the Commission meetings held in December each year in the following year's audit.

[10] The language on milestones has been changed from that of the PCR to align with other SCS tuna assessments. The intent has not changed.

[11] We have not included the milestone in year 2021 because the fishery will be undergoing re-assessment during 2021, so progress against the condition will not be able to be assessed. Instead, the wording of the final milestone (i.e. Year 2022) reflects the expected output of the WCPFC workplan for that stock in year 2021 as detailed in the 2017 WCPFC workplan.

<table>
<tr><td></td><td colspan="2"><s>At the end of the fourth year, the client shall provide evidence that the harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.</s></td></tr>
<tr><td rowspan="8">Client action plan</td><td colspan="2">Responsible Party/ies:<br>4th Surveillance (2020): SC provide advice on performance of candidate harvest control rules; TCC consider the implications of candidate harvest control rules; Commission consider advice on progress towards harvest control rules. Score 70.</td></tr>
<tr><td>Activities:</td><td>Tri Marine/NFD will actively support work towards the development and adoption of a harvest strategy for WCPO skipjack that includes management action responses to changes in skipjack stock status and harvest control rules aimed at maintaining the WCPO skipjack stock at or near target references points.</td></tr>
<tr><td>Expected outcome:</td><td>Commission consider advice on progress towards harvest control rules</td></tr>
<tr><td>Expected score:</td><td>70</td></tr>
<tr><td colspan="2">2. 1st Surveillance of re-assessment (2022): Harvest Strategy for Skipjack in place. Score 80.</td></tr>
<tr><td>Activities:</td><td>A harvest strategy for WCPO skipjack will be adopted that includes management action responses to changes in skipjack stock status and harvest control rules aimed at maintaining the WCPO skipjack stock at or near target reference points</td></tr>
<tr><td>Expected outcome:</td><td>A formal harvest strategy for skipjack is adopted which is responsive to the state of the stock and achieves management objectives reflected in the target and limit reference points.</td></tr>
<tr><td>Expected score:</td><td>80</td></tr>
<tr><td>Consultation on condition</td><td colspan="2">The client will consult with MFMR, other members within the Solomon Islands,<br>US and American Samoa delegations to WCPFC, other WCPFC delegations, including FFA/PNA members, SPC, ISSF and environmental NGOs.</td></tr>
</table>

## Condition 2 PI 1.2.2 Skipjack

| Table 41. Condition 2 Skipjack[12] | |
|---|---|
| **Performance Indicator** | **PI 1.2.2 (Skipjack). Harvest control rules and tools** |
| **Score** | PI score: 60 |
| **Rationale** | See rationale for PI 1.2.2 (Skipjack): Evaluation Table for PI 1.2.2 Skipjack tuna – Harvest control rules and tools |
| **Condition** | SI a) By the first re-assessment surveillance audit (2022), demonstrate that well defined HCRs are in place for Skipjack Tuna 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.<br>SI b) By the first re-assessment surveillance audit (2022), provide evidence that the selection of the harvest control rules for Skipjack Tuna are robust to the main uncertainties.<br>SI c) By the first re-assessment surveillance audit (2022), provide evidence that indicates that the tools in use for Skipjack Tuna are appropriate and effective in achieving the exploitation levels required under the harvest control rules. |
| **Milestones** | The milestones reflect the updated Proposed Revisions to Harvest Strategy Work plan (WCPFC14-2017-DP27_rev2):<br>**1. 4th Surveillance (2020):** SC provide advice on performance of candidate harvest control rules; TCC consider the implications of candidate harvest control rules; Commission consider advice on progress towards harvest control rules. Score 60.<br>**2. 1st Surveillance of re-assessment (2022):** Harvest Strategy for Skipjack in place. Score 80.<br><br>**<u>Old milestones</u>**<br>~~At the end of the first year, the client shall provide a plan that will achieve the condition by end of the fourth year.~~<br>~~At the end of the second and third years, the client shall provide evidence that achieving the condition will occur by the end of the fourth year.~~<br>~~At the end of the fourth year, the client shall provide evidence that well defined harvest control rules are in effect that consider main uncertainties and use appropriate and effective tools.~~ |

[12] The Principle 1 milestones and timelines for this fishery are harmonized with other MSC tuna fisheries in the WCPO. The milestones have been set one year after the WCPFC workplan so that the assessment team can review the outcomes of the Commission meetings held in December each year in the following year's audit.

<table>
<tr><td rowspan="6">Client action plan</td><td colspan="2">Responsible Party/ies:<br><br>4th Surveillance (2020): SC provide advice on performance of candidate harvest control rules; TCC consider the implications of candidate harvest control rules; Commission consider advice on progress towards harvest control rules. Score 60.</td></tr>
<tr><td>Activities:</td><td>• Tri Marine/NFD will actively support work towards the development and adoption of a harvest strategy for WCPO skipjack that includes management action responses to changes in skipjack stock status and harvest control rules aimed at maintaining the WCPO skipjack stock at or near target reference points.<br><br>• Tri Marine/NFD will advocate that PNA establish more explicit linkages between total allowable effort (TAE) of the VDS and the harvest strategy (effort limited to that which maintains the stock at target reference point), including reductions in PAE as the limit reference point is neared.</td></tr>
<tr><td>Expected outcome:</td><td>Commission agreement on TRP for yellowfin</td></tr>
<tr><td>Expected score:</td><td>60</td></tr>
<tr><td colspan="2">2. 1st Surveillance audit re-assessment (2022): Harvest Strategy for Skipjack in place. Score 80.</td></tr>
<tr><td>Activities:</td><td>▪ Tri Marine/NFD will demonstrate that the WCPFC has well defined and effective harvest control rules taking into account the main uncertainties are in place for skipjack that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.</td></tr>
<tr><td>Expected outcome:</td><td>A formal harvest strategy for skipjack is adopted which is responsive to the state of the stock and achieves management objectives reflected in the target and limit reference points.</td></tr>
<tr><td>Expected score:</td><td>80</td></tr>
<tr><td>Consultation on condition</td><td colspan="2">The client will consult with MFMR, other members within the Solomon Islands,<br>US and American Samoa delegations to WCPFC, other WCPFC delegations, including FFA/PNA members, SPC, ISSF and environmental NGOs.</td></tr>
</table>

## Condition 3 PI 1.2.1 Yellowfin

| Table 42. Condition 1 Yellowfin tuna[13] | |
|---|---|
| **Performance Indicator** | **PI 1.2.1 (Scoring issue a) Harvest strategy design** |
| **Score** | PI score: 70 |
| **Rationale** | See rationale for PI 1.2.1a: Evaluation Table for PI 1.2.1 Yellowfin tuna – Harvest strategy<br><br>The general stock decline for yellowfin (albeit with a recent increase in stock size), the absence of agreed harvest control rules within WCPFC or PNA for any other tuna species, and the record of the Commission failing to reduce fishing mortality on bigeye tuna when it was thought to have been subject to overfishing, reduces the level of confidence that the harvest strategy would be responsive to the state of the stock or that the elements will work together when required to do so to achieve the management objectives.<br><br>It is also not clear that coherent management actions are applied throughout the range of the stock, particularly in Indonesia and the Philippines.<br>Overall this prevents the conclusion that the strategy is designed to achieve stock management objectives.<br><br>Yellowfin tuna is therefore considered to meet the SG 60 level of this scoring issue but not the SG 80 or SG 100 levels. |
| **Condition** | By the first re-assessment surveillance audit (2022), demonstrate that the harvest strategy for Yellowfin Tuna is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points |
| **Milestones** | The milestones reflect the updated Proposed Revisions to Harvest Strategy Work plan (WCPFC14-2017-DP27_rev2):<br>**1. 4th Surveillance (2020):** SC provide advice on potential Target Reference Points for yellowfin; Commission agree on a TRP for yellowfin. SC to provide advice on performance of candidate HCRs; Commission to consider advice on progress towards HCR. Score 70.<br>**2. 1st Surveillance of re-assessment (2022):** SC to provide advice on performance of candidate HCRs; TCC consider the implications of candidate HCRs; Commission consider advice on progress toward HCRs; Adopt a HCR. Score 80.<br>**Original milestones**<br>~~At the end of the first year, the client shall provide a plan that will achieve the condition by end of the fourth year.~~<br>~~At the end of the second and third years, the client shall provide evidence that achieving the condition will occur by the end of the fourth year.~~ |

[13] The Principle 1 milestones and timelines for this fishery are harmonized with other MSC tuna fisheries in the WCPO. The milestones have been set one year after the WCPFC workplan so that the assessment team can review the outcomes of the Commission meetings held in December each year in the following year's audit.

<table>
<tr><td></td><td colspan="2"><s>At the end of the fourth year, the client shall provide evidence that the harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.</s></td></tr>
<tr><td rowspan="8">Client action plan</td><td colspan="2">Responsible Party/ies:<br>1. 4th Surveillance (2020): SC provide advice on potential Target Reference Points for yellowfin; Commission agree a TRP for yellowfin. SC to provide advice on performance of candidate HCRs; Commission to consider advice on progress towards HCR. Score 70.</td></tr>
<tr><td>Activities:</td><td>Tri Marine/NFD will actively support work towards the development and adoption of a harvest strategy for WCPO yellowfin that includes management action responses to changes in yellowfin stock status and harvest control rules aimed at maintaining the WCPO yellowfin stock ator near target references points.</td></tr>
<tr><td>Expected outcome:</td><td>Commission agreement on TRP for yellowfin</td></tr>
<tr><td>Expected score:</td><td>70</td></tr>
<tr><td colspan="2">2. 1st Surveillance of re-assessment (2022): SC to provide advice on performance of candidate HCRs; TCC consider the implications of candidate HCRs; Commission consider advice on progress toward HCRs; Adopt a HCR. Score 80.</td></tr>
<tr><td>Activities:</td><td>A harvest strategy for WCPO yellowfin will be adopted that includes management action responses to changes in yellowfin stock status and harvest control rules aimed at maintaining the WCPO yellowfin stock at or near target reference points.<br><br>Tri Marine/NFD’s support and advocacy will largely be through active participation in WCPFC meetings as part of the Solomon Islands, US and American Samoa delegations. Such participation will include communicating specific desired policies to support meeting this condition.<br><br>MFMR will also advocate and support these conditions being met through active participation in PNA, FFA and WCPFC initiatives/proposals regarding harvest strategies.</td></tr>
<tr><td>Expected outcome:</td><td>A formal harvest strategy for yellowfin is adopted which is responsive to the state of the stock and achieves management objectives reflected in the target and limit reference points.</td></tr>
<tr><td>Expected score:</td><td>80</td></tr>
<tr><td>Consultation on condition</td><td colspan="2">The client will consult with MFMR, other members within the Solomon Islands, US, and American Samoa delegations to WCPFC, other WCPFC delegations, including FFA/PNA members, SPC, ISSF and environmental NGOs.</td></tr>
</table>

## Condition 4 PI 1.2.2 Yellowfin

| Table 43. Condition 2. Yellowfin tuna | |
|---|---|
| **Performance Indicator** | **PI 1.2.2 Harvest control rules and tools** |
| **Score** | PI score 60 |
| **Rationale** | See rationale for PI 1.2.2 a,b,c: Evaluation Table for PI 1.2.2 yellowfin tuna – Harvest control rules and tools |
| **Condition** | SI a) By the first re-assessment surveillance audit (2022), demonstrate that well defined HCRs are in place for Yellowfin Tuna 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.<br><br>SI b) By the first re-assessment surveillance audit (2022), provide evidence that the selection of the harvest control rules for Yellowfin Tuna are robust to the main uncertainties.<br><br>SI c) By the first re-assessment surveillance audit (2022), provide evidence that indicates that the tools in use for Yellowfin Tuna are appropriate and effective in achieving the exploitation levels required under the harvest control rules. |
| **Milestones** | As for Condition 3:<br><br>The milestones reflect the updated Proposed Revisions to Harvest Strategy Work plan (WCPFC14-2017-DP27_rev2):<br><br>**1. 4th Surveillance (2020):** SC provide advice on potential Target Reference Points for yellowfin; Commission agree a TRP for yellowfin. SC to provide advice on performance of candidate HCRs; Commission to consider advice on progress towards HCR. Score 60.<br><br>**2. 1st Surveillance of re-assessment (2022):** SC to provide advice on performance of candidate HCRs; TCC consider the implications of candidate HCRs; Commission consider advice on progress toward HCRs; Adopt a HCR. Score 80.<br><br>**<u>Original milestones</u>**<br><br>~~At the end of the first year, the client shall provide a plan that will achieve the condition by end of the fourth year.~~<br><br>~~At the end of the second and third years, the client shall provide evidence that achieving the condition will occur by the end of the fourth year.~~<br><br>~~At the end of the fourth year, the client shall provide evidence that well defined harvest control rules are in effect that consider main uncertainties and use appropriate and effective tools.~~ |
| **Client action plan** | Responsible Party/ies:<br><br>**1. 4th Surveillance (2020):** SC provide advice on potential Target Reference Points for yellowfin; Commission agree a TRP for yellowfin. SC to provide advice on performance of candidate HCRs; Commission to consider advice on progress towards HCR. Score 70. |

| | | |
|---|---|---|
| | **Activities:** | Tri Marine/NFD will actively support work towards the development and adoption of a harvest strategy for WCPO yellowfin that includes management action responses to changes in yellowfin stock status and harvest control rules aimed at maintaining the WCPO yellowfin stock at or near target references points.<br><br>Tri Marine/NFD will advocate that adoption of additional WCPFC management measures for yellowfin. |
| | **Expected outcome:** | Commission agreement on a TRP for yellowfin |
| | **Expected score:** | 60 |
| | **2. 1st Surveillance of re-assessment (2022):** SC to provide advice on performance of candidate HCRs; TCC consider the implications of candidate HCRs; Commission consider advice on progress toward HCRs; Adopt a HCR. Score 80. | |
| | **Activities:** | Tri Marine/NFD will demonstrate that well defined and effective harvest control rules taking into account the main uncertainties are in place for yellowfin that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached. |
| | **Expected outcome:** | A formal harvest strategy for yellowfin is adopted which is responsive to the state of the stock and achieves management objectives reflected in the target and limit reference points. |
| | **Expected score:** | 80 |
| **Consultation on condition** | The client will consult with MFMR, other members within the Solomon Islands, US and American Samoa delegations to WCPFC, other WCPFC delegations, including FFA/PNA members, SPC, ISSF and environmental NGOs. | |

## 8.5 Client Action Plan

For Client Action Plan please see Section 8.4.

## 8.6 Surveillance

Given the readily available information concerning the fisheries and the small number of easily tracked conditions, MRAG Americas has determined that the fisheries qualify for level 4 surveillance as described in CR v2.0 Section 7.23. Unless changed in subsequent notices, surveillance will occur off-site for surveillance audits 1 and 3, and on-site for surveillance audits 2 and 4.

## 8.7 Harmonised fishery assessments

Principle 1 scores for the above fishery have been subject to harmonization and there are no differences among the fisheries for Principle 1.

**Table 44. Fisheries in the MSC System Considered for P1 Harmonization. All fisheries listed here were subject to the P1 upgrade harmonization process that required an alignment of scores and condition timelines across all tuna fisheries in the WCPFC.**

| | Fishery | Status | Principles for Harmonization | Conformity Assessment Body |
|---|---|---|---|---|
| 1 | American Samoa EEZ albacore and yellowfin longline | Certified | Principle 1 | CU Pesca |
| 2 | Fiji albacore and yellowfin tuna longline | Certified | Principle 1 | Acoura/LR |
| 3 | French Polynesia albacore and yellowfin longline | Certified | Principle 1 | CU Pesca |
| 4 | MIFV RMI EEZ Longline Yellowfin and Bigeye Tuna | Certified | Principle 1 | CU Pesca |
| 5 | Pan Pacific yellowfin, bigeye and albacore longline fishery | Under Assessment | Principle 1 | CU Pesca |
| 6 | PNA Western and Central Pacific skipjack and yellowfin tuna | Certified | Principle 1 | Acoura/LR |
| 7 | PNG Fishing Industry Association's purse seine Skipjack & Yellowfin Tuna Fishery | Under Assessment | Principle 1 | SCS |
| 8 | PT Citraraja Ampat, Sorong pole and line skipjack and yellowfin tuna | Certified | Principle 1 | DNV GL |
| 9 | Kiribati albacore, bigeye and yellowfin tuna longline fishery | Under Assessment | Principle 1 | CU Pesca |
| 11 | Solomon Islands Longline Tuna Fishery | Under Assessment | Principle 1 | SCS |
| 12 | Solomon Islands skipjack and yellowfin tuna | Certified | Principle 1 | SCS |
| 13 | SZLC, CSFC & FZLC Cook Islands EEZ South Pacific albacore & yellowfin longline | Under Assessment | Principle 1 | CU Pesca |
| 14 | Tri Marine Western and Central Pacific skipjack and yellowfin tuna | Certified | Principle 1 | CU Pesca |
| 15 | Tropical Pacific yellowfin and skipjack tuna free-school purse seine fishery | Certified | Principle 1 | SCS |
| 16 | Walker Seafood Australia albacore, yellowfin tuna and swordfish | Certified | Principle 1 | CU Pesca |
| 17 | WPSTA Western and Central Pacific skipjack and yellowfin free school purse seine | Certified | Principle 1 | CU Pesca |
| 18 | Ishihara Marine Products albacore and skipjack pole and line fishery | Certified | Principle 1 | CU Pesca |
| 19 | Japanese skipjack and albacore pole and line | Certified | Principle 1 | Lloyds Register (Acoura) |
| 20 | New Zealand Talley's skipjack | Certified | Principle 1 | Lloyds Register (Acoura) |

# Appendix A

## List of relevant tuna fisheries and associated actions February 2019

| Fishery name | Stock | P1 upgrade required? | P1 upgrade type | CAB proposal condition deadline | Part of variation request? | Action required |
|---|---|---|---|---|---|---|
| North West Atlantic Canada Harpoon swordfish | 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 | 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 | 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 | AO-YFT | Yes | Full* | 2022 | Yes | P1 rescored against v2.0 at first opportunity (no alignment of condition timelines required) |
| Northeastern Tropical Pacific Purse Seine SKJ and YFT | EPO-SKJ | Yes | Full* | n/a | Yes | P1 rescored against v2.0 at first opportunity (no alignment of condition timelines required) |
| French Polynesia albacore and yellowfin longline fishery | EPO-YFT | No | n/a | n/a | Yes | No P1 upgrade or alignment of condition timelines required |
| Echebastar Indian Ocean Purse Seine Skipjack Tuna | IO-SKJ | No | n/a | n/a | Yes | No P1 upgrade or alignment of condition timelines required |
| Maldives Pole and Line Tuna Skipjack | IO-SKJ | No | n/a | n/a | Yes | No P1 upgrade or alignment of condition timelines required |
| AAFA and WFOA North Pacific albacore tuna | PO-ALB-N | No | n/a | 2023 | Yes | Condition timelines to be aligned with relevant proposed deadline at next surveillance audit |
| American Samoa EEZ Albacore and Yellowfin Longline Fishery | PO-ALB-S | No | n/a | 2021 | Yes | Condition timelines to be aligned with relevant proposed deadline at next surveillance audit |
| Fiji albacore and yellowfin longline | PO-ALB-S | No | n/a | 2021 | Yes | Condition timelines to be aligned with relevant proposed deadline at next surveillance audit |
| French Polynesia albacore and yellowfin longline fishery | PO-ALB-S | No | n/a | 2021 | Yes | Condition timelines to be aligned with relevant proposed deadline at next surveillance audit |
| New Zealand Albacore Troll Fishery | PO-ALB-S | No | n/a | 2021 | Yes | No P1 upgrade or alignment of condition timelines required |

| Fishery name | Stock | P1 upgrade required? | P1 upgrade type | CAB proposal condition deadline | Part of variation request? | Action required |
|---|---|---|---|---|---|---|
| New Zealand Talley's skipjack | WPO-SKJ | No | n/a | 2021 | Yes | No P1 upgrade or alignment of condition timelines required |
| PNA skipjack and yellowfin tuna | 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 | WPO-SKJ | No | n/a | 2021 | Yes | Condition timelines to be aligned with relevant proposed deadline at next surveillance audit |
| American Samoa EEZ Albacore and Yellowfin Longline Fishery | WPO-YFT | No | n/a | 2021 | Yes | Condition timelines to be aligned with relevant proposed deadline at next surveillance audit |
| Fiji albacore and yellowfin longline | WPO-YFT | No | n/a | 2021 | Yes | Condition timelines to be aligned with relevant proposed deadline at next surveillance audit |
| French Polynesia albacore and yellowfin longline fishery | 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 | WPO-YFT | 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 | WPO-YFT | No | n/a | 2021 | Yes | Condition timelines to be aligned with relevant proposed deadline at next surveillance audit |
| North Atlantic albacore artisanal fishery | 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 | AO-ALB-N | Yes | Reduced | n/a | Yes | P1 rescored against v2.0 at first opportunity (no alignment of condition timelines required) |
| Northeastern Tropical Pacific Purse Seine SKJ and YFT | EPO-YFT | Yes | Reduced | n/a | Yes | P1 rescored against v2.0 at first opportunity (no alignment of condition timelines required) |
| CHMSF British Columbia albacore tuna North Pacific | 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 |
| Japanese skipjack and albacore pole and line | 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 |
| SZLC, CSFC & FZLC Cook Islands EEZ South Pacific albacore & yellowfin longline | 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 |
| Walker Seafood Australian albacore, yellowfin tuna, and swordfish longline | 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 |
| Japanese skipjack and albacore pole and line | 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 | 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 | Stock | P1 upgrade required? | P1 upgrade type | CAB proposal condition deadline | Part of variation request? | Action required |
|---|---|---|---|---|---|---|
| TriMarine Western and Central Pacific Skipjack and Yellowfin Tuna | 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 | 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 albacore & yellowfin longline | WPO-YFT | Yes | Reduced | 2021 | Yes | P1 rescored against v2.0 at first opportunity AND condition timelines to be aligned with relevant proposed deadline |
| TriMarine Western and Central Pacific Skipjack and Yellowfin Tuna | WPO-YFT | Yes | Reduced | 2021 | Yes | P1 rescored against v2.0 at first opportunity AND condition timelines to be aligned with relevant proposed deadline |
| Walker Seafood Australian albacore, yellowfin tuna, and swordfish longline | WPO-YFT | Yes | Reduced | 2021 | Yes | P1 rescored against v2.0 at first opportunity AND condition timelines to be aligned with relevant proposed deadline |
| ACTEMSA-LEAL SANTOS pole and line West Atlantic skipjack fishery | AO-SKJ-W | n/a | n/a | 2022 | No | Condition timelines to be aligned with relevant proposed deadline, within assessment if possible or at 1st SA following FCP 2.1 |
| Sant Yago TF Unassociated purse seine Atlantic yellowfin tuna fishery | AO-YFT | n/a | n/a | 2022 | No | Condition timelines to be aligned with relevant proposed deadline, within assessment if possible or at 1st SA following FCP 2.1 |
| Pan Pacific yellowfin, bigeye and albacore longline fishery | EPO-BET | n/a | n/a | n/a | No | Condition timelines to be aligned with relevant proposed deadline, within assessment if possible or at 1st SA following FCP 2.1 |
| Panama tropical Pacific yellowfin and skipjack purse seine tuna fishery | EPO-SKJ | n/a | n/a | n/a | No | Condition timelines to be harmonised with overlapping fishery (no RFMO workplan exists), either as part of assessment or at 1st SA following FCP 2.1 |
| Pan Pacific yellowfin, bigeye and albacore longline fishery | EPO-YFT | n/a | n/a | n/a | No | No conditions expected therefore no action |
| Panama tropical Pacific yellowfin and skipjack purse seine tuna fishery | EPO-YFT | n/a | n/a | n/a | No | No conditions expected therefore no action |
| Ishihara Marine Products albacore and skipjack pole and line fishery | 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 2.1 |
| Pan Pacific yellowfin, bigeye and albacore longline fishery | 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 2.1 |
| AAFA and WFOA South Pacific albacore tuna | 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 2.1 |
| Pan Pacific yellowfin, bigeye and albacore longline fishery | 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 2.1 |
| Pan Pacific yellowfin, bigeye and albacore longline fishery | 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 2.1 |
| SZLC CSFC & FZLC FSM EEZ Longline Yellowfin and Bigeye Tuna | 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 2.1 |

| Fishery name | Stock | P1 upgrade required? | P1 upgrade type | CAB proposal condition deadline | Part of variation request? | Action required |
|---|---|---|---|---|---|---|
| Ishihara Marine Products albacore and skipjack pole and line fishery | 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 2.1 |
| PT Citraraja Ampat, Sorong pole and line Skipjack and Yellowfin Tuna | 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 2.1 |
| Tropical Pacific yellowfin and skipjack free-school purse seine fishery | 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 2.1 |
| Pan Pacific yellowfin, bigeye and albacore longline fishery | 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 2.1 |
| PT Citraraja Ampat, Sorong pole and line Skipjack and Yellowfin Tuna | 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 2.1 |
| SZLC CSFC & FZLC FSM EEZ Longline Yellowfin and Bigeye Tuna | 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 2.1 |
| Tropical Pacific yellowfin and skipjack free-school purse seine fishery | 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 2.1 |
| Solomon Islands longline albacore and yellowfin tuna fishery | 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 2.1 |
| Solomon Islands longline albacore and yellowfin tuna fishery | 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 2.1 |

* Reduced upgrade permitted if an assessment against v2.0 has been completed for another UoA on the same stock

** No date for WPO-BET included in CAB's proposal. This date is added following the logic of the variation request and in line with other WCPFC stock workplans

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# Appendix B

## Principle 1 v2.0 assessment upgrade process February 2019

### 8.8 Introduction

This document provides the process requirements CABs shall follow to upgrade Principle 1 assessments of tuna fisheries currently certified against v1.3 of the MSC Fisheries Standard.
This process is only applicable to the combined tuna fishery variation request, submitted 11 December 2018.
This process is adapted from FCP v2.1 7.27 and Annex PE - scope extensions. It is noted that the MSC has no expectation that CABs – if they choose to apply this process before the FCP v2.1 becomes effective - are obliged to adopt the FCP v2.1 more generally before such time that it is required to do so.
The MSC expects that Principle 1 assessment upgrades will be conducted at the next surveillance audit. These process requirements do not change the need for CABs to conform to surveillance audit requirements as per FCP v2.1 7.28.

**1. Scope**

1.1. The requirements of this annex shall apply only to Principle 1 assessment upgrade of tuna fisheries currently certified against v1.3 of the MSC Fisheries Standard (as per Appendix A of the MSC's variation response).

**2. Assessment team**

2.1. The team shall comprise of a team leader and a minimum of 1 additional team member, that meet the qualifications and competency requirements relevant to Principle 1, specifically that the team leader shall meet Table PC1; team members meet table PC2; and combined they meet sections 1 (Fish stock assessment), 2 (Fish stock biology / ecology) and 5 (Current knowledge of the country, language and local fishery context) of table PC3.

**3. Announcement**

3.1. The CAB shall use the 'MSC Surveillance Announcement Template', which shall be uploaded to the MSC database for publication on the MSC website, to notify stakeholders and the MSC of the CAB's intent to undertake a Principle 1 v2.0 assessment upgrade at the next surveillance audit.

3.2. The CAB shall include the following information in the announcement:

a. Reference to the variation request
b. Details of the on-site or off-site assessment (depending on the surveillance level of the fishery as per FCP 7.28), including the date and, where relevant, the location of the site visit.
c. Details of what will be assessed/reviewed during the audit
d. Details of reporting timelines with respect to audit timing and expected report publication
e. Details of the opportunities and input methods for stakeholders to participate during the on-site or off-site assessment.
    i. The details should make clear that the assessment team is available to meet with stakeholders in person or remotely.

f. Summaries of CVs of the team and team leader, including an explanation of how they meet the competency criteria in the GCR and Annex PC , as well as confirmation that the team has no conflicts of interest in relation to the fishery under assessment.

3.3. The CAB shall upload the Announcement to the MSC database for publication on the MSC website at least 30 days before the Principle 1 v2.0 assessment upgrade on site or offsite audit is carried out.

**4. Assessment**

4.1. The CAB shall conduct the Principle 1 v2.0 assessment upgrade at the next Surveillance Audit.

4.2. The CAB shall use one of the following assessment types:

a. On-site. The assessment involves face-to-face engagement with the client, conducting stakeholder interviews and a review of management and science in the fishery.
b. Off-site. The assessment involves engagement with the client, conducting stakeholder interviews and a review management and science in the fishery and is undertaken by the assessment team from a remote location.

4.3. The CAB shall determine whether the Principle 1 v2.0 assessment upgrade is conducted on-site or off-site depending on the existing surveillance level assigned to the fishery and the ability of the CAB to remotely verify information.

4.3.1. Where an off-site assessment is conducted, the CAB shall provide a rationale in the announcement of how clause 4.3 is met.

4.4. The team shall:

a. Conduct interviews to make sure that the team is aware of any concerns or information that stakeholders may have.
b. Allow private interviews with the team for stakeholders who request one.
c. Use any information provided in private in conformity with confidentiality requirements, see FCP v2.1 Section 4.3.

4.5. The CAB shall evaluate the assessment components using all requirements in MSC Fisheries Standard Annex SA2 following the process as described in FCP Section 7.17 and Section 7.18.

4.6. The CAB shall complete the Principle 1 v2.0 upgrade assessment in compliance with timelines as set out in FCP 7.20.1 and 7.22.1.

**5. Reporting**

5.1. If the stock has been assessed against FCR v2.0 Annex SA, the CAB shall follow 5.1.1 – 5.1.4.

5.1.1. The CAB shall produce a single report using the 'MSC Reporting Template' and follow procedures outlined in FCP Sections 7.19.1, 7.19.2, 7.19.6 to 7.19.10, 7.24.3 and 7.24.4 (exclusive of references to the Peer Review Draft Report and the Peer Review College).

5.1.2. Reporting shall include:

a. Sections 1 to 5 of the 'MSC Reporting Template', limited to Principle 1
b. Section 7.1 (limited to Principle 1) and Section 7.2 of the 'MSC Reporting Template'
c. Section 8 of the 'MSC Reporting Template'

5.1.3. Where appropriate, the CAB shall populate sections of the 'MSC Reporting Template' from the existing Public Certification Report.

5.1.4. The report, completed in accordance with 5.1.2, will be published as an Annex to the Surveillance Audit.

5.1.4.1. If the Principle 1 v2.0 upgrade assessment is conducted outside of a Surveillance Audit, the CAB shall upload the report to the MSC database for publication on the MSC website.

5.2. If the stock has not been assessed against FCR v2.0 Annex SA, the CAB shall follow 5.2.1 – 5.2.5

5.2.1. The CAB shall produce the following reports using the 'MSC Reporting Template' and follow procedures outlined in FCP Sections 7.19 to 7.23 and 7.24.1 to 7.24.4:

a. Client and Peer Review Draft Report.
b. Public Comment Draft Report.
c. Final Draft Report.
d. Public Certification Report.

5.2.2. Reporting shall include:

a. Sections 1 to 5 of the 'MSC Reporting Template', limited to Principle 1
b. Section 7.1 (limited to Principle 1) and Section 7.2 of the 'MSC Reporting Template'
c. Section 8 of the 'MSC Reporting Template'

5.2.3. Where appropriate, the CAB shall populate sections of the 'MSC Reporting Template' from the existing Public Certification Report.

5.2.4. The minimum number of peer reviewers for Principle 1 v2.0 assessment upgrade shall be 1.

5.2.5. All other requirements for peer review outlined in FCP Sections 7.14, 7.19.3-7.19.5 and 7.20.9 shall apply.

**6. Certification**

6.1. The CAB shall make a determination regarding the Principle 1 assessment upgrade outcome and notify stakeholders in the Final Draft Report.

6.2. If it determined that the scores from the Principle 1 assessment upgrade meet the requirements for certification, the CAB shall update the Fishery Certificate Statement and fishery certificate(s) in accordance to FCP v2.1 Section 7.24.6.3 and 7.25.3.

6.3. If the determination is that the fishery has not met the requirements for certification, the CAB shall report this in the Final Draft Report and Public Certification Report and shall make no changes to the existing certificate, which shall remain valid.

6.4. If the Principle 1 assessment upgrade results in continued certification, the CAB shall conduct a full Principle 1 assessment at re-assessment.

# 7 References

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