

**THE PARTIES TO THE NAURU AGREEMENT
WESTERN AND CENTRAL PACIFIC
UNASSOCIATED PURSE SEINE FISHERY:
YELLOWFIN TUNA (*Thunnus albacares*)
EXPEDITED PRINCIPLE 1 ASSESSMENT
(Public Certification Report)**

February 2016

Certificate Number: F-SCS 0090 (Skipjack Tuna)



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General Information

Date of Draft	November 2015	
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Certification Date	21 December 2011	
Certification Expiration Date	20 December 2016	
Surveillance Team	SCS	Sabine Daume Ph.D. (lead)
	SCS	Alexander Morison
Surveillance Stage	Expedited Principle 1 Assessment (during 3 rd Annual Surveillance)	
Methodologies	MSC Accreditation Manual Issue 5.1, MSC Fisheries Certification Requirements Version 1.3, 2013 (for process); MSC FAM v 2.0 for Assessment Tree MSC Guidance to Certification Requirements Version 1.3, 2013	

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1. List of Acronyms

AW	Archipelagic Waters
B _{MSY}	Biomass at MSY
CAB	Certification Assessment Body
CoC	Chain of Custody
CCM	WCPFC Commission Members, Cooperating Non-Members and Participating Territories are termed CCMs
CMM	Conservation and Management Measure
DAT	Default Assessment Tree
EEZ	Exclusive Economic Zone
ETP	Endangered, Threatened or Protected
F	Fishing mortality
FAD	Fish Aggregating Device
FFA	Forum Fisheries Agency
FIMS	Fisheries Information Management System (for PNA)
F _{LIM}	Fishing Mortality Limit Reference Point
F _{MSY}	Fishing Mortality at MSY
HCR	Harvest Control Rule
ISO	International Standard Organization
IUU	Illegal, Unreported and Unregulated
LRP	Limit Reference Point
MSC	Marine Stewardship Council
MSY	Maximum Sustainable Yield
MTCs	Minimum Terms and Conditions
MOW	Management Objectives Workshop
NFD	Non-fishing day
NGO	Non-Government Organisation
OFP	Offshore Fisheries Program (of the SPC)
P1, P2, P3	The three guiding Principles of the MSC
PCDR	Public Comment Draft Report
PCR	Public Certification Report
PI	Performance Indicator
PNA	Partners to the Nauru Agreement
PNAO	Partners to the Nauru Agreement Office
PNG	Papua and New Guinea
RFMO	Regional Fisheries Management Organisation
SB or SSB	Spawning biomass or Spawning stock biomass
SC	Scientific Committee
SPC	Secretariat to the Pacific Community
TAC	Total Allowable Catch
TAE	Total Allowable Effort
TRP	Target Reference Point
UoA	Unit of Assessment
UoC	Unit of Certification
VDS	Vessel Day Scheme
WCPFC	Western and Central Pacific Fisheries Commission
WCPO	Western and Central Pacific Ocean

2. Executive Summary

This report summarizes the information and findings from the Expedited Principle 1 Assessment of yellowfin tuna that was started in conjunction with the 3rd annual surveillance audit of the MSC certified PNA skipjack tuna fishery.

This fishery was initially assessed for skipjack tuna using the MSC-developed Default Assessment Tree (DAT) within the Fisheries Assessment Methodology v2.1, 2010, with one Unit of Certification (UoC). This Expedited Principle 1 Assessment is to consider yellowfin tuna as a potential additional Unit of Certification (Table 1). Because this species was previously considered under Principle 2, retained species, was moved to a Principle 1 species, the PIs addressing retained species were re-scored with one less scoring component (yellowfin tuna). These PIs are included in addition to the Principle 1 PIs.

The fishery for skipjack tuna was originally certified in December 2011 with 6 Conditions and 7 Recommendations. The first and second annual surveillance were carried out in November 2012 and December 2013, respectively. After the second surveillance audit, 2 Conditions remained open, both under Principle 1. After the third surveillance audit, only 1 Condition remained open for skipjack tuna. According to the MSC certification Requirements all conditions will need to be closed out within the certification period of 5 years. Details about timelines are specified for each condition and related client action plan.

Table 1: Units of Certification

Units of Certification	
Species	Skipjack Tuna (<i>Katsuwonus pelamis</i>) (currently certified) Yellowfin Tuna (<i>Thunnus albacares</i>) (proposed additional species)
Geographical Area	Western and Central Pacific in the EEZs of Papua New Guinea, Kiribati, Federated States of Micronesia, Marshall Islands, Nauru, Palau, Solomon Islands and Tuvalu.
Gear Type	Unassociated ¹ Purse seine
Management System	PNA implementing arrangements, Forum Fisheries Agency (FFA) administered minimum terms and conditions (MTCs), National Management Plans and Western and Central Pacific Fisheries Commission (WCPFC) Conservation and Management Measures (CMMs).
Client	PNA Office (PNAO) on behalf of Papua New Guinea, Kiribati, Federal states of Micronesia, Solomon Islands, Marshall Islands, Nauru, Palau and Tuvalu.

¹ An unassociated set is defined as fishing on a free school, which may include a free school feeding on bait fish. There are no associations with objects (natural or manmade), with set distances from such objects of 1 nautical mile or greater.

SCS was contracted to conduct the third annual surveillance audit in 2014 and to undertake an Expedited Principle 1 Assessment of yellowfin tuna in conjunction with this audit. The audit and assessment were conducted by Dr. Daume and Mr. Morison. The surveillance meetings took place at the Hexagon Hotel, Nadi, Fiji on the 17th and 18th November, 2014.

The surveillance audit for 2014 utilized the MSC Certification Requirements and Guidance to Certification Requirements current at the time of the site visit (v1.3).

It is SCS's view that yellowfin tuna caught in the PNA unassociated purse seine fishery would meet the standards of the MSC under Principle 1. Two conditions are raised (on Performance Indicators (PI) 1.2.1 and 1.2.2).

The SCS assessment team recommends that yellowfin tuna be MSC certified as part of the PNA tuna fishery certificate through to the expiry of that certificate in December 2016. The conditions that are still open and were raised as part of the original assessment are still applicable with the original timeframe. The two new conditions raised during the yellowfin assessment will be carried over to the re-assessment and will both be due at the 4th annual audit of the re-assessment (2020) of the whole fishery following MSC guidance to the interpretation of 27.11.8.2b (CR v 1.3).

MSC Certification and Conditions for Continued Compliance

An MSC certificate is valid for a period of 5 years from December 2011 to December 2016. There is currently an open Condition on skipjack tuna for PI 1.2.2 relating to well-defined and effective harvest control rules being in place. This Condition was found to be on-target in the 3rd annual surveillance. The same Condition was found to apply to yellowfin tuna. There is also a Condition on PI 1.2.1 for yellowfin tuna.

Consequences for Non-Compliance

Where a fishery is determined to be “behind target” for a Condition, the surveillance team will work with the client representatives to determine a new timeframe for closing the Condition within the original certification period and will include interim milestones for completion. The client must provide evidence that the fishery is working toward compliance and identify the reason that the Condition timelines are not met.

SCS reserves the right to invoke Section 7.4 of the MSC Certification Requirements where a fishery certificate may be revoked or suspended if a Condition is not back “on target” within 12 months of falling “behind target” following the MSC certification requirements 27.22.9.

3. Surveillance Audit Timing and Frequency

Surveillance audits will be conducted according to the audit cycle established for the PNA unassociated purse seine fishery for skipjack tuna. The next surveillance audit for this fishery coincides with the start of the re-assessment of the fishery, so the 4th annual surveillance audit will need to be conducted onsite.

4. Assessment Overview

Methodology

For this expedited assessment, in accordance with the requirements of A27.4.15, SCS has determined that yellowfin tuna is eligible for an expedited assessment as the species was previously assessed as a main retained species in the original assessment of the fishery and the fishery continues to hold a valid MSC certificate.

The expedited assessment was carried out in accordance with the Marine Stewardship Council (MSC) Certification Requirements process v1.3 including Annex CL (Expedited Principle 1 Assessments). The skipjack portion of the fishery utilized the Fisheries Assessment Methodology available at the time of the assessment in 2011, which was FAM v2.1.

This required the evaluation of yellowfin tuna using all the normal requirements and processes outlined in sections 27.10, 27.11, and 27.12 of the Certification Requirements v1.3, but the default assessment tree in FAM v2.1. SCS has also determined that the assessment will result in an overlapping assessment with another fishery that is under assessment (Solomon Island skipjack and yellowfin tuna purse seine and pole and line¹) and the certified Walker Seafood Australia albacore, yellowfin tuna and swordfish² fishery and has therefore followed the harmonization steps in Annex CI in v1.3.

In accordance with Annex CL 2.5, Pls 2.1.1, 2.1.2, and 2.1.3 have been rescored for the single remaining retained species (bigeye tuna).

¹ <https://www.msc.org/track-a-fishery/fisheries-in-the-program/in-assessment/pacific/solomon-islands-skipjack-and-yellowfin-tuna-purse-seine-and-pole-and-line/assessment-downloads>

² <https://www.msc.org/track-a-fishery/fisheries-in-the-program/certified/pacific/walker-seafood-australia-albacore-yellowfin-tuna-and-swordfish>

Assessment Team

A new assessment team was introduced for the 3rd annual surveillance audit. The same team concurrently initiated the expedited P1 assessment for yellowfin tuna (*Thunnus albacares*) of the fishery.

As outlined below the surveillance team meets the requirements in the Certification Requirements v 1.3 (2013). Team members are clearly experienced and comparably qualified relative to the original assessment team.

Dr. Sabine Daume, SCS Global Services (SCS), Regional Director Australasia

Dr. Daume is the Regional Director for the SCS Sustainable Seafood Program in Australasia, which covers MSC, ASC and Fisheries Improvement programs. Since 2009, Dr. Daume has led numerous MSC evaluation audits on behalf of SCS, including several assessments in Australia, Mexico and the USA.

Dr. Daume is a marine biologist with special expertise in the biology and ecology of exploited marine resources. Dr. Daume has over 13 years' experience working with the fishing and aquaculture industry in Australia and overseas. She holds a PhD in marine biology from La Trobe University in Victoria, Australia and an MSc in Marine Biology and Marine Chemistry from Kiel University in Germany. Prior to joining SCS, Dr. Daume worked as a Senior Research Scientist at the Research Division of the Department of Fisheries in Western Australia. She has extensive experience working with diverse groups, often in remote marine temperate and tropical environments. She has worked with industry personnel at all levels (divers, technicians, managers, executive officers) as well as policy makers and managers in government departments. Dr. Daume led the WA rock lobster assessment in 2011 and Heard Island and McDonald Islands (HIMI) icefish re-assessment in 2010 as well as the South Australian Lakes and Coorong annual surveillance and re-assessment in 2013. She also led the HIMI toothfish assessment in 2010 and Macquarie Island toothfish assessment in 2011, as well as numerous audits in USA, Canada, Mexico and Japan. Dr. Daume has been trained by the MSC to use the Risk Based Framework (RBF) of the MSC Certification Requirements (v1.3 Jan 2013). She is a certified lead auditor under the ISO 9001:2008 standard.

Alexander "Sandy" Morison – Morison Aquatic Sciences, Lead Auditor SCS Global Services

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 and has been engaged in the Kobe process for harmonisation of measures across the tuna RFMOs.

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 synthesised background information and the results of an expert workshop, and was 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.

Mr. Morison has participated as part of a team undertaking MSC pre-assessments for several fisheries and has been the Principle 1 expert for the MSC certification assessments or surveillance audits of assessments of the Heard Island and McDonald Islands (HIMI) Icefish Fishery, the HIMI Toothfish Fishery, the Macquarie Island Toothfish Fishery, the Kyoto Danish Seine Fishery, the Western Australian Rock Lobster Fishery and the Lakes and Coorong Fishery. Mr. Morison is also trained as a lead auditor for MSC assessments by SCS.

Sandy is also contracted by the Australian Fisheries Management Authority to chair the Slope Fisheries Resource Assessment Group, the Shelf Fisheries Resource Assessment Group and is the Scientific Representative on the South East Fishery Management Advisory Committee. 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.

Peer Reviewers

Dr. Neil Klaer - Australian Federal Government

Dr. Klaer has worked on fisheries policy advice to the Australian Federal Government and fisheries stock assessment for the past 25 years. Between 1988 and 2004 he provided stock projections to the international Commission for the Conservation of Southern Bluefin Tuna, and managed the scientific team responsible for management strategy evaluation and stock assessment for the Southern Bluefin Tuna fishery. Since 2004 he has assisted with the implementation of a formal harvest strategy framework for the Australian demersal Southern and Eastern Scalefish and Shark Fishery, developed automated systems to facilitate the

assessment of more than 30 quota species or groups in the fishery, and provided stock assessments for various quota species. Since 2007 he has undertaken various independent reviews of US national fisheries stock assessments, participated as an invited expert by the Chilean Government in the development of stock biological reference points for all Chilean national fisheries and provided peer review of MSC certification for the NZ Hoki fishery.

Dr. Max Stocker – Fishery Consultant, Stocker & Associates Consultants

Dr. Stocker is a scientist with over 30 years of extensive experience in fisheries science. He is currently 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.

5. Schedule for Meetings

The surveillance audit for 2014 and Expedited Principle 1 Assessment of Yellowfin Tuna comprised of the following actions:

1. An audit plan was provided to the client, management personnel and scientists, before the meeting. The opening meeting with the client included an exchange of information relevant to the surveillance audit.
2. A meeting took place on 17th and 18th November in Nadi, Fiji, with client representatives Maurice Brownjohn, Richard Banks, Les Clark and Sangaa Clark present as well as representation from SPC and Stakeholders (see Table 2 below).
3. Necessary documents were sent to SCS by the client prior to and during the meetings.

Table 2: Meeting Attendees

Meeting Attendees	Role	Organization
Sabine Daume	Lead	SCS
Sandy Morison	P1 Expert	SCS
Sangaa Clark	Fishery Management	PNAO
Les Clark	Stock assessment, Fishery Management	PNAO
Richard Banks	Advisor to the client	PNAO
Maurice Brownjohn	Client Representative	PNAO
Graham Pilling	Stock assessment	SPC
Bill Holden	Observer	MSC
Naitilima Tupou	Stakeholder (separate afternoon meeting 18.11.15)	PITIA (Secretariat of the Pacific)
Mike Batty	Stakeholder (separate afternoon meeting 18.11.15)	Islands Tuna Industry Association)

6. New Documentation Received

Harley S., Davies N., Hampton J. and McKechnie. (2014). Stock assessment of bigeye tuna in the Western and Central Pacific. Secretariat of the Pacific Community, Oceanic Fisheries Programme. WCPFC-SC10-2014/SA-WP-01 Rev1 25 July.

Harley S., Williams P., Nicol S., Hampton J. (2014). The Western and Central Pacific tuna fishery: 2012 Overview and stock status. Secretariat of the Pacific Community, Oceanic Fisheries Programme. Tuna Fisheries Assessment Report No. 13.

PNA (2014a). Extract from the PNA22 Annual Meeting on 12-14 March 2014 in Honiara.

PNA (2014b). Report of the PS VDS Administrator. Confidential report to the Parties to the Palau Arrangement. 19th Annual Meeting 8-9 March 2014, Honiara Solomon Islands.

SPC-OFP 2014. Preliminary update to estimates of the level of shark catches in the PNA free school purse seine fishery for MSC Principle 2 Condition 3. A report for the PNA 9th November 2014.

WCPFC (2014a). Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. Eleventh Regular Session Apia, Samoa 1-5 December 2014. Summary Report.

WCPFC (2014b). Conservation and Management Measure for Bigeye, Yellowfin and Skipjack Tuna in the Western and Central Pacific Ocean. Conservation and Management Measure 2014-01.

WCPFC (2014c). Commission Vessel Monitoring System. Conservation and Management Measure 2014-02.

WCPFC (2014d). Standards, Specifications and Procedures for the Western and Central Pacific Fisheries Commission Record of Fishing Vessels. Conservation and Management Measure 2014-03.

WCPFC (2014e). Conservation and Management Measure for Protection of Whale Sharks from Purse Seine Fishing Operations. Conservation and Management Measure 2014-04.

WCPFC (2014f). Conservation and Management Measure for Sharks. Conservation and Management Measure 2014-05.

WCPFC (2014g). Conservation and Management Measure on Establishing a Harvest Strategy for Key Fisheries and Stocks in the Western and Central Pacific Ocean. Conservation and Management Measure 2014-06.

WCPFC (2014h). Conservation and Management Measure for Compliance Monitoring Scheme. Conservation and Management Measure 2014-07.

WCPFC-MOW (2014). WCPFC Third Management Objectives Workshop Faleata Sports Complex, Apia, Samoa 28th November 2014 Report on the Third Management Objectives Workshop 3 December 2014.

Note: In addition, all papers presented to earlier meetings of WCPFC and its subsidiary bodies are publically available on the WCPFC website (www.wcpfc.int) and were also available to the assessment team.

7. Summary of the Fishery

The fishery is described in the assessment report for skipjack tuna (Moody Marine 2011). Additional details provided below are aspects of the fishery not previously reported that concern only the catch of yellowfin tuna.

7.1 Principle 1: Stock status and harvest control rules

7.1.1 Catch

Catches of yellowfin tuna from 2005 to 2013 are given below for the whole Western and Central Pacific Commission statistical area (WCPFC), and for PNA waters that either includes (Table 3) or excludes (Table 4), the catches from archipelagic waters.

Tables with both formulations have been provided because the amount of catch from outside the UoC and the issue of the level of leverage that was able to be exerted by the PNA over the total fishing mortality of skipjack were contentious aspects of the original certification. For yellowfin tuna, a similar proportion of the catch is taken from waters under the control of the PNA (an average of 54% for 2010-2014 when catches in archipelagic waters are included, compared to 56% for skipjack tuna in the original certification) as for skipjack tuna, so the PNA are able to exert a similar level of leverage over the total level of fishing mortality on the stock.

Table 3: Catch of yellowfin tuna from the entire Western and Central Pacific Commission statistical area (WCPFC, includes catches in archipelagic waters (AW)), from all PNA waters and all gears, and from the UoC plus PNA archipelagic waters) (2010-2014). Catches are in tonnes and as a percentage of the total and PNA catches (data provided by SPC).

Year	WCPFC catch	PNA catch (incl. AW)		UoC plus AW		
	(tonnes)	(tonnes)	% of WCPFC*	(tonnes)	% of WCPFC	% of PNA
2010	555,666	331,478	60%	207,484	37%	63%
2011	522,820	289,275	55%	128,699	25%	44%
2012	593,794	328,255	55%	191,237	32%	58%
2013	553,995	289,953	52%	147,146	27%	51%
2014	603,989	320,837	53%	174,260	29%	54%

Table 4: Catch of yellowfin tuna from the entire Western and Central Pacific Commission statistical area (WCPFC, includes catches in archipelagic waters (AW)), from PNA EEZs by all gears, and from the UoC (EEZs only) (2010-2014). Catches are in tonnes and as a percentage of the total and PNA catches (data provided by SPC).

Year	WCPFC catch	PNA catch (EEZ only)		UoC catch (EEZ only)		
	(tonnes)	(tonnes)	% of WCPFC*	(tonnes)	% of WCPFC	% of PNA
2010	555,666	302,197	54%	188,803	34%	62%
2011	522,820	256,649	49%	112,876	22%	44%
2012	593,794	275,611	46%	156,039	26%	57%
2013	553,995	236,061	43%	112,547	20%	48%
2014	603,989	267,292	44%	136,435	23%	51%

7.1.2 Effort

Skipjack tuna is the main target species in the purse seine fishery and yellowfin tuna are not separately targeted.

Limits on the number of days fished is the main tool used by the PNA to limit total catch of all species. This is implemented through the Vessel Day Scheme (VDS) administered by the PNA Office (PNAO). The Total Allowable Effort (TAE) for PNA waters set under the VDS has been set at 2010 levels by WCPFC to prevent any increases in fishing effort. The scope of the VDS has been expanded and it now includes an allowance for Tokelau (1000 days) working with PNA. The US fleet came under the VDS during 2013. This means that all purse seine efforts are now under a VDS regime in PNA waters. There are also High seas effort limits set by WCPFC.

The restriction of effort levels to 2010 levels was endorsed by WCPFC in 2013 and was incorporated into the Conservation and Management Measure (CMM) 2013-01 (WCPFC 2013). This states “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” (paragraph 20 CMM 2013-01). This CMM was amended and replaced by CMM 2014-01 (WCPFC 2014b), but the aim is still to restrict effort to 2010 levels.

An issue had been identified about the accuracy in reporting of non-fishing days in the fishery as the number of such days has increased from an average (2009-2011) of 12% of total days to 17% of total days. This issue has been explored during the surveillance audit for skipjack tuna (SCS 2014) and is not considered to be material to the assessment of yellowfin tuna.

7.1.3 Stock Assessment

The stock assessment for yellowfin tuna was updated in 2014 (Davies et al. 2014). The main conclusions were as follows.

1. The new regional structure appears to work well for yellowfin, and in combination with other modelling and data improvements, provides a more informative assessment than in the past.
2. Spatially-aggregated recruitment is estimated to decline in the early part of the assessment, but there is no persistent trend post-1965.
3. There appears to be confounding information between the estimates of regional recruitment distribution and movement such that certain regions have 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 exceed the maximum sustainable yield (MSY).
5. Recent levels of fishing mortality are most likely below the level that will support the MSY.
6. Recent levels of spawning potential are most likely above (based on 2008-11 average and based on 2012) the level which will support the MSY.
7. Recent levels of spawning potential are 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 are 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 currently under consideration for skipjack tuna (i.e. $40\text{--}60\%SBF=0$).
9. Stock status conclusions were most sensitive to alternative assumptions regarding the modeling of tagging data, assumed steepness and natural mortality. However the main conclusions of the assessment are robust to the range of uncertainty that was explored.

Fishing mortality has been increasing through time (Figure 1) whereas the current total WCPO biomass is estimated to have been steadily declining and is currently at about 40% of unexploited levels (Figure 2). The current target reference point is B_{MSY} and the limit reference point has been set at $20\%SBF=0$. Traditional Kobe plots for spawning potential versus fishing mortality show this progression and the range of outputs from different model runs relative to the current target reference point (Figure 3). While these plots show that fishing mortality and biomass are currently at acceptable levels (in the reference case), they are both steadily trending towards levels that are not. In fact, some model runs suggest that unacceptable levels may already have been reached.

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 is not identified as a major source of uncertainty for the assessment.

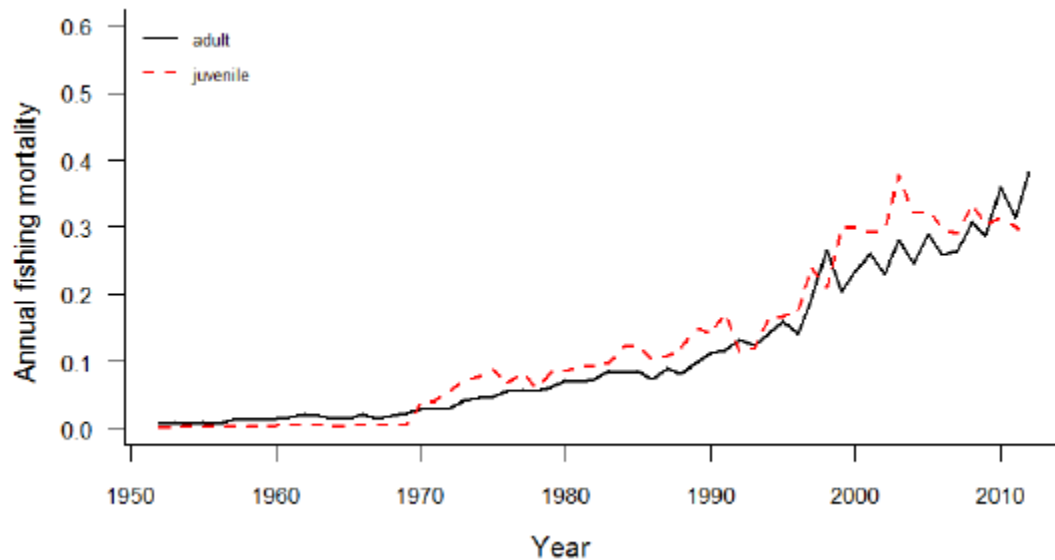


Figure 1. Estimated annual average juvenile and adult fishing mortality for the WCPO for the reference case (from Davies et al. 2014).

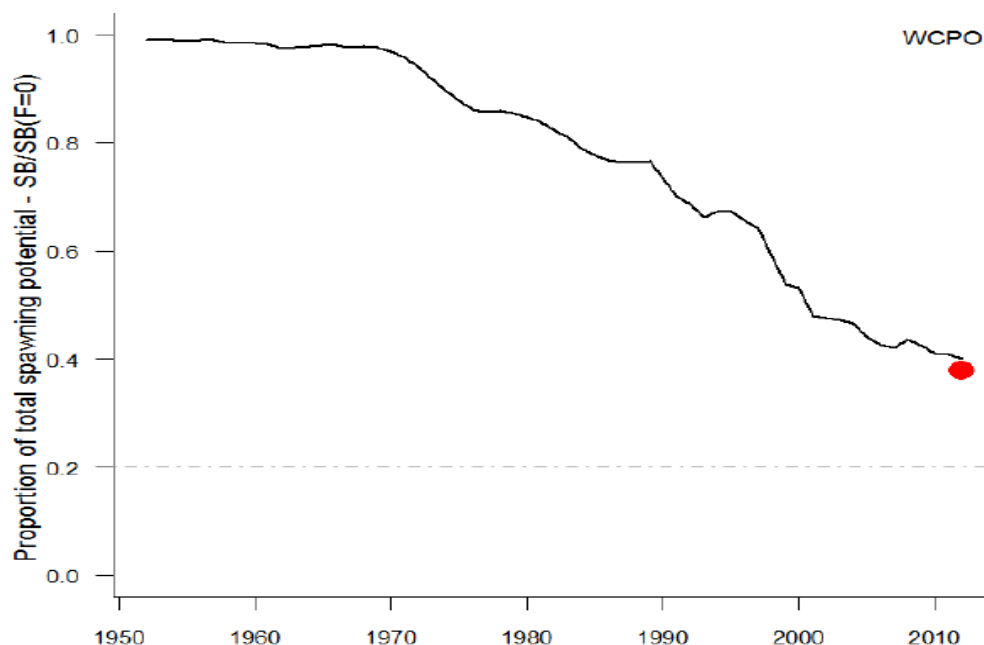


Figure 2. Ratio of exploited to unexploited spawning potential, $SB/SBF=0$, for the WCPO for the reference case. The current WCPFC limit reference point of 20% $SBF=0$ is provided for reference as the grey dashed line and the red circle represents the level of spawning potential depletion based on the agreed method of calculating $SBF=0$ over the last ten years of the model (excluding the last year) (From Davies et al. 2014).

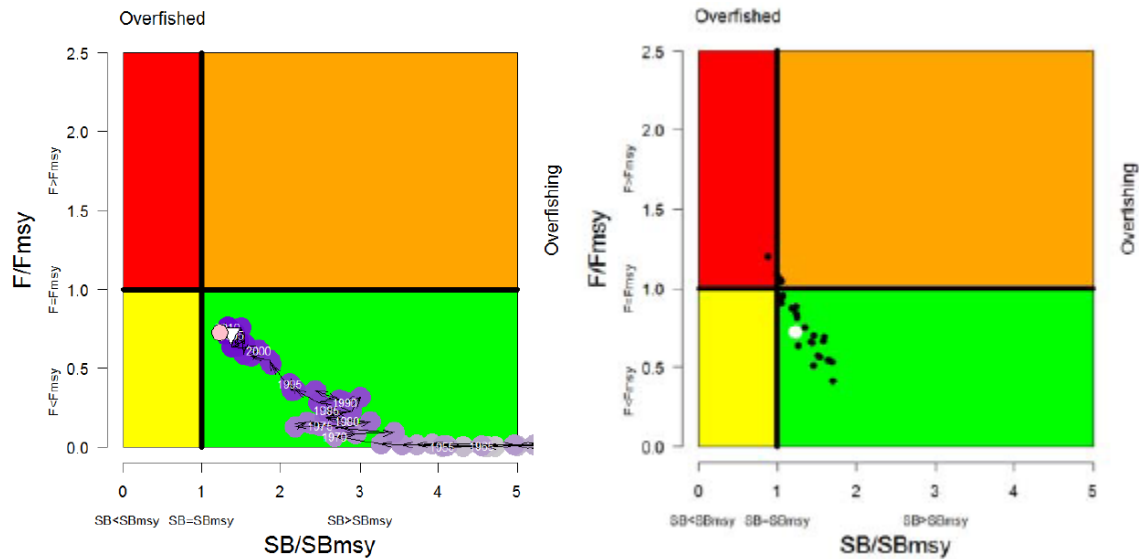


Figure 3. Temporal trend in stock status (spawning biomass SB), relative to SB_{MSY} (x-axis) and F_{MSY} (y-axis) from the reference case (left) and summary of the latest stock status for the reference case (white dot) and the entire grid of sensitivities that were explored (right) (from Davies et al. 2014).

7.1.4 Harvest Strategy and Harvest Control Rules

The development of harvest strategies for tuna species in the western and central Pacific Ocean is an ongoing process. At this stage, limit reference points have been agreed by PNA and also adopted by WCPFC.

At WCPFC11, a new Conservation and Management Measure (CMM 2014-01) was adopted that confirmed that the objective for yellowfin tuna was to ensure that “the fishing mortality rate is not greater than F_{msy} , i.e. $F/F_{msy} \leq 1$.”

PNA and WCPFC had previously adopted a biomass based limit reference point (LRP) of 20% of unfished biomass. Work has been undertaken to progressively refine this LRP by specifying the time period over which the unfished biomass should be estimated, as well as the acceptable level of risk of breaching the LRP.

A target reference point was also confirmed in CMM 2014-01 as the first objective for this measure was to ensure that “Compatible measures for the high seas and exclusive economic zones (EEZs) are implemented so that bigeye, yellowfin and skipjack tuna stocks are, at a minimum, maintained at levels capable of producing their maximum sustainable yield ...”

Work on refining target reference points and a harvest strategy for the key target species has been progressed through a series of three Management Objectives Workshops, through the normal Scientific Committee process and through the annual meeting of the Commission. The third Management Objectives Workshop was held in December 2014 (WCPFC-MOW 2014). A range of papers were presented that are relevant to the assessment (FFA 2014, Japan 2014, PNA members and Tokelau 2013, SPC-OFP 2014a, 2014b and 2014c, SPC-OFP and PNA 2014). Nevertheless, as noted in the workshop report, it was an informal process and, as a matter of principle, final support (or otherwise) for any proposed CMM was a decision for Commission.

The WCPFC met in December 2014 and its report (WCPFC 2014a) includes details of discussions about ways to increase the effectiveness of CMM 2013-01 on the Conservation of Tropical Tunas. Seven new Conservation and Management Measures were adopted (WCPFC 2014b – 2014h) but some were revisions of earlier versions. Outcomes that are relevant to MSC Certification included:

- Adoption of a revised Conservation and Management Measure for bigeye, yellowfin and skipjack tuna in the western and central Pacific Ocean (CMM 2014-01) that amended CMM 2013-01 as follows: i) 2014 high seas purse seine effort limits, 2014 purse seine and 2014 longline catch measures for yellowfin tuna were extended during 2015; and ii) a new section related to provision of operational level catch and effort data by CCMs was included;
- Adoption of a new Conservation and Management Measure (CMM 2014-06) on establishing a harvest strategy for key fisheries and stocks in the Western and Central Pacific Ocean;

CMM 2014-01 (WCPFC 2014b) contains similar measures for purse seines to its predecessor: effort was to be restricted to 2010 levels and CCMs agreed to take measures not increase their catch of yellowfin tuna. There remain concerns about the effectiveness of these measures, but there is limited data available to allow a full evaluation of this. CMM 2014-06 (WCPFC 2014g) describes a process for developing harvest strategies, but does not provide any more specific details about target reference points or harvest control rules for yellowfin tuna that the WCPFC may adopt.

7.2 Principle 2: Ecosystem Impacts from Fishing

The ecological impacts of fishing for yellowfin tuna are expected to be virtually the same as for fishing for skipjack tuna because the same methods are employed and they are caught in the same fishing operations.

As indicated above under methods, however, a rescoring of Pls 2.1.1, 2.1.2 and 2.1.3 is required because the species composition of the retained catch changes once yellowfin are elevated to

assessment under Principle 1. The original assessment for skipjack tuna considered only two species to qualify for assessment as main retained species (yellowfin tuna and bigeye tuna). With yellowfin moving to a Principle 1 species, bigeye tuna are the only species that are considered under Pls 2.1.1-3 in this expedited assessment.

In the original assessment, bigeye tuna were considered to be within biologically-based limits and, with a high degree of certainty, likely to be above the limit reference point of $20\%SB_{F=0}$. This assessment also noted that the UoC catch had a very minor impact on the status of bigeye tuna.

There was an updated assessment of the status of bigeye tuna in 2014 (Harley et al. 2014) from which the conclusions included:

- that current catches exceed MSY; that recent levels of fishing mortality exceed the level that will support the MSY;
- that recent levels of spawning potential are most likely at (based on 2008-11 average) or below (based on 2012) the level which will support the MSY;
- that recent levels of spawning potential are most likely at (based on 2008-11 average) or below (based on 2012) the limit reference point of $20\%SB_{F=0}$ agreed by WCPFC; and
- that recent levels of spawning potential are lower than candidate biomass-related target reference points currently under consideration for skipjack tuna, i.e., 40-60% $SB_{F=0}$.

The assessment also estimated the contribution of different sectors of the fishery to the reduction in spawning potential which confirmed previous analyses that also indicated that catches from the UoC were of minor importance compared to other sectors (Figure 4).

Thus, although bigeye tuna is not highly likely to be within biologically based limits, the UoC is still not hindering the recovery or rebuilding of this species.

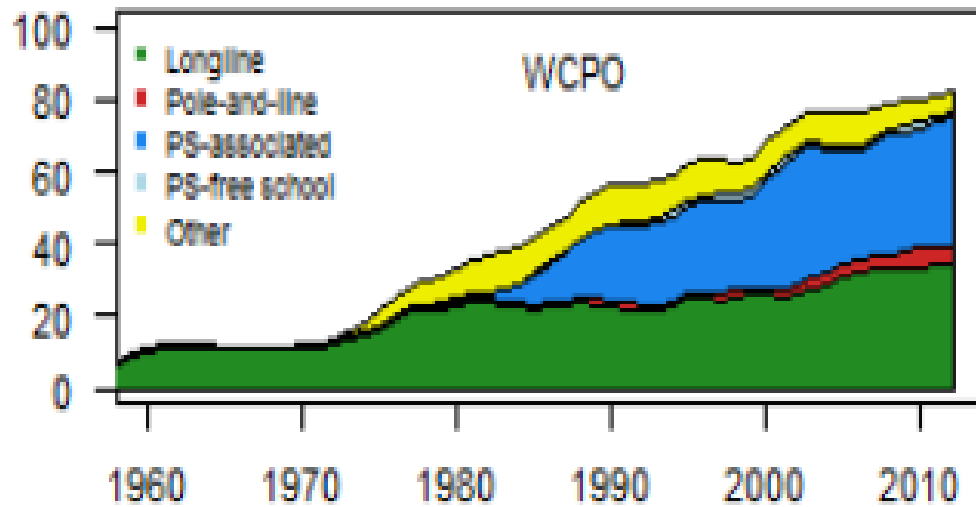


Figure 4. Estimates of reduction in spawning potential of bigeye tuna due to fishing (fishery impact = $1 - SB_t/SB_{tF=0}$) for the WCPO attributed to various fishery groups for the reference case.

8. Traceability within the Fishery

8.1 A Description of the Tracking, Tracing and Segregation Systems within the Fishery

Segregating the catch between free school (MSC eligible) and (non-MSC) log-set and FAD related fisheries is completed by physical and/or temporal separation of MSC eligible and non-MSC fish stored on-board vessels.

Each set, brail by brail, is verified as freeschool, holding wells are confirmed to be empty or contain other MSC eligible catch to confirm that no mixing has taken place on-board, i.e. that MSC and non-MSC fish are not mixed in the same well. Full segregation and demarcation of fish on discharge to the carrier is maintained, where MSC eligible is separated by physical barriers (with a minimum of 2 layers of mesh netting) and labeled as MSC during storage on-board carrier and discharge on landing and segregated through to the receiving plant.

Only upon sorting to confirm exact weight, bycatch weight, mass balances checked throughout and verification of no bycatch that is indicative of a non-free school, is the MSC eligible catch qualified to be MSC certified. At this point it enters the receiving cold store / processor CoC and is no longer covered by PNA MSC CoC scheme.

PNA holds a current MSC CoC Group certificate for skipjack tuna (MSC-C-53088). The scope of the CoC certificate must be extended to include yellowfin tuna if the fishery is certified. Certification commences with identification of a freeschool, setting, brailing onboard into MSC labelled wells and possibly transfer to dry holds and continues with unloading from the catcher to carrier or from carrier to factory. At all points the MSC CoC eligible skipjack tuna is verified by the observer's detailed records, supported by vessel log books, VMS tracking, species and mass reconciliations at each stage through to certification of MSC CoC once landed at a processor.

8.2 An Evaluation of the Possibility of Vessels Fishing Outside the Unit of Certification

The fishery has a very strong management system with VMS, certified MSC trained observers, observer records, ships log books, internal MSC trained debriefers, auditors and executive managers therefore there is very little risk of any vessels covered under the UoC claiming MSC eligibility when fishing outside the unit of certification.

8.3 An Evaluation of the Opportunity for Substitution of Certified Fish with Non-certified Fish prior to and at the Point of Landing

The risk of substitution is significantly reduced by the high level of scrutiny from MSC-trained observers on all purse seiners supplying MSC eligible material where any movement of fish would be clearly known from status of each hold fill / sealing as recorded, hydraulic noises and labour involved on a relatively small boat. The system covers all carriers as well where MSC eligible batches are separated by double nets where a full compartment is not used. Once

loaded holds are full they are sealed to maintain temperature. The risk of mixing on route are considered negligible, with the vessel also satellite tracked.

Discharge also requires that only MSC-eligible tuna is handled at a time, and rigid monitoring and labeling is maintained throughout. It is only eligible tuna that is held separately in MSC bins and finally MSC CoC certified.

PNA operates a MSC chain of custody control management system for the supply of certified tuna, including training of crew and officers of catcher and carrier vessels, appointed MSC officers in each company and a MOU with each group committing to rigid traceability, to ensure that only material originating from the certified fishery is ultimately CoC certified and sold as MSC certified. These systems are subject to internal audit, management review and separate certification, and also 3rd party external audit. Many checks and balances are under the control of partner organisations most of whom perform statutory functions within the fishery.

Only tuna supplied from organizations that are included within the scope of PNA's chain of custody certification and agreements can be claimed to have originated from this certified fishery.

8.4 Details on the Number and/or Location of Points of Landing

Points of Landing (DOMESTIC)

Some FSMA and most Domestic fish are landed into domestic ports, for processing or export as round fish. Processing takes place in PNG, Rep Marshall Is and Solomon Is.

Table 5: Tuna processing plants in PNA island countries that have processed MSC eligible tuna

Company	Location	Type	Production
SSTC Wewak	PNG	Loins	110mt/day
Frabelle Lae	PNG	Canning/loin	150mt/day
Pan Pacific	Majuro RMI	Loins	40mt/day

Source: PNA Office, 2015

Note: Processing plants eligible under MOU with PNA to process MSC eligible tuna, also include Soltuna, Solomon Islands and IFC and Majestic plants in PNG, however to date these processing plants have not processed MSC eligible tuna.

8.5 A Description of the At-Sea Processing of Catch

There is no at sea processing of fish in the fishery, with bulk brailing from the net to freezing /holding wells. During transshipment if not landed directly the fish are transferred in bulk and there is no at sea processing. At each point the observer will take samples verifying species and sizes. It should be noted no fish is certified until discharged and sorted at a processor / cold store where it joins the processors CoC scheme.

8.6 Details of the Use of Trans-Shipping in the Fishery

Whilst some vessels may land direct to domestic ports and processors, fishing tends to cover the broader unit of certification and fish is typically transhipped in PNA ports designated for transshipment and shipment to processors in PNA and non PNA countries. This may include distant markets in the Philippines, Thailand, Viet Nam, Korea, China, Japan, Latin America or the EU. As governed by the MTCs, all transshipment to carriers must take place only in a designated transshipment port under in the presence of an observer.

On the carriers, it is normal practice to separate fish from different vessels, and separation continues in the holding bins in the processors cold stores.

Some distant water fleets carry fish to home-ports and do not tranship, this includes Japan, Philippines and USA, but this practice is declining due to economic considerations where transshipping maximizes fishing time.

Table 6: Designated transshipping ports

Party	Designated Ports
Federated States of Micronesia	Yap, Chuuk, <u>Pohnpei</u> , Kosrae
Kiribati	<u>Tarawa</u> , and Canton, Kiritimati
Marshall Islands	<u>Majuro</u>
Solomon Is	Honiara, Noro, Tulagi
Nauru	Nauru
Palau	Koror
Papua New Guinea	Port Moresby, <u>Lae</u> , Madang, <u>Rabaul</u> , Kimbe, Kavieng, Alotau, Lorengau, Bialla, Oro Bay, Vanimo, Vidar, <u>Wewak</u>
Tuvalu	<u>Funafuti</u>

Source: PNAO

Note: Ports actively Transshipping MSC eligible tuna are underlined

POINTS OF LANDING (INTERNATIONAL)

Within the PNA region very small amount of tuna is directly landed outside PNA. The exception is the Pago based US flagged vessels under the US treaty, who have also landed MSC eligible tuna to Pago for discharge or transshipment, under strict PNA MSC observer monitoring. No MSC eligible catch has been landed directly to foreign ports otherwise by catching vessels.

However, transshipments of MSC eligible tuna has occurred in Canton and Tarawa ports Kiribati, Funafuti Tuvalu, Majuro RMI, and Ponapei FSM, whereby the carrier has on carried the eligible catch to other ports and MSC certified upon discharge, sorting and actual weights and eligibility determined for MSC certificates to be issued.

This carrier fish to date has been destined to processors in Wewak, PNG, as well as Songkla and Bangkok in Thailand where MSC certified.

It is expected other plants including in Pago, American Samoa, Noro, Solomon Islands and Lae PNG are likely to receive fish to process under the current MOUs in place.

MSC certification of product occurs once the fish is discharged, sorted and weighed, thus ending the PNA COC. To date MSC certificates have been issued to plants in Lae, PNG, Majuro, RMI and Pago, American Samoa where Purse seiners directly discharged. Also carrier loads have been MSC certified in Lae and Wewak PNG, Songkla and Bangkok, Thailand.

MSC certified batches may later be shipped by container or vehicle to other facilities under separate respective COC.

Table 7: Landing port destinations [non exhaustive list]

Country	Port
Japan	Yamagawa, Shimizu, Watanoha, Yaizu-Shi, Makurazuki, Osaka, Shizuoka, Tokyo
Philippines	General Santos, Zamboanga, Manila, Davao (Toril), Batangas
USA	Pago Pago
Taiwan	Kaohsiung, Tungchiang
Korea	Busan/Pusan (4 ports), Mokpo
Thailand	Bangkok, Singkla
Vietnam	
China	Puto, Nanjing, Ningbo, Zoushan Island
El Salvador	La Union
Fiji Suva,	Levuka
Ecuador	Manta

Source: PNAO

8.7 An Evaluation of the Robustness of the Management Systems Related to Traceability

The combination of logbooks, observer reports and fishing practices provide a series of independent and verifiable records that enables MSC eligibility to be determined and maintained.

Verifiable on-board storage in wells and holds, transshipment records at designated ports as well as landing declarations at the point of landing are fully monitored and allow immediate traceability between the fishery and the first point of the chain of custody whilst the logbook provides a record of the time, location and nature (species and volumes) of the catch.

The main possible risk is the mixing of MSC eligible and non-MSC eligible sets. Where for example a set was found to be non-compliant (e.g., log discovered in the net, and FAD species found) then the set is disqualified as is any eligible fish from previous sets if mixing occurs. Where debriefing of observers has revealed such issues it has led to full carrier loads being disqualified. Industry is aware of potential disqualification as well as potential suspension from the MSC fishery and therefore economic loss. The fishery has a proven, very strong management system in place with MSC trained observers/verifiers on all purse seiners. Therefore the risk is now considered small. PNA holds a current MSC CoC Group certificate for skipjack tuna (MSC-C-53088). The scope of the CoC certificate must be extended to yellowfin tuna which would make up about 20% of every eligible load landed if the fishery is certified.

8.8 At Sea Separation and Processing

The tuna fleet operates in two ways whilst at sea. Most vessels brail fish from the net into wells and are frozen when salt brine refrigerated to -16 °C, is pumped in and then circulated. When the fish are frozen, the brine is pumped out; the fish are either held in the well or dropped to a dry hold and held at about -20 °C. A very small handful of boats from the fleet may also have on board, other freezing capacity at -45 °C and hold select large fish (e.g., bigeye tuna) for other end markets. Besides freezing no processing takes place at sea

With no at-sea processing stage the possible mixing of any product from MSC eligible and non-MSC eligible wells are extremely unlikely. Further due to the very strong management system put in place with scrutiny from MSC trained observers/verifiers on all purse seiners this risk is considered extremely small.

8.9 Eligibility to Enter Further Chains of Custody

Conclusion and Determination of Whether the Product will be Eligible to Enter Further Certified Chains of Custody

Given the robustness of the management system and the group certification put in place for the skipjack fishery, with no certification until the at the point of entry to the cold store, the product once certified is eligible to enter further certified chain of custody.

A List of Parties, or Category of Parties, Eligible to Use the Fishery Certification

All vessels registered under the companies assessed under the PNA chain of custody group scheme (see vessel list attached in Appendix 4).

The Point of Change of Ownership, from which Chain of Custody (CoC) Certification is Required

The PNA MSC CoC Group Entity Certification commences with identification of a free school and brailing onboard and continues with unloading from the catcher to carrier and from carrier to factory. The means of verification of MSC CoC eligible tuna includes physically tracking by the observers, and further verifying through species and mass balances checks with final certification under the PNA CoC once eligible weights are verified at the point of entering the factory.

8.10 Actual Eligibility Date

The actual eligibility date is the 26 November 2015 the time the PCDR report was published on the MSC website.

9. Scores against PIs

A summary of scores against the PIs relevant to the expedited assessment is provided in **Error! eference source not found**.8. Rationales for these scores can be found in Appendix 1.

Table 8. Summary of scores for yellowfin tuna for PIs assessed under the expedited assessment

Principle	PI No.	Performance Indicator (PI)	Score
One	1.1.1	Stock status	90
	1.1.2	Reference points	90
	1.1.3	Stock rebuilding	N/A
	1.2.1	Harvest strategy	70
	1.2.2	Harvest control rules & tools	60
	1.2.3	Information & monitoring	90
	1.2.4	Assessment of stock status	95
		Average Principle One	85.0
Two	2.1.1	Outcome	80
	2.1.2	Management	90
	2.1.3	Information	100
		Average Principle Two	90.7

9.1 Harmonisation with other fisheries

The fishery under assessment overlaps with one other fishery that has already been certified (Walker Seafoods Australian albacore, yellowfin tuna and swordfish longline fisher) and two fisheries that are currently under assessment (TriMarine unassociated purse seine fishery for skipjack and yellowfin tuna; Solomon Islands skipjack and yellowfin tuna purse seine and pole and line).

Efforts at harmonization were aided by overlaps in membership of the relevant assessment teams (shared membership between the assessment teams of the current fishery and the TriMarine fishery) which provided knowledge of these fisheries, assessment scores and rationales. Harmonisation discussions have also taken place between the current assessment team and those assessing the other fisheries.

The process of harmonization has usually involved preliminary independent scoring of each fishery followed by discussions and sharing of scores and draft rationales through email exchanges and conference calls among team members. Points of difference have generally been resolved by alignment of scores and rationales, particularly so for Principle 1, so that there was consistency at least in whether or not a condition was imposed (Table 9).

There was a particular focus in the harmonization discussions on the interpretation of current harvest strategies and harvest control rules (PI 1.2) given the recent advice from MSC about previous errors in the interpretation of these scoring issues.

Table 9. Proposed scores for yellowfin tuna for the PNA fishery, and overlapping fisheries that have been certified or are in assessment (N/S = Not scored) (P2 and P3 scores are the same as for skipjack above).

PI	PNA	Walker Seafood	TMI	Solomon Is.	Comments
1.1.1	90	90	90	100	Harmonised
1.1.2	90	90	90	90	Harmonised
1.1.3	N/S	N/S	N/S	N/S	Harmonised
1.2.1	70	70	70	70	Harmonised
1.2.2	60	65	60	60	Harmonised
1.2.3	90	80	90	90	Harmonised
1.2.4	95	85	95	100	Harmonised

10. Results

It is SCS's assessment team's view that yellowfin tuna caught in the PNA unassociated purse seine fishery meets the standards of the MSC and complies with the 'Requirements for Certification.' Two conditions are imposed (on PI 1.2.1 and PI 1.2.2). Progress toward closing these conditions will be evaluated at the 4th annual surveillance audit which will coincide with the start of the re-assessment of the fishery.

10.1 Determination and Formal Conclusion

The assessment team recommended that the yellowfin tuna caught in the PNA unassociated purse seine fishery be awarded MSC-endorsed certification. On the basis of a careful review of this certification audit report, the SCS Certification Board has determined that the PNA yellowfin tuna fishery, as defined by the unit of certification in Table 1, meets the MSC Principles and Criteria of a sustainable fishery and, as such, merits inclusion as a second Unit of Certification (UoC) under F-SCS-0090. This is based on the fact that no Performance Indicators scores assigned by the audit team fall below the required SG60 and also that the average score for Principle 1 is above 80. It is the determination of the SCS Certification Board that the fishery be certified based on MSC Certification Requirements v1.3. Since this is an Expedited Principle 1 Assessment, following MSC requirements (CR v 1.3), there will be no objection period following the publication of this report.

11. References

Australia (2014). Draft conservation and management measure on establishing a harvest strategy for key tuna species in the WCPO. WCPFC-SC10-2014/ MI-WP-08.

Davies, N., Harley, S., Hampton, J., and McKechnie, S. 2014. Stock assessment of yellowfin tuna in the western and central Pacific Ocean. WCPFC SC10-SA-WP-04, Majuro, Republic of the Marshall Islands, 6 – 14 August 2014.

FFA (2014). FFA member CCMs proposal for a conservation and management measure to develop and implement a harvest strategy approach for key tuna species in the WCPO. MOW3-WP/01 (WCPFC11-2014-DP09).

Haddon, M. (2010). Review Stock Assessment of Yellowfin Tuna in the Western and Central Pacific Ocean. CIE Review. Available at http://www.pifsc.noaa.gov/do/peer_reviews/wcpo_yellowfin_tuna_stock_assessment_2010_08.php

Harley, S., Davies, N., Hampton, J. and McKechnie, S. (2014). Stock assessment of bigeye tuna in the Western and Central Pacific. Secretariat of the Pacific Community, Oceanic Fisheries Programme. WCPFC-SC10-2014/SA-WP-01 Rev1 25 July.

Ianelli, J., Maunder, M., and Punt, A. E. (2012). Independent review of the 2011 WCPO bigeye tuna assessment. WCPFC SC8-SA-WP-01, Busan, Republic of Korea, 7-15 August 2012.

Japan (2014). Draft conservation and management measure on a target reference point for skipjack tuna. MOW3-IP/01 (WCPFC11-2014-DP13).

Maguire, J-J. (2010). Report on yellowfin tuna in the Western and Central Pacific Ocean. CIE Review. Available at http://www.pifsc.noaa.gov/do/peer_reviews/wcpo_yellowfin_tuna_stock_assessment_2010_08.php

Moody Marine International (2011). MSC Public Certification Report for PNA Western and Central Pacific Skipjack Tuna (*Katsuwonus pelamis*) unassociated and log set purse seine Fishery. Pp. 546.

Pilling, G., Harley, S. and Hampton, J. (2014a). Evaluation of risks of exceeding limit reference points for south Pacific albacore, bigeye, yellowfin and skipjack tunas with implications for target reference points: a case study using south Pacific albacore. WCPFC-SC10-2014/MI-WP-01

Pilling, G., Harley, S., Davies, N., Rice, J. and Hampton, J. (2014b). Status quo stochastic projections for bigeye, skipjack and yellowfin tunas. WCPFC-SC10-2014/SA-WP-06.

PNA (2014a). Extract from the PNA22 Annual Meeting on 12-14 March 2014 in Honiara.

PNA (2014b). Report of the PS VDS Administrator. Confidential report to the Parties to the Palau Arrangement. 19th Annual Meeting 8-9 March 2014, Honiara Solomon Islands.

PNA members and Tokelau (2014). Proposal for a conservation and management measure on a target reference point for skipjack tuna and explanatory note. MOW3-WP/04 (WCPFC11-2014-DP12).

Rice, J., Hampton, J., Davies, N., and McKechnie, S. (2014). Stock assessment of skipjack tuna in the western and central Pacific Ocean. WCPFC SC10-SA-WP-05, Majuro, Republic of the Marshall Islands, 6 – 14 August 2014.

SPC-OFP (2011). SPC-OFP response to the CIE review of the 2009 yellowfin tuna assessment WCPFC-SC7-2011/IP-05.

SPC-OFP 2014a. Consideration of acceptable levels of risk of exceeding Limit Reference Points for the four main tuna stocks: uncertainty and implications for Target Reference Points and Harvest Control Rules. MOW3-WP/02.

SPC-OFP 2014b. Multi-species implications of reference points: what might a target reference point of 50%SBF=0 for skipjack tuna mean for bigeye and yellowfin tuna. MOW3-WP/05.

SPC-OFP 2014c. Preliminary update to estimates of the level of shark catches in the PNA free school purse seine fishery for MSC Principle 2 Condition 3. A report for the PNA 9th November 2014.

WCPFC (2010). Conservation and Management Measure for Sharks. Western and Central Pacific Ocean. Conservation and Management Measure 2010-07.

WCPFC (2013). Conservation and Management Measure for Bigeye, Yellowfin and Skipjack Tuna in the Western and Central Pacific Ocean. Conservation and Management Measure 2013-01.

WCPFC (2014). Scientific Committee Tenth Regular Session. 6-14 August 2014. Summary Report.

WCPFC (2014a). Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. Eleventh Regular Session Apia, Samoa 1-5 December 2014. Summary Report.

WCPFC (2014b). Conservation and Management Measure for Bigeye, Yellowfin and Skipjack Tuna in the Western and Central Pacific Ocean. Conservation and Management Measure 2014-01.

WCPFC (2014c). Commission Vessel Monitoring System. Conservation and Management Measure 2014-02.

WCPFC (2014d). Standards, Specifications and Procedures for the Western and Central Pacific Fisheries Commission Record of Fishing Vessels. Conservation and Management Measure 2014-03.

WCPFC (2014e). Conservation and Management Measure for Protection of Whale Sharks from Purse Seine Fishing Operations. Conservation and Management Measure 2014-04.

WCPFC (2014f). Conservation and Management Measure for Sharks. Conservation and Management Measure 2014-05.

WCPFC (2014g). Conservation and Management Measure on Establishing a Harvest Strategy for Key Fisheries and Stocks in the Western and Central Pacific Ocean. Conservation and Management Measure 2014-06.

WCPFC (2014h). Conservation and Management Measure for Compliance Monitoring Scheme. Conservation and Management Measure 2014-07.

WCPFC-MOW (2014). WCPFC Third Management Objectives Workshop Faleata Sports Complex, Apia, Samoa 28th November 2014 Report on the Third Management Objectives Workshop 3 December 2014.

Appendix 1: Scoring and Rationales

Evaluation Table for PI 1.1.1

1.1.1		
The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing.		
SG 60	SG 80	SG 100
It is <u>likely</u> that the stock is above the point where recruitment would be impaired.	It is <u>highly likely</u> that the stock is above the point where recruitment would be impaired. The stock is at or fluctuating around its target reference point. The stock is at or fluctuating around its target reference point.	There is a <u>high degree of certainty</u> that the stock is above the point where recruitment would be impaired. There is a <u>high degree of certainty</u> that the stock has been fluctuating around its target reference point, or has been above its target reference point, <u>over recent years</u> .

The 2014 stock assessment (Davies et al. 2014) estimates that the stock is currently at 38% of unfished levels.

MOW3-WP/02 (SPC-OFP 2014a) indicates that a biomass of this level for yellowfin tuna has a greater than 95% likelihood of being above the limit reference point of 20% of unfished levels. A stock above this limit reference point is considered to be above the point where recruitment would be impaired.

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.

The target reference point for yellowfin tuna, as defined in CMM 2014-01, is B_{MSY} .

The 2014 stock assessment estimates that “recent levels of spawning potential are most likely above (based on 2008-11 average and based on 2012) the level which will support the MSY”. Thus the best estimate is that the stock is above its target reference point which meets the requirements of scoring issue b at the SG 80 level.

For the SG 100 scoring issue, the question is then about the level of certainty that the stock has been above this target reference point over recent years.

The 2014 assessment provides estimates of recent and current spawning biomass relative to that which would support MSY for the selected stock assessment models and the structural

uncertainty analysis. These include estimates for the ‘current’ biomass which is the average over the period 2008-2011 and ‘latest’ which is 2012. The grid medians and 95% confidence intervals for $SB_{current}$ and SB_{latest} were 1.37 (0.97 – 1.82) and 1.29 (1.0 – 1.69), respectively (Table 7, Davies et al. 2014), indicating that there is a slightly greater than 5% chance of the stock being below B_{MSY} over recent years (2008-2011). This finding indicates that the stock would not meet the requirements of scoring issue b at the SG100 level.

Guidance about this PI (CB2.2.2.1) indicates that “At SG80, there shall be evidence that the stock is at the target reference point now or has fluctuated around the target reference point for the past few years” and that (CB2.2.2.2) “At SG100, there shall be evidence that the stock has fluctuated around the target reference point for longer periods”. This is clearly intended to apply a higher degree of certainty at the SG100 level than at the SG80 level. We consider, however, that in the case of a steadily declining biomass trend as is seen for yellowfin tuna, the 2008-2011 period is an appropriate duration to use for assessment against the SG100 requirements, despite only representing the last few years. In this instance, including a longer time period in the biomass window would not be as hard a test as the last few years. The reason being is that it would then include years when the biomass had been higher (but still declining) and this approach would not be consistent with the intention of requiring more certainty at the SG100 level.

Although we have not considered this in our current scoring, we also note that the stock was also estimated to be below the range of alternative candidate target reference points that are all higher than the current B_{MSY} target.

	Type of reference point	Value of reference point	Current stock status relative to reference point
Target reference point	B_{MSY}	$SB_{MSY} = 728,300 \text{ t}$	$SB_{latest} = 899,496 \text{ t}$ or $1.24 SB_{MSY}$
Limit reference point	$20\% SB_{F=0}$	$0.2X SB_{F=0} = 473,711 \text{ t}$	$1.9 SB_{F=0}$

OVERALL PERFORMANCE INDICATOR SCORE:

The SG 60 scoring issue and both SG 80 scoring issues are met; the first scoring issue at SG 100 is met but not the second; therefore, a score of 90 is warranted.

SCORE: 90

References: Davies et al. 2014; SPC-OFP 2014

Evaluation Table for PI 1.1.2

1.1.2		
Limit and target reference points are appropriate for the stock.		
SG 60	SG 80	SG 100
<p><u>Generic</u> limit and target reference points are based on justifiable and reasonable practice appropriate for the species category.</p>	<p>Reference points are appropriate for the stock and can be estimated.</p> <p>The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity.</p> <p>The target reference point is such that the stock is maintained at a level consistent with B_{MSY} or some measure or surrogate with similar intent or outcome.</p> <p>For low trophic level species, the target reference point takes into account the ecological role of the stock.</p>	<p>The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity following consideration of relevant <u>precautionary issues</u>.</p> <p>The target reference point is such that the stock is maintained at a level consistent with B_{MSY} or some measure or surrogate with similar intent or outcome, <u>or a higher level</u>, and takes into account relevant precautionary issues such as the ecological role of the stock with a high degree of certainty.</p>

The same rationale applies to yellowfin tuna as has been applied to skipjack tuna as the same reference points are applied to both species. The reference points are justifiable, appropriate for the stock and can be estimated.

The limit reference point (20% of the unfished biomass, estimated as the average over the period 2001-2010) is consistent with international best practice as is set above the point at which there is an appreciable risk of impairing reproductive capacity. This meets the requirement at the SG 80 level.

We note that the paper SC8-2012/MI-WP01_rev1 that evaluated potential LRPs specifically considered “the uncertainty in stock status in relation to various reference points on indicators relating to fishing mortality, spawning biomass relative to equilibrium virgin levels, and spawning biomass relative to the levels predicted to exist presently in the absence of fishing”. Furthermore, it was considered that the assessments were instances of where there had been a thorough examination of model sensitivity.

The most recent assessment of yellowfin tuna identified a number of uncertainties of which alternative assumptions regarding the modeling of tagging data, assumed steepness, and natural mortality were the most important. However, the main conclusions of the assessment were robust to the range of uncertainty that was explored. The main uncertainties were also considered in the recent evaluation of the risks of breaching the LRP (SPC-OFP 2014a).

We are therefore of the view that relevant precautionary issues have been considered and that both the SG -80 and SG 100 scoring issues have been met for the second scoring issue.

B_{MSY} is the current target reference point and this clearly meets the requirements of the SG 80 level.

Precautionary issues have not been considered with a high degree of certainty in the choice of this reference point.

The SG 60 scoring issue, the three SG 80 scoring issues and one of the two SG 100 scoring issues are met; therefore a score of 90 is warranted.

We also note that a condition was imposed on skipjack tuna when it was originally assessed but that this condition was closed at the recent 3rd Surveillance audit (and PI 1.1.2 rescored at 90).

SCORE: 90

References: Davies et al. 2014, SPC-OFP 2014a

Evaluation Table for PI 1.1.3

1.1.3		
Where the stock is depleted, there is evidence of stock rebuilding.		
SG 60	SG 80	SG 100
Where stocks are depleted rebuilding strategies which have a <u>reasonable expectation</u> of success are in place. Monitoring is in place to determine whether they are effective in rebuilding the stock within a <u>specified</u> timeframe.	Where stocks are depleted rebuilding strategies are in place. There is <u>evidence</u> that they are rebuilding stocks, or it is highly likely based on simulation modeling or previous performance that they will be able to rebuild the stock within a <u>specified</u> timeframe	Where stocks are depleted, strategies are <u>demonstrated</u> to be rebuilding stocks continuously and there is strong evidence that rebuilding will be complete within the <u>shortest practicable</u> timeframe.

N/A The stock is not considered depleted.

Evaluation Table for PI 1.2.1

1.2.1		
There is a robust and precautionary harvest strategy in place.		
SG 60	SG 80	SG 100
<p>The harvest strategy is <u>expected</u> to achieve stock management objectives reflected in the target and limit reference points.</p> <p>The harvest strategy is <u>likely</u> to work based on prior experience or plausible argument.</p> <p><u>Monitoring</u> is in place that is expected to determine whether the harvest strategy is working.</p>	<p>The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy <u>work together</u> towards achieving management objectives reflected in the target and limit reference points.</p> <p>The harvest strategy may not have been fully tested but monitoring is in place and <u>evidence</u> exists that it is achieving its objectives.</p>	<p>The harvest strategy is responsive to the state of the stock and is <u>designed</u> to achieve stock management objectives reflected in the target and limit reference points.</p> <p>The performance of the harvest strategy has been <u>fully evaluated</u> and evidence exists to show that it is achieving its objectives including being clearly able to maintain stocks at target levels.</p> <p>The harvest strategy is <u>periodically reviewed and improved</u> as necessary.</p>

The harvest strategy for WCPO skipjack was described in the original assessment as having several components, with WCPFC, PNA and national and archipelagic management actions being supported by a robust stock assessment and extensive monitoring frameworks, but without formal harvest control rules.

The measures applied to yellowfin tuna take the same form as those applied to skipjack tuna and the elements are similarly assessed as being expected to achieve stock management objectives meeting the requirements of the SG 60 level.

Given the greater level of depletion of yellowfin tuna than for skipjack tuna, its continued decline and the absence of agreed harvest control rules, it is not clear that the harvest strategy is responsive to the state of the stock or that the elements are working together to achieve the management objectives.

The original skipjack assessment also noted that it was not clear that coherent management actions are applied throughout the range of the stock, particularly in Indonesia and the Philippines. Similar concerns apply to yellowfin tuna and prevent the conclusion that the strategy is designed to achieve stock management objectives.

The original rationale for skipjack tuna refers to “the robust state of the skipjack stock and stock projections that provide evidence that the strategy is achieving its objectives”. Yellowfin tuna

are in a more depleted condition than skipjack tuna but are still assessed as being above their target. 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. 2014b).

Furthermore, the most recent stock assessment (Davies et al. 2014) indicates that fishing mortality for yellowfin tuna has always been below the F_{MSY} level and that the stock has not declined below the current target of B_{MSY} . This constitutes good evidence that the harvest strategy is meeting its objectives.

The same monitoring is also in place for yellowfin as for skipjack tuna.

The three SG 60 scoring issues are met and one of two SG 80 scoring issues are met, indicating a score of 70.

SCORE: 70

Condition# 1: By the 4th surveillance audit (2020), the client shall have demonstrated 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.

References: Davies et al. 2014; Pilling et al. 2014b

Evaluation Table for PI 1.2.2

1.2.2		
There are well defined and effective harvest control rules in place.		
SG 60	SG 80	SG 100
<p>Generally understood harvest rules are in place that are consistent with the harvest strategy and which act to reduce the exploitation rate as limit reference points are approached.</p> <p>CR v2.0: Generally understood HCRs are in place or available that are expected to reduce the exploitation rate as the</p>	<p><u>Well defined</u> 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.</p> <p>The <u>selection</u> of the harvest control rules takes into account the <u>main</u> uncertainties.</p> <p><u>Available evidence indicates</u> that the tools in use are appropriate and</p>	<p>The <u>design</u> of the harvest control rules take into account a <u>wide</u> range of uncertainties.</p> <p><u>Evidence clearly shows</u> that the tools in use are effective in achieving the exploitation levels required under the harvest control rules.</p>

<p>point of recruitment impairment (PRI) is approached</p> <p>There is some evidence that tools used to implement harvest control rules are appropriate and effective in controlling exploitation.</p> <p>There is some evidence that tools used or available to implement HCRs are appropriate and effective in controlling exploitation.</p>	<p>effective in achieving the exploitation levels required under the harvest control rules.</p>	
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Scoring issue a

Following the MSC Notice, “Scoring of ‘available’ Harvest Control Rules (HCRs) in CRv1.3 fisheries”, issued on 24th November 2014 and further interpretation provided by the MSC on 17 December 2015, PI 1.2.2 scoring issue (a) is scored here using CR v2.0 provisions for SG60 scoring. The revised wording is shown above. The wording of the previous version is still displayed but struck out and for information only. The wording of the SG80 scoring issue does not change. 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 CR v2.0 SA2.5.2, SA2.5.3 and SA2.5.5.

This options 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 between changes in stock status and the management actions. Therefore we do not consider that even generally understood HCRS are in place and the options for ‘available’ HCRs are therefore evaluated below.

The first question to address is whether there are HCRs that meet the requirements for being considered as ‘available’.

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”.

As noted at PI 1.1.1 scoring issue (b), the 2014 assessment provides probabilistic estimates of parameters of interest, and, as for skipjack, has been extensively explored using a crosswise grid of sensitivity tests (Davies et al, 2014a). The stock assessment estimates spawning biomass for yellowfin tuna, SB, to be at 38% of unfished levels in 2012 ($SBF=0$) and 1.28 times the implicit, and MSC default, TRP of SBMSY. The stock is estimated to have never been reduced to SBMSY and has hence been above SBMSY in all years.

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 ($SB_{2032} < 0.2SBF=0$) or to fall below SBMSY, 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 become subject to overfishing, and it was very unlikely (2%) that the spawning biomass would fall below SBMSY.”

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 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.

The CR v2.0 SA2.5.2a condition is therefore met and HCRs are therefore considered to be ‘available’.

The second 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,

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

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 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.

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, with potential revision in 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 is already well underway through the Management Objectives Workshop (MOW) process.

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 MSY for many years and that the process it describes has already been initiated, we have considered that the requirements of SA2.5.3b are met.

The requirements of the SG60 level are therefore considered to be met.

In summary, generally understood HCRs are not in place. Yellowfin is a stock that has not previously been reduced below MSY, that has always been maintained well above the default TRP and, based on projections provided, is unlikely to become overfished or to experience overfishing. Therefore this stock meets the requirements to be considered against "availability" requirements. In the WCPF, HCRs 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 yellowfin stock status could decline below BMSY.

Scoring issue b

The ‘available’ harvest control rules are not sufficiently articulated to allow an evaluation of the extent to which they take uncertainties into account. When well-defined HCRs are developed they can be evaluated as to whether the main uncertainties have been taken into account.

The SG80 requirements are not considered to be met.

Scoring issue c

Following the MSC Notice, “Scoring of ‘available’ Harvest Control Rules (HCRs) in CRv1.3 fisheries”, issued on 24th November 2014 and further interpretation provided by the MSC on 17 December 2015, PI 1.2.2 scoring issue (c) is also scored here using CR v2.0 provisions for SG60 scoring. There is also additional guidance in v2.0 and two specific requirements.

Firstly, when teams have recognised ‘available’ HCRs as ‘expected to reduce the exploitation rate as the point of recruitment impairment is approached ‘available’ under SA2.5.3b (see scoring issue (a) above), CR v2.0 SA2.5.5b 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.

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.”

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

“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 albacore¹ tuna by no later than the twelfth meeting of the Commission in 2015. This workplan will be subject to review in 2017.”

Work towards establishing reference points and harvest control rules was initiated before this CMM was passed through the Management Objectives Workshop (MOW) process and requires no additional trigger for their development.

The requirements of SA2.5.5b are therefore considered to be met.

Furthermore, CR v2.0 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.

The most recent stock assessment for yellowfin tuna (Davies et al. 2014) and the 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 yellowfin tuna has always been below the FMSY level, that the stock has not declined below the default target of BMSY and that it was exceptionally unlikely (<1%) that fishing mortality would increase above the FMSY level by 2032. The current levels of exploitation are therefore acceptable and the requirements of SA2.5.6 are met.

This meets the requirements of the SG60 level.

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 as catches of yellowfin are still increasing and fishing mortality 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 met.

SCORE: 60

References: Berger et al. 2013, CMM 2014-06, Davies et al. 2014; Pilling et al. 2014a, WCPFC, 2014a

Condition #2: By the fourth surveillance audit (2020) for the fishery, PNA and/or WCPFC shall demonstrate that:

Well defined harvest control rules shall be in place that are consistent with the Harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.

The selection of the harvest control rules shall take into account the main uncertainties.

Evidence shall be provided that indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules.

Evaluation Table for PI 1.2.3

1.2.3		
Relevant information is collected to support the harvest strategy.		
SG 60	SG 80	SG 100
<p><u>Some</u> relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy.</p> <p>Stock abundance and fishery removals are monitored and at least one indicator is available and monitored with sufficient frequency to support the harvest</p>	<p><u>Sufficient</u> relevant information related to stock structure, stock productivity, fleet composition and other data is available to support the harvest strategy.</p> <p>Stock abundance and fishery removals are <u>regularly monitored at a level of accuracy and coverage consistent with the harvest control rule</u>, and one or more indicators are available and monitored with sufficient frequency to support the harvest control rule.</p>	<p>A <u>comprehensive range</u> of information (on stock structure, stock productivity, fleet composition, stock abundance, fishery removals and other information such as environmental information), including some that may not be directly relevant to the current harvest strategy, is available.</p> <p><u>All information</u> required by the harvest control rule is monitored with high frequency and a high degree of certainty, and there is a good understanding of the inherent <u>uncertainties</u> in the information [data]</p>

control rule.	There is good information on all other fishery removals from the stock.	and the robustness of assessment and management to this uncertainty.
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The information and monitoring system that is in place for skipjack tuna catches is also applicable to yellowfin tuna; therefore, the same rationale and scores also apply to yellowfin tuna.

There is a comprehensive range of information collected related to the fishery including the elements required to meet the SG 100 level for the first scoring issue.

As noted in the original assessment for skipjack tuna stock, abundance and removals are monitored at a level of accuracy and coverage that is sufficient to support the harvest control measures in place.

There is not, however, a high degree of certainty about all the information required, with operational level data not provided for some parts of the fishery.

This meets the requirements for the SG 60 and SG 80 levels, but not the SG 100 level for the second scoring issue.

This scoring issue was the subject of particular attention in the original skipjack tuna assessment. In particular, the assessment team questioned whether there was reliable information on the level of fishery removals from some countries (Moody Marine International, 2011). The conclusion was that “despite a number of deficiencies in compilation and analysis from Indonesia and the Philippines, this reaches SG80”.

Since that assessment, PNA has been active in promoting better data collection at WCPFC level and there has been additional work to improve the level of data available (noted in the Surveillance Reports for skipjack tuna). As such, we conclude that the requirements of the SG 80 level are also met for yellowfin tuna.

Both SG60 scoring issues, all three SG80 scoring issues, and the first of the SG100 scoring issues are considered to be met. The second scoring issue at SG100 is not considered to be met.

Meeting one of two scoring issues at the SG100 level indicates a score of 90 is appropriate.

SCORE: 90

Evaluation Table for PI 1.2.4

1.2.4		
There is an adequate assessment of the stock status.		
SG 60	SG 80	SG 100
<p>The assessment estimates stock status relative to reference points.</p> <p>The major sources of uncertainty are identified.</p>	<p>The assessment is appropriate for the stock and for the harvest control rule, and is evaluating stock status relative to reference points.</p> <p>The assessment takes uncertainty into account.</p> <p>The stock assessment is subject to peer review.</p>	<p>The assessment is appropriate for the stock and for the harvest control rule and takes into account the major features relevant to the biology of the species and the nature of the fishery.</p> <p>The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a probabilistic way.</p> <p>The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.</p> <p>The assessment has been internally and externally peer reviewed.</p>

The type of assessment applied to yellowfin tuna is practically identical to that used for skipjack tuna. It is an integrated, model-based assessment that is undertaken by an experienced and internationally recognized stock assessment program at the SPC. It takes into account major features relevant to the biology and the nature of the fishery.

The assessment reports provide a wide range of estimates of stock status relative to indicators of interest to management including the reference points.

As for skipjack tuna, 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.

For skipjack tuna, this scoring issue was the only scoring issue considered not to be met at the SG100 level.

Internal reviews are undertaken by SPC, but it was considered that there had not been any external reviews. Since that assessment was undertaken; however, there has been 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.

The assessment team originally considered that the last scoring issue was met at the SG 100 level but the peer reviewers of this report had differing views about this. Peer Reviewer #1 considered that using the finding of the review of the bigeye tuna assessment was not sufficient to reach the SG 100 level. After considering this peer reviewer's comment we accepted that the last scoring issue should only receive a 80 score. The types of review measures that have been undertaken (a review of some data selection processes, a review of a similar assessment, and presentation at the scientific committee) would not have provided the level of scrutiny that a formal external review of the stock assessment itself would usually provide. Subsequently, Peer Reviewer #2 brought to our attention 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. 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. Given the manner of its initiation and the lack of a clear response in the subsequent assessment we are still inclined to take the more conservative approach and follow the view of Peer Reviewer #1 in not considering scoring the last scoring issue to have been met at the SG 100 level.

All scoring issues are considered to be met at the SG 80 level and three of four scoring issues are met at the SG 100 level indicating that a score of 95 is warranted.

SCORE: 95

References: Haddon 2010, Maguire 2010, SPC-OFP 2011, Ianelli et al. 2012, Davies et al. 2014

Evaluation Table for PI 2.1.1

2.1.1		
The fishery does not pose a risk of serious or irreversible harm to the retained species and does not hinder recovery of depleted retained species.		
SG 60	SG 80	SG 100
<p>Main retained species are <u>likely</u> to be within biologically based limits or if outside the limits there are <u>measures</u> in place that are <u>expected</u> to ensure that the fishery does not hinder recovery and rebuilding of the depleted species.</p> <p>If the status is poorly known or if they are outside the limits, there are measures or practices in place that are expected to result in the fishery not causing the retained species to be outside biologically based limits or hindering recovery.</p>	<p>Main retained species are <u>highly likely</u> to be within biologically based limits, or if outside the limits there is a <u>partial strategy of demonstrably effective</u> management measures in place such that the fishery does not hinder recovery and rebuilding.</p>	<p>There is a <u>high degree of certainty</u> that retained species are within biologically based limits.</p> <p>Target reference points are defined and retained species are at or fluctuating around their target reference points.</p>

The bigeye tuna stock is below its limit reference point. The most recent stock assessment for bigeye tuna (Harley et al. 2014) includes an estimate of the relative fishing impact of each of the different sectors of the fishery to the overall reduction in spawning potential. This confirms previous estimates that the unassociated purse seine fishery has only a relatively minor impact on bigeye tuna. Therefore it is not hindering the recovery and rebuilding of the species, and the requirements of SG 60 are met.

There are measures and a strategy in place to constrain effort through the VDS and CMM 2014-01 which both aims to restrict purse seine effort to 2010 levels. The Report of the VDS Administrator (PNA 2014) indicates that the total purse seine effort has been successfully limited to below the agreed total effort levels. Furthermore, purse seine fishing for yellowfin tuna on Fish Aggregating Devices and longline fishing are responsible for the majority of the catch of bigeye tuna. Fishing using purse seines on free schools, the specified method for the UoC, does not catch many bigeye tuna. The use of this fishing method is therefore effective in ensuring that the fishery will not hinder the recovery of bigeye tuna. This combination of factors provides an objective basis for confidence that the unassociated purse seine fishery will not hinder the recovery and rebuilding of bigeye tuna. This meets the requirements of SG 80.

The original assessment notes that other species make up a very small proportion of the total catch from unassociated sets (less than 0.2%). This may still represent a substantial quantity of some species, however, and the status of all species that are sometimes retained is not known.

Therefore, there is not a high degree of certainty that all retained species are within biological limits. As such, the SG 100 requirements of the guidepost are not met.

SCORE: 80

References: Harley et al. 2014; PNA 2014

Evaluation Table for PI 2.1.2

2.1.2		
There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species.		
SG 60	SG 80	SG 100
<p>There are <u>measures</u> in place, if necessary, that are expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.</p> <p>The measures are considered <u>likely</u> to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).</p>	<p>There is a <u>partial strategy</u> in place, if necessary that is expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.</p> <p>There is some <u>objective basis for confidence</u> that the partial strategy will work, based on some information directly about the fishery and/or species involved.</p> <p>There is <u>some evidence</u> that the partial strategy is being <u>implemented successfully</u>.</p>	<p>There is a <u>strategy</u> in place for managing retained species.</p> <p>The strategy is mainly based on information directly about the fishery and/or species involved, and <u>testing</u> supports <u>high confidence</u> that the strategy will work.</p> <p>There is <u>clear evidence</u> that the strategy is being <u>implemented successfully</u>, and intended changes are occurring.</p> <p>There is some evidence that the strategy is <u>achieving its overall objective</u>.</p>

Bigeye tuna is a small but valuable component to the catch from the unassociated purse seine fishery, but there are measures and a strategy in place to constrain efforts. This includes the prescribed fishing method for the UoC, which does not catch many bigeye tuna, the VDS administered by PNA, and CMM 2014-01. These latter two measures aim to restrict purse seine efforts to 2010 levels. This will also restrict the already small catch of bigeye tuna and other retained species by the unassociated purse seine fishery. The Report of the VDS Administrator (PNA 2014) indicates that the total effort has been successfully limited to below the agreed

total effort levels and this should ensure that the unassociated purse seine fishery will not hinder the recovery and rebuilding of bigeye tuna.

No other measures are necessary, but there is ongoing monitoring of the status of bigeye tuna and the proportion of the total catch that the UoC represents. This system of ongoing monitoring and assessment, which includes observer coverage, is considered to constitute a strategy for the management of the impact of the fishery on bigeye tuna. This meets the requirements of the first scoring issue at the SG 80 level. However, the status of other retained species (which must also be considered at the SG 100 level) is not monitored, so the measures do not constitute a strategy that would meet the requirements of the SG 100 level.

At present this strategy is effective in minimizing the marginal contribution of the fishery to the total mortality of bigeye tuna, which is not currently within biologically based limits because of the catch by other gears and fishing methods.

There is an objective basis for believing that the strategy used to manage the impact of the unassociated purse seine fishery on bigeye tuna will work based on the regular reporting of catch data, periodic assessments of stock status and the impact analyses. The following conclusions are based on information obtained directly from the fishery and about the species: The unassociated purse seine fishery will continue to not hinder the species recovery and will remain a negligible contributor to total fishing mortality of this species. This meets the requirements of the second scoring issue at the SG 60 and SG 80 levels. There has not been testing of any strategy for all retained species, so this scoring issue is not met at the SG 100 level.

The level of catch of bigeye tuna by the UoC is small compared to other fishing methods and gears, and it is projected to remain that way (Figure 4). This represents clear evidence that the measures used in the management of fishing by the UoC are being implemented successfully. This meets the requirements of the third scoring issue at the SG 60 and SG 80 levels. There is not such clear evidence for other retained species so the requirements of the SG 100 level are not considered to be met.

There is also some evidence that the VDS component of the strategy is being implemented successfully through the VDS Administrator's Report (PNA 2014). Nevertheless, given its recent introduction, there is no clear evidence about the successful implementation of CMM 2014-01 as of yet.

The overall objective in the context of this fishery for bigeye tuna, the only main retained species, is to ensure that fishing by the UoC does not hinder its recovery.

The most recent assessment of bigeye tuna (Harley et al. 2014) clearly indicates that purse seine fishing on free-swimming schools has never contributed significantly to the mortality of bigeye tuna.

The broader objectives about rebuilding bigeye tuna stocks are clearly not being achieved but for the purposes of this PI, the key point is that the unassociated purse seine fishery is not contributing significantly to this failure. For other retained species, however, there is not the same evidence about overall objectives being met, so the requirements of the SG 100 level are not met.

All scoring issues are met at the SG80 level but none are met at the SG100 level. The fishery, therefore, reaches a score of 80 for this performance indicator.

SCORE: 80

References: PNA 2014

Evaluation Table for PI 2.1.3

2.1.3		
Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage retained species.		
SG 60	SG 80	SG 100
<p><u>Qualitative information</u> is available on the amount of main retained species taken by the fishery.</p> <p>Information is <u>adequate</u> to <u>qualitatively</u> assess outcome status with respect to biologically based limits.</p> <p>Information is adequate to support <u>measures</u> to manage <u>main</u> retained species.</p>	<p><u>Qualitative information</u> and some quantitative information are available on the amount of main retained species taken by the fishery.</p> <p>Information is <u>sufficient</u> to estimate outcome status with respect to biologically based limits.</p> <p>Information is adequate to support a <u>partial strategy</u> to manage <u>main</u> retained species.</p> <p>Sufficient data continue to be collected to detect any increase in risk level (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy).</p>	<p>Accurate and verifiable information is available on the catch of all retained species and the consequences for the status of affected populations.</p> <p>Information is <u>sufficient</u> to <u>quantitatively</u> estimate outcome status with a <u>high degree of certainty</u>.</p> <p>Information is adequate to support a <u>comprehensive strategy</u> to manage retained species, and evaluate with a <u>high degree of certainty</u> whether the strategy is achieving its objective.</p> <p>Monitoring of retained species is conducted in sufficient detail to assess ongoing mortalities to all retained species.</p>

The information available on the catch of bigeye tuna from the unassociated purse seine fishery is comparable to that available for skipjack tuna. It is based upon logbooks and observer records.

The information is partially dependent, however, on records of species composition from observer sampling which are used to provide final catch estimates. The accuracy of the catch data, although not strictly verifiable, is sufficient to have allowed the consequences of the fishery for the status of bigeye tuna to be reliably estimated. The same cannot be said for all retained species, however, as although the catches are known, the consequences for the outcome status of other species has not been assessed. Therefore, this meets the requirements of the first scoring issue at the SG 60 and SG 80 levels but not of the SG 100 level.

The information on bigeye tuna has been used to produce a coherent quantitative assessment of its status and also the impact of the UoC fishery on this status. The main conclusions of the assessment are considered robust to the range of uncertainty that was explored and therefore the outcome status is known with a high degree of certainty and is also described in

probabilistic terms. There is not the same level of certainty for other retained species. Therefore, this meets the requirements of the second scoring issue at the SG 60 and SG 80 levels but not of the SG 100 level.

The information that is available on bigeye tuna is quite comprehensive and is clearly sufficient to support a sophisticated quantitative stock assessment. Therefore, it is also sufficient to support a complete strategy for the management of bigeye tuna and to allow the performance of this strategy to be evaluated with a high degree of certainty. There is not such a clear strategy for other retained species and, thus, no certainty about achievement. Therefore, this meets the requirements of the third scoring issue at the SG 60 and SG 80 levels, but not of the SG 100 level.

The monitoring arrangements that have allowed the status of bigeye tuna to be assessed are still in place and continue to be conducted at a level that will allow the ongoing (but periodic) assessment of the fishing mortality and the detection of any increase in risk level. Other retained species are also monitored to the same level of detail. This meets the requirements of the fourth scoring at the, SG 80 and SG 100 levels.

All of the scoring issues are met at the SG 80 level but only one of four are met at the SG 100 level therefore reaches a score of 85 for this performance indicator.

SCORE: 85

References: PNA 2014

Appendix 2: Client Action Plan

Condition 1

Performance Indicator	1.2.1 There is a robust and precautionary harvest strategy in place.
Score	70
Rationale	<p>The harvest strategy for WCPO skipjack was described in the original assessment as having several components, with WCPFC, PNA and national and archipelagic management actions being supported by a robust stock assessment and extensive monitoring frameworks, but without formal harvest control rules.</p> <p>The measures applied to yellowfin tuna take the same form as those applied to skipjack tuna and the elements are similarly assessed as being expected to achieve stock management objectives meeting the requirements of the SG 60 level.</p> <p>Given the greater level of depletion of yellowfin tuna than for skipjack tuna, its continued decline and the absence of agreed harvest control rules, it is not clear that the harvest strategy is responsive to the state of the stock or that the elements are working together to achieve the management objectives.</p>
Condition	By the 4 th surveillance audit, the client shall demonstrate 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.
Milestones	<p>At the 1st annual surveillance audit and at each subsequent surveillance audit if appropriate, the client will submit evidence that it is working actively to ensure that the harvest strategy for WCPO yellowfin tuna is responsive to the state of the stock and that the elements are working together to achieve the management objectives, including a summary of the actions taken by the client and other members of the WCPFC to achieve this outcome. Score 70.</p> <p>By the fourth annual surveillance audit (2020), the client will 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. Score 80.</p>
Client action plan	<p>In order to ensure that a harvest strategy for WCPO yellowfin tuna is implemented which is responsive to the state of the stock and that the elements are working together to achieve the management objectives, the client will provide evidence of:</p> <p>Year 1-2017</p> <ol style="list-style-type: none"> 1. Support by PNA for the implementation of a harvest strategy process for the WCPO, including the adoption of a harvest strategy for WCPO yellowfin tuna. 2. Support by PNA for the adoption of a WCPFC Harvest Strategy Workplan that includes a process for development of a harvest strategy for WCPO yellowfin

	<p>tuna</p> <p>3. Promotion by PNA of consideration by the WCPFC the effectiveness of measures for WCPO yellowfin tuna management.</p> <p>Year 2-2018</p> <p>1. Support by PNA for the implementation of a harvest strategy process for the WCPFC, including the adoption of a harvest strategy for WCPO yellowfin tuna.</p> <p>2. Support by PNA for work towards the adoption of a formal harvest strategy for WCPO yellowfin tuna.</p> <p>3. Actions to by PNA to raise awareness of the need for any additional WCPFC yellowfin management measures among PNA Members.</p> <p>4. Activities undertaken either directly by PNA or through FFA to ensure appropriate focus is given to more effective measures for WCPO yellowfin tuna management at the 13th Session of the WCPFC (December 2016).</p> <p>5. Support by PNA for the undertaking of a new assessment for WCPO yellowfin tuna in 2017 (at latest).</p> <p>Year 3-2019</p> <p>1. Support by PNA for work towards the adoption of a formal harvest strategy for WCPO yellowfin tuna.</p> <p>2. Actions by PNA to raise awareness of the need for any additional WCPFC yellowfin management measures among PNA Members.</p> <p>3. Activities undertaken by PNA either directly or through FFA to include appropriate measures for the effective management of WCPO yellowfin tuna in the CMM for tropical tunas that replaces the current CMM 2014-01 which is scheduled to terminate in December 2017.</p> <p>4. Preparation by PNA or SPC of an assessment of how the elements of the harvest strategy for WCPO yellowfin tuna work together to achieve the management objectives for this fishery.</p> <p>6. Actions by PNA Members to promote the adoption by PNA and/or the WCPFC of any additional management measures needed for WCPO yellowfin tuna.</p> <p>Year 4-2020</p> <p>The harvest strategy for WCPO yellowfin tuna being responsive to the state of the stock and the elements of the harvest strategy working together towards achieving management objectives reflected in the target and limit reference points.</p>
Consultation on condition	<p>The client will consult and coordinate among PNA Members and with SPC, other members of the FFA and WCPFC and environmental and industry NGOs as appropriate.</p>

Condition 2

Performance Indicator	1.2.2 There are well defined and effective harvest control rules in place
Score	60
Rationale	<p>Formal and well defined harvest control rules are not yet in place for WCPO yellowfin tuna. Nevertheless, progress has continued towards their development through a range of activities.</p> <p>The Vessel Day Scheme that has been implemented by PNA to control fishing effort is the key element of the harvest strategy and it is expected that this arrangement would be used to reduce the exploitation rate should the limit reference point be approached. This scheme is considered to constitute a generally understood harvest rule and one that is consistent with the existing harvest strategy.</p> <p>The high proportion of the total catch of yellowfin tuna that is taken by vessels under the control of the PNA and its Vessel Day Scheme is also evidence of the capacity of this scheme to exert effective control over the fishing effort that is responsible for the majority of the yellowfin tuna catch.</p> <p>With the generally understood harvest control rules that are in place it cannot be reasonably concluded that they take into account the main uncertainties. Therefore the requirements of the SG 80 level are not considered to be met.</p>
Condition	<p>By the fourth surveillance audit (2020) for the fishery, PNA and/or WCPFC shall demonstrate that:</p> <p>Well defined harvest control rules shall be in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.</p> <p>The selection of the harvest control rules shall take into account the main uncertainties.</p> <p>Evidence shall be provided that indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules.</p>
Milestones	<p>At the 1st annual surveillance audit (2017) and at each subsequent surveillance audit until the adoption of control rules, the client will submit evidence that it is working actively to promote the adoption by the WCPFC of well-defined harvest control rules for WCPO yellowfin tuna, including a summary of the actions taken by the client and other members of the WCPFC to achieve this outcome. Score 65.</p> <p>By the fourth annual surveillance audit (2020), the client will provide evidence that the harvest control rules and associated management actions are put in place. Score 80.</p>
Client action plan	<p>To support the development of appropriate harvest control rules for the WCPO yellowfin tuna stock the respective years the client will provide evidence of:</p> <p>Year 1-2017</p>

	<p>1. Agreement by PNA to support and promote the implementation of a harvest strategy process for the WCPO, including the adoption of harvest control rules for WCPO yellowfin tuna.</p> <p>2. Promotion by PNA of the adoption of harvest control rules for WCPO yellowfin tuna taking into account the main uncertainties at the WCPFC and relevant subsidiary bodies, including the Scientific Committee.</p> <p>3. Support by PNA for the adoption of a WCPFC Harvest Strategy Workplan that includes a process for development of harvest control rules for WCPO yellowfin tuna</p> <p>Year 2-2018</p> <p>1. Support by PNA at the WCPFC and its subsidiary bodies for work towards the development of harvest control rules for WCPO yellowfin tuna.</p> <p>2. Provision by PNA of any requested support and data for SPC analyses on harvest control rules for WCPO yellowfin tuna to support any further discussions at PNA, FFA and the WCPFC Scientific Committee.</p> <p>3. Actions by PNA to raise awareness of the need for any additional WCPFC yellowfin management measures among PNA Members.</p> <p>Year 3-2019</p> <p>1. Support by PNA at the WCPFC and its subsidiary bodies for work towards the development of harvest control rules for WCPO yellowfin tuna.</p> <p>2. Provision by PNA of any requested support and data for SPC analyses on harvest control rules for WCPO yellowfin tuna to support any further discussions at PNA, FFA and the WCPFC Scientific Committee.</p> <p>3. Actions by PNA Members to promote the adoption of any additional management measures needed for WCPO yellowfin tuna.</p> <p>Year 4-2020</p> <p>Appropriate harvest control rules for WCPO yellowfin tuna being in place and associated management actions being taken. Score 80.</p>
Consultation on condition	<p>The client will consult and coordinate among PNA Members and with SPC, other members of the FFA and WCPFC and environmental and industry NGOs as appropriate.</p>

Appendix 3: Stakeholder Consultation

In-person Stakeholder Consultation

In-person interviews were conducted on 18th November 2014 at the Hexagon Hotel in Nadi, Fiji at 2-3pm with the people listed in Table 10.

Table 10: Stakeholder Meeting Attendees

Name	Affiliation
Naitilima Tupou	PITIA (Secretariat of the Pacific Islands Tuna Industry Association)
Mike Batty	FFA (Pacific Islands Forum Fisheries Agency)

Summary of comments and team responses

Issues raised by Ms Tupou:

Concerned bigeye tuna including how the bycatch of this species is taken into account in the assessment, and the preliminary findings of an evaluation of FAD closures that indicated that these had not reduced the mortality of bigeye tuna.

The team responded that (i) the UoC was for the unassociated purse seine catch of which FADs were not a part, (ii) the catch of bigeye tuna by the UoC had been considered in the initial assessment but only a minor proportion of the total catch was attributable to it, and (iii) no conditions had been raised with regard to bigeye tuna.

The surveillance report has also examined the most recent information about bigeye tuna and confirmed that the UoC continues to be responsible for a small proportion of the total catch.

Concerned with the impact of effort creep through improved technology.

The team responded that effort creep was an important factor in an effort-based management system but noted that it was an explicit part of PNA deliberations in setting TAEs and was also considered in the stock assessment.

Concerned with the status of yellowfin tuna and the expedited assessment.

The team responded by outlining the process that would be followed for the expedited assessment.

Issues raised by Mr. Batty:

Initial comments indicated strong support for the MSC certification process and no particular objections to the process.

The team noted those views.

Asked whether the team were satisfied with progress in developing Harvest Control Rules.

The team responded by agreeing with this as an important issue and noted that it was a part of one of the conditions of the 3rd surveillance audit. Progress towards closing out this condition was to be considered as part of the audit.

Appendix 4. PNA Eligible Fleet

Fishing Vessel Names		
Lometo	Solomon Ruby	NUPLA SOLWARA
Lomalo	Solomon Emerald	FONG KUO NO.188
Lojet	Eagle	FONG KUO NO.189
Jin Hui 8	MJ Souza	FONG KUO NO.828
Jin Hui 9	JASMIN 88	FONG KUO NO.866
Jin Hui 1	PURPLE BEAUTY 888	FONG KUO NO.869
Jin Hui 3	ALPINE PINK	FONG KUO NO.889
Jin Hui 6	ALPINE ROSE	Atun Kalap
Jin Hui 7	AMARYLLIS	Atun Planti
Jin Hui 18	GARDENIA	Atun Sta
Koos 101	GARDENIA 888	Ocean Galaxy
Koos 102	CHERRY BLOSSOMS 88	Ocean Encounter
Koos 107	CAMIA 888	Ocean Conquest
Koos 108	GOLDEN SAPPHIRE 88	Ocean Expedition
Marshalls 201	MALVA 888	Ocean Warrior
Marshalls 202	MILFLORES 888	Ocean Challenger
Marshalls 203	LAVENDER 888	Nupla Solwara
Seipal	MISTLETOE 888	Nupla Kanu
Ching Feng 767	NIUPELALIP No. 8	Kwila 888
Ching Feng 787	ORCHIDS 888	Nupla Kumul
Ta Ching 666	PINK CARNATION 88	Shun Fa 8
Fu Kuan 606	PURPLE LILAC 888	YUNG HSING FA NO.168
Fu Kuan 808	RED TULIP 888	YUNG HSING FA NO.688
Cape Ann	SILVER QUEEN	Sea Bounty
Cape Horn	RED ROBIN 888	Sea Defender
Cape May	SUNFLOWER 8	Sea Quest
Cape Finisterre	SIMBUN 88	Sea Trader
Cape Ferrat	PACIFIC JOURNEY 1	Sea Fox
Cape Cod	PACIFIC JOURNEY 888	Sea Honor
Capt. Vincent Gann	GLORY PACIFIC 1	Pacific Pride
Cape Elizabeth III	GLORY PACIFIC 8	Pacific Ranger
Cape Breton	MAJESTIC SUN	Gardenia
Cape San Lucas	MAJESTIC STAR	PRINCESS JANICE-168
Jeannine	KAILE 888	Queen Evelyn 168
Solomon Pearl	QUEEN ALEXANDRA	Queen Evelyn 889
Solomon Opal	MARITA 88	QUEEN JENNY - 138
Solomon Jade	QUEEN JENNY 138	

Appendix 5: Peer Review Reports

Overall Opinion Peer Reviewer 1

<i>Has the assessment team arrived at an appropriate conclusion based on the evidence presented in the assessment report?</i>	No	Conformity Assessment Body Response
<u>Justification:</u> Overall I agree with the conclusions except for the adequacy of the stock assessment under PI 1.2.4. My own interpretation is that the assessment has not been externally reviewed, and has not been tested and shown to be robust to alternative hypotheses (i.e. model structural assumptions) according to a simulation system such as a management strategy evaluation. I would have given a score of 90, rather than 100.		The score for PI 1.2.4 was amended to 95. The assessment team agreed with the peer reviewer that external review of a similar procedures do not constitute a full external review of the yellowfin assessment. A presentation to members of the WCPFC SC also does entail a level of external scrutiny of the assessment by other scientists, but we accept that this is not necessarily at the level of scrutiny that a formal review would provide. We note that there has been no management strategy evaluation of the assessment but consider that MSC guidance does not mandate such an evaluation. Overall we consider that the last scoring issues (internal and external peer review) is only met at the SG 80 level and three other (of four scoring issues) are met at the SG 100 level arriving at a score of 95.
<i>Do you think the condition(s) raised are appropriately written to achieve the SG80 outcome within the specified timeframe?</i>	Yes	Conformity Assessment Body Response
<u>Justification:</u> The conditions raised directly address the highlighted inadequacies.		No response required
<i>Do you think the client action plan is sufficient to close the conditions raised?</i>	Yes	Conformity Assessment Body Response
<u>Justification:</u> Conditions 1 and 2 provide achievable plans for the implementation of a formal harvest strategy and control rule by the WCPFC for WCPO yellowfin tuna that includes explicit target and limit reference points, and means for monitoring harvest strategy performance.		No response required

Overall Opinion Peer Reviewer 2

<i>Has the assessment team arrived at an appropriate conclusion based on the evidence presented in the assessment report?</i>	Yes	Conformity Assessment Body Response
<u>Justification:</u> Base on the evidence provided, I conclude that the certifier has made an appropriate conclusion to recommend certification of the PNA unassociated yellowfin purse seine fishery. Some minor changes of scoring are suggested (1.1.1, 1.2.2 and 1.2.4) for consideration.		No response required

<i>Do you think the condition(s) raised are appropriately written to achieve the SG80 outcome within the specified timeframe?</i>	Yes	Conformity Assessment Body Response
<u>Justification:</u> The wording of conditions 1 and 2 is appropriate and addresses the shortcomings in PI 1.2.1 and 1.2.2. Condition #1 ensures that a harvest strategy for WCPO yellowfin is implemented and that the harvest strategy is responsive to the stock status, and that the elements of the strategy will be working together to achieve management objectives. Condition #2 is placed for supporting the development of an appropriate HCR for WCPO yellowfin.		No response required

<i>Do you think the client action plan is sufficient to close the conditions raised?</i>	Yes	Conformity Assessment Body Response
<u>Justification:</u> While the action plan specifies what needs to be done to close the conditions, it is unfortunate that the conditions involve required action from the WCPFC and its membership. To get agreement on these actions is a problem particularly for tuna stocks.		No response required

Performance Indicator Review, Peer Reviewer 1

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
1.1.1	Yes	Yes	NA	The certifier gave a score of 90 for this PI, principally because it did not meet the second issue at the SG-100 grade of a high degree of certainty that the stock has fluctuated around or above the target reference point in recent years. The stock assessment indicates that the stock is currently at the target, but the trend in biomass is a steadily declining one.	No response required
1.1.2	Yes	Yes	NA	A score of 90 was given as the limit and default target reference points both met SG 80, but only the limit reference point met SG 100 as analyses of uncertainties and robustness to the risk of breaching the limit reference point had been evaluated.	No response required
1.1.3			NA	The stock is not considered to be depleted.	No response required

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
1.2.1	Yes	Yes	Yes	A score of 70 was given as it has not been demonstrated that the harvest strategy is responsive to the state of the stock, but there is evidence of its effectiveness to date. The condition directly addresses the need to demonstrate the effectiveness of the harvest strategy.	No response required
1.2.2	Yes	Yes	Yes	A score of 65 was given as all of the issues of SG 60 were met and the third issue for SG 80 was also met. Work is required to put a well defined harvest control rule in place that accounts for main uncertainties. The condition directly addresses those issues.	No response required

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
1.2.3	Yes	Yes	NA	A score of 90 was given as the first issue at SG 100 was met, but not the second. The level of information required to support the harvest control rule is seen as sufficient, but not with a high level of certainty, particularly regarding the compilation of removals data from some countries (while acknowledging that recent additional work has been done to resolve the issue).	No response required

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
1.2.4	Yes	No	NA	<p>The score of 100 as given requires that the assessment has been internally and externally peer reviewed. Internal review has certainly been done. From the information given, an assessment of a similar structure has been externally reviewed, but the yellowfin stock assessment specifically and formally has not. My interpretation of the scoring guidelines differs from the certifiers, but I read it as applying to a specific species assessment as a whole, and not to similar methodology, and to data preparation procedures alone. It depends on whether presentation of an assessment to the WCPFC (with experienced scientific staff from several countries) constitutes external peer review, which is perhaps formally no, but informally yes.</p>	<p>The team accepts the peer reviewer's opinion that, although assessment and of data preparation there has been external review of a similar procedures, these do not constitute a full external review of the yellowfin assessment. A presentation to members of the WCPFC SC also does entail a level of external scrutiny of the assessment by other scientists, but we accept that this is not necessarily by persons with technical stock assessment expertise or at the level of scrutiny that a formal review would provide.</p> <p>We note that there has been no management strategy evaluation of the assessment but consider that MSC guidance GCB2.8 does not mandate such an evaluation.</p> <p>On balance, we accept that scoring issue should only receive a pass at the SG 80 level and that therefore PI 1.2.4 would be scored at 95 and not 100.</p>

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
				In addition, guidelines (GCB2.8) suggest that to be given a score of 100, management strategy evaluation of the robustness of the stock assessment to uncertainties and alternative hypotheses might also be considered. While the assessment has assessed sensitivity to uncertainties, alternative hypotheses (i.e. alternative assessment model structures) have not been explored.	
2.1.1	Yes	Yes	NA	A score of 80 was given mainly because the UoC catches of bigeye tuna are minor compared to FAD purse seine and longline fisheries, so would not hinder bigeye recovery.	No response required

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
2.1.2	Yes	Yes	NA	A score of 80 was given primarily because SG 100 issues of a tested strategy to manage retained species with high confidence of success is not in place for bigeye or other retained species.	No response required
2.1.3	Yes	Yes	NA	A score of 85 was given as available information on retained species meet SG 80, and because monitoring of retained species is conducted in sufficient detail to assess ongoing mortalities to all retained species under SG 100. The remaining three issues under SG 100 were not met.	No response required

Any Other Comments

Comments	Conformity Assessment Body Response
No comments	No response required

Performance Indicator Review, Peer Reviewer 2

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
1.1.1	Yes	No	NA	Given the stock has been above its target reference point and given the very narrow confidence interval of the spawning biomass estimate there is a high degree of certainty that the stock has been above the SB_{MSY} over recent year. Thus the SG 100 requirement is met and the overall score should be 100.	CB2.2.1.3 stipulates that a 'High degree of certainty means greater than or equal to the 95th percentile'. The latest stock assessment estimated 95% confidence intervals for $SB_{current}$ of 0.97 – 1.82 of $BMSY$ (Table 7, Davies et al. 2014), indicating that there is a slightly greater than 5% chance of the stock being below $BMSY$ over recent years (2008-2011). This does not, therefore, meet the MSC definition of a high degree of certainty.

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
1.1.2	Yes	Yes	NA	The certifier gave a score of 90 for this PI. Given the extensive exploration of uncertainty in the stock assessment the spawning biomass LRP is considered sufficiently precautionary and the SG 100b is met. This cannot be said for the default TRP where relevant precautionary issues such as the ecological role of the stock with high degree of certainty has not been taken into account. Thus the score of 90 is justified.	No response required
1.1.3			NA	The Yellowfin stock is not considered to be depleted.	No response required
1.2.1	Yes	Yes	Yes	While there is evidence that the harvest strategy in place for yellowfin is achieving its objectives it is not clear that the harvest strategy is responsive to the stock status. Thus the given score of 70 is justified. Condition #1 correctly addresses the requirement to put a robust and precautionary harvest strategy in place by the 4 th surveillance audit.	No response required

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
1.2.2	Yes	No	Yes	<p>There are no formally agreed harvest control rules in place yet. Currently fishing mortality is controlled through limiting effort and capacity. The PNA VDS is the tool to implement these controls. At most there is some evidence that the VDS is appropriate and effective in controlling exploitation but not to the level required by the SG 80c. A score of only 60 can be justified.</p> <p>Condition #2 correctly addresses the requirement to put well defined harvest control rules in place by the 4th surveillance audit.</p>	<p>This is a judgement call as to whether there is just 'some evidence' about the effectiveness of the tools in use, or whether the 'available evidence' supports their effectiveness. The evidence cited is the stock assessment yellowfin tuna (Davies et al. 2014) and the status quo projections (Pilling et al. 2014) which both provide evidence of effectiveness. We are not aware of other evidence that counters their findings so considered that scoring issue 80c was met. Either way a condition is still required for this PI and an overall pass for Principle 1 would still be achieved.</p>

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
1.2.3	Yes	Yes	NA	A comprehensive range of information on stock structure, stock productivity, fleet composition, stock abundance, and fishery removals (with some exceptions) is available for yellowfin. This meets SG 100a. All three SG 80 issues are met even though there are some deficiencies in some removal data. Thus the score of 90 is justifiable.	No response required

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
1.2.4	Yes	No	NA	Given that a formal external review of the yellowfin assessment has been conducted by CIE in 2009 the SG 100e is met and an overall score of 100 is justifiable.	We were not aware of these previous reviews but had initially assigned a score of 100 on the basis of reviews within the WCPFC system and the use of the external review of the assessment of bigeye tuna. Peer Reviewer #1 had viewed this as an insufficient level of review to meet the requirements of SG100d. We deferred to this opinion and rescored this PI at 95. The reviews identified by Peer Reviewer #2 were conducted after the 2009 assess

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
2.1.1	Yes	Yes	NA	According to the latest stock assessment bigeye tuna is not likely within biological based limits. The unassociated purse seine fishery has only a minor impact on bigeye tuna, and there are measures and strategies in place through the VDS to constrain effort and thus bigeye recovery would not be hindered. Thus, the score of 80 is justifiable.	No response required
2.1.2	Yes	Yes	NA	The score and justification is appropriate.	No response required
2.1.3	Yes	Yes	NA	The information available for tuna species in the WCPO is good. The score of 85 is justifiable.	No response required

Any Other Comments

Comments	Conformity Assessment Body Response
Other tuna fisheries in the WCPO (e.g., Walker Seafood Australia albacore, yellowfin tuna and swordfish) have been assessed following the MSC Notice, "Scoring of 'available' Harvest Control Rules (HCRs) in	Since the assessment was first drafted there have been numerous developments concerning the scoring of PI 1.2.2. As this was an expedited assessment of yellowfin tuna based on the original assessment of skipjack

CRv1.3 fisheries” issued on 24th November, PI 1.2.2 scoring issues (a) and (c) were scored using FCR v2.0 provisions for SG60 scoring. Is there a reason why this approach was not used in the expedited yellowfin assessment?

To demonstrate in 2.1.1 that yellowfin catch has only a minor impact (e.g., < 5%) on bigeye tuna a table indicating UoC catch by year (e.g., 2010-2014) of yellowfin, and bigeye, and showing percentage of bigeye catch, would strengthen the conclusion.

tuna undertaken several years ago using the FAM (not CR 1.3). As with any expedited assessments we are required to use the assessment tree of the original full assessment. We have followed the approach used in that assessment and endeavored to be consistent with that assessment. This approach was adopted on the understanding that both the PNA skipjack and yellowfin fisheries will require re-assessment to be initiated within 12 months and that developments in the interpretation of PI 1.2.2 would be addressed at that stage.

The proposed table of catches would provide the detail of the level of catch by the UoC but the low level impact is clearly indicated in Figure 4 in the report.

Appendix 6: Comments to PCDR and CAB responses.

MainID	SubID	PageReference	Grade	RequirementVersion	OversightDescription	Pi	CABComment
16863	18421	7	Guidance	CR-CI3.2.2 v1.3	Harmonisation is mentioned in relation to overlapping fisheries. However, details regarding harmonisation and the PI scores for the other fisheries is not provided. A table presenting the PNA yellowfin and overlapping yellowfin fisheries would be useful. Additionally, the in assessment Solomon Islands fishery is mentioned as an overlapping fishery but the Trimarine fishery is not. Given the Trimarine assessment contains WCPO yellowfin as a UOC, harmonisation would be required with this fishery in the same way the Solomon Islands fishery was.		Additional text and the suggested table have been added to the report.
16863	18423	14	Guidance	CR-27.10.6.1 v1.3	Page 14 states that “Although target and limit reference points are still being considered by WCPFC.” This information contradicts that presented elsewhere in the report including the rationale for PI 1.1.2. Consider revising or providing further clarification.	1.1.2	Text has been revised to indicate that there is a default target reference point of BMSY.
16863	18424	Throughout	Guidance	CR-27.10.6.1 v1.3	The report references CMM 2013-01 throughout. However, this was superseded by CMM 2014-01, as outlined on page 17. It is unclear why CMM 2013-01 is more heavily referenced throughout the report and rationales e.g. PI 2.1.1. Consider revising.		References now changed to CMM 2014-01 where appropriate.

16863	18425	12	Guidance	CR-27.10.6.1 v1.3	Table 3 presents information relevant to the recent catches of yellowfin in the WCPFC and PNA. However, the most recent catch year of 2014 is not provided. This should be included in the table to provide a better understanding of catch trends in recent times.		The table has been updated with most recent catch data from 2014.
16863	18426	27	Minor	CR-27.10.6.1 v1.3	PI 1.1.1: The rationale for PI 1.1.1 states that “There is no explicit target reference point for yellowfin tuna, but, as for skipjack tuna, there is considered to be an implicit target of BMSY.” Within the body of the report, page 16 states that “A default target reference point was also confirmed in CMM 2013-01...” The language here is not consistent and implies there are two ‘levels’ to the same TRP. Consistency and further explanation is required to make it clear to the reader the assessment team’s conclusion for the TRP.	1.1.1	Text has been revised to ensure consistency.

16863	18427	32	Major	CR-27.10.6.1 v1.3	<p>PI 1.2.2. The rationale for justifying the VDS as a 'generally understood' HCR states that the scheme controls effort and that "it is expected that this arrangement would be used to reduce the exploitation rate should the limit reference point be approached." This language implies that the VDS has not been applied somehow in the past to reduce exploitation. Additionally, it is not clear how the VDS is explicitly linked to the limit reference point provided in the report. As per the recently released HCR interpretation (17 December 2015), evidence of previous management actions and 'generally understood' HCRs being linked to reference points should be provided to justify a score of SG60. Additional evidence and information to demonstrate the mechanisms of the VDS and its application in relation to the catch of yellowfin is therefore required to justify the score of SG60. If additional evidence cannot be provided, evidence of 'available' HCRs may be required, as per the 24 November 2014 Notification to CABs -Scoring of 'available' HCRs.</p>	1.2.2	Text amended to be more consistent with recent HCR interpretation. Score reduced to 60.
16863	18428	33	Guidance	CR-27.10.6.1 v1.3	<p>PI 1.2.2: Rationale states that "The high proportion of the total catch of yellowfin tuna that is taken by vessels under the control of the PNA and its Vessel Day Scheme..." As stated, it is not clear as to what the high proportion relates. Suggest including that the high proportion of</p>	1.2.2	Text amended to make meaning clearer.

					catch within PNA is in relation to the entire catch of the WCPO or similar.		
16863	18429	33	Major	CR-27.10.6.1 v1.3	PI 1.2.2. Further evidence is required to demonstrate that available evidence indicates that the tools in use are appropriate and effective (as per the HCR interpretation released on 17 December 2015). At present, the only evidence provided in the rationale is that $F < F_{msy}$ and that the stock has not declined below the default target of BMSY. Tools appropriate to the implementation of the VDS are required to justify the score given at the SG80 level.	1.2.2	Text amended to be more consistent with recent HCR interpretation. Score reduced to 60.
16863	18435	42-45	Major	CR-27.11.8.2 b v1.3	Condition 1 and 2: The condition milestones within the Client Action Plans are currently ambiguous in terms of how each year corresponds to the certificate currently in place for skipjack. It would be useful to include the estimated year for each milestone (e.g. Year 1 - 2016, Year 2 - 2017 etc). Alternatively, within the Client Action Plans, include information relevant to the certificate expiry/reassessment of skipjack and how this relates to the stated milestones for the expedited yellowfin fishery.		All milestones within the client action plan and the conditions themselves no have an estimated year allocated.

16863	18436	19, 22	Guidance	CR-27.12.2 v1.3	The report suggests CoC is needed within the fishery to cover yellowfin, as is the case with the already certified PNA skipjack. On pages 19 and 22, the report states the PNA Group CoC certificate can be extended to include yellowfin. The scope "must" be extended to ensure the certificate and related CoC audits cover yellowfin.	The wording has been change to clearly indicate that the scope must be extended
16863	18437	20, 23	Minor	CR-27.12.2.1 v1.3	<p>On page 23, the report should clarify the statement that there is "no certification until the point of change of ownership." This is inconsistent with most of the traceability information in the report which suggests CoC certification will cover MSC eligible product onboard, prior to change of ownership. The description should be amended to clarify. The report should also include reference to Pacific and the restrictions of product to be sold with the MSC ecolabel.</p> <p>Further, the report lists 'current and prospective tuna processing plants in PNA island countries' on page 20. Most of these plants do not have CoC and it is unclear why they are listed in the report. Is the intention that eligibility of product is restricted to tuna that is processed by one of these named plants? The report should clarify the role of these processing plants. The report should also clarify that these plants may only handle product to be sold as MSC once they have achieved</p>	This has been clarified in the report.

					CoC certification.		
16863	18438	23	Minor	CR-27.6.2.3 v1.3	The report must include an assessment of how traceability systems in the fishery will ensure the harvest date of yellowfin is recorded and traced, so that this certified catch can be identified and segregated from yellowfin caught before yellowfin was added to the certificate as a certified species. In other words, this assessment should explain how the fishery will be able to demonstrate date of harvest of yellowfin to prove it was caught after the species became a certified part of the fishery.		The only plant without CoC (RD Medang) has now been deleted from the list.
16863	18439	20	Minor	CR-27.12.1.3 v1.3	Page 20 states there is no at sea processing or "sorting" of fish in the fishery. This is inconsistent with the onboard CoC system that requires segregation of MSC from non-MSC eligible catch. Bigeye, other non-certified species caught, and any FAD associated catch must be sorted onboard, and this separation is detailed on p19 under the 'description of tracking, tracing and segregation systems within the fisheries'.		MSC eligible and non-eligible sets are different set types and are kept separated. However this is not considered "sorting", e.g.,

					<p>Please clarify the statement that there is no at sea sorting.</p>	<p>taking non eligible species out of the catch. The eligible catch contains non MSC eligible species right up to sorting which actually happens onshore and not on board of the vessel. Since this section only relates to "at sea procession, the word "sorting" was deleted to avoid confusion.</p>
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16863	18440	22	Minor	CR-27.12.1.5 v1.3	<p>The report includes a non-exhaustive list of international points of landing. The report should clarify whether catch landed at these ports is MSC-eligible, and if so, what systems are in place to ensure only MSC eligible catch enters further certified supply chains from these points of landing.</p> <p>For example, the report mentions 20-25% of material landed at ports outside the operational area, i.e. in Japan. It is not clear whether this 20-25% includes FAD tuna, or whether it is eligible to be sold as MSC. The report should clarify this point.</p>	<p>The list of international points of landing has been revised to only include active ports that are eligible to receive MSC eligible catch.</p>
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Appendix 6B: Stakeholder Comments to PCDR and Team Responses

ORGANIZACIÓN DE PRODUCTORES ASOCIADOS DE GRANDES ATUNEROS CONGELADORES



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OPAGAC COMMENTS ON THE PNA WESTERN AND CENTRAL PACIFIC TUNA FISHERY,

EXPEDITED PRINCIPLE 1 ASSESSMENT FOR YELLOWFIN TUNA (*Thunnus albacares*)

OPAGAC as stakeholder that has shown interest in this certification in the past, would like to present a series of comments that, although some might go beyond P1, we consider are relevant for the whole certification of the PNA tuna fishery.

OPAGAC has serious concerns regarding the eligibility of the PNA yellowfin tuna (YFT) unassociated fishery for MSC-Certification as recommended by the Assessment Team on an expedited P1 assessment of this fishery. **It is OPAGAC's view that the PNA fishery for yellowfin tuna is not in a position to be MSC Certified**, for the following reasons:

Response: The UoC being assessed is based on unassociated purse seine sets only. No fishing on floating objects are being assessed and this fishing method was excluded as a UoC from the currently certified fishery for skipjack tuna.

Concerns on the selection of the Unit of Certification

OPAGAC notes that all evaluations of industrial tuna purse seine fisheries for MSC-Certification conducted to date have identified two Units of Certification (UoC) for each stock, namely unassociated tuna schools and tuna schools associated with floating objects. OPAGAC strongly disagrees with this approach, for the following reasons:

1.1. Activities of the purse seiners covered by this assessment

Industrial tuna purse seiners in the Pacific Ocean, including those operating in PNA waters that will be covered by the MSC certification, use the same fishing gear (fishing net) to catch tunas, which they detect using various types of equipment, on board the fishing boat (e.g. radar, sonar, binoculars, etc.), or elsewhere (e.g. helicopters, buoys attached to FAD). The sole purpose of this equipment is maximizing catches of tunas, irrespective of the type of technology used for the detection. According to the assessment team around 30% of the YFT WCPFC catch is taken by

the UoC, while as much as 60% of the total catch of YFT is taken in PNA waters. However, while the overall number of unassociated sets has increased in recent years, according to reports from PNA-flagged and other fleets, it seems that this has had no consequence on catches, which remain at similar levels (**Figure 1**). Furthermore, the number of sets on FAD seem to be increasing against the number of sets on natural floating objects, with catches of tropical tunas on FAD also increasing and representing around half the total catches in the WCPFC region. This refers to activities inside as much as outside PNA waters and is supported by the increase in vessel numbers and activities for purse seiners flagged in PNA countries, which represents the only fleet for which fishing effort and catch have increased markedly since 2010 (**Figure 2**).

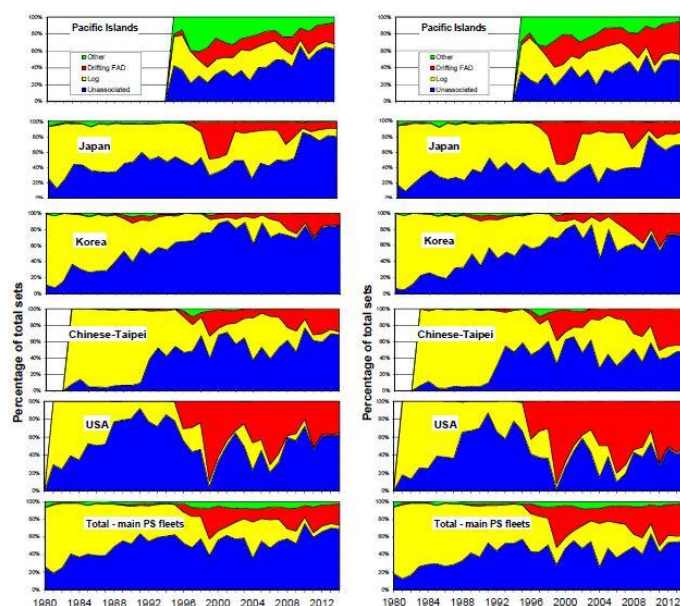


Figure 9. Time series showing the percentage of total sets (left) and total catch (right), by school type for the major purse-seine fleets operating in the WCP-CA.

Source: WCPFC-SC11-2014/GN WP-1 (Rev 1 (28 July 2015))Overview of Tuna Fisheries in the Western and Central Pacific Ocean, Including Economic Conditions – 2014

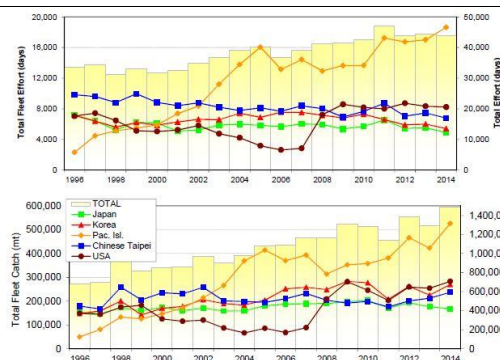


Figure 8. Trends in annual effort (top) and catch (bottom) estimates for the top five purse seine fleets operating in the tropical WCP-CA, 1996–2014.

Figure 1 (left): Number of sets (left) and catches (right) reported as unassociated and associated in the WCPFC region. The top two charts show charts for purse seiners flagged to PNA countries showing the increase in activities on FAD (red).

Figure 2 (above): Total effort (top) and catch (bottom) for the main tuna purse seine fleets in the WCPFC region showing the increase of effort and catch by purse seiners flagged to PNA countries in recent years.

It is important to note that over 90% of the purse seine effort is exerted in the EEZ of PNA countries and therefore levels of effort in international waters or other EEZ can be considered negligible, especially in recent years, following the implementation of the FAD closures (**Figure 3**).

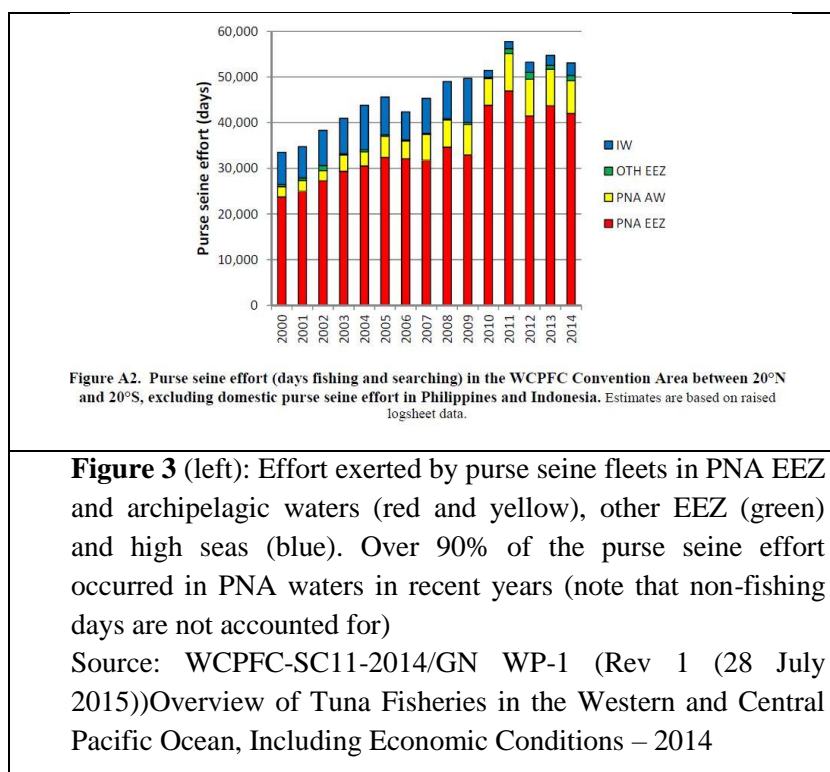


Table 1 below shows all existing MSC-Certified tuna fisheries, the gear(s) used, and whether that/those gear(s) are used in exclusivity or in combination with other, not MSC-certified, gears.

Unit(s) of Certification	Gear(s)	Gear used in Exclusivity
Canadian Highly Migratory Species Foundation (CHMSF) British Columbia albacore tuna North Pacific	Troll	Yes
AAFA and WFOA North and South Pacific albacore tuna	Troll & Pole-and-Line	Yes
PNA Western and Central Pacific skipjack	Purse seine non-associated	No. Shared with other not certified fishing modes such as associated schools which catch as much SKJ as the UoC
SZLC, HNSFC & CFA Cook Islands EEZ south Pacific albacore longline	Pelagic longline	Yes
Fiji albacore tuna longline	Pelagic longline	Yes
New Zealand albacore tuna troll	Troll	Yes
Walker Seafood Australia albacore, yellowfin tuna and swordfish	Pelagic mid-set longline	Yes
Maldives pole & line skipjack &	Pole-and-	No. Shared with handline for

yellowfin tuna	Line	YFT/BET whose use is on the increase (30000 MT of YFT in 2014)
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Therefore, six over the eight existing MSC-certifications refer to fisheries where the vessels involved use exclusively the fishing method covered by the certification. On the contrary, PNA purse seiners and Maldivian baitboats catch during the same fishing trip tuna schools that would, according to the assessment team, be eligible for certification along with other tuna schools that, at present, are not be eligible for certification as per the MSC Standards. The same case would apply to the PNA's YFT unassociated school fishery currently under consideration, as all purse seiners involved in that fishery catch also YFT in tuna schools associated with objects, which seem to not be eligible for certification at present. Indeed, the increase of sets and catches on FADs over sets on natural floating objects proves that there is a clear intention to catch tuna schools associated to FAD, as FAD are purposely deployed and tracked by all the vessels operating in the fishery rather than encountered by chance, as it is the case with natural floating objects.

OPAGAC believes that certification of a fishery shall cover all or, at least, the large majority of the activities of the fishing vessel(s) involved. This is not the case of PNA purse seine fisheries, all of which catch tropical tunas associated with objects as much as free-swimming schools of yellowfin tuna. The certification of only a component of those fisheries on the grounds that such component of the fishery is sustainable, against other component(s) which MSC considers not sustainable, is wrong, for the following reasons:

Response: The ability to certify one type of fishing method has already been established as being within scope of an MSC assessment and has been applied to PNA skipjack tuna.

The activities of purse seiners when not fishing on unassociated sets is not relevant to the current assessment, which covers those vessels only when fishing for yellowfin tuna in accordance with the current certificate.

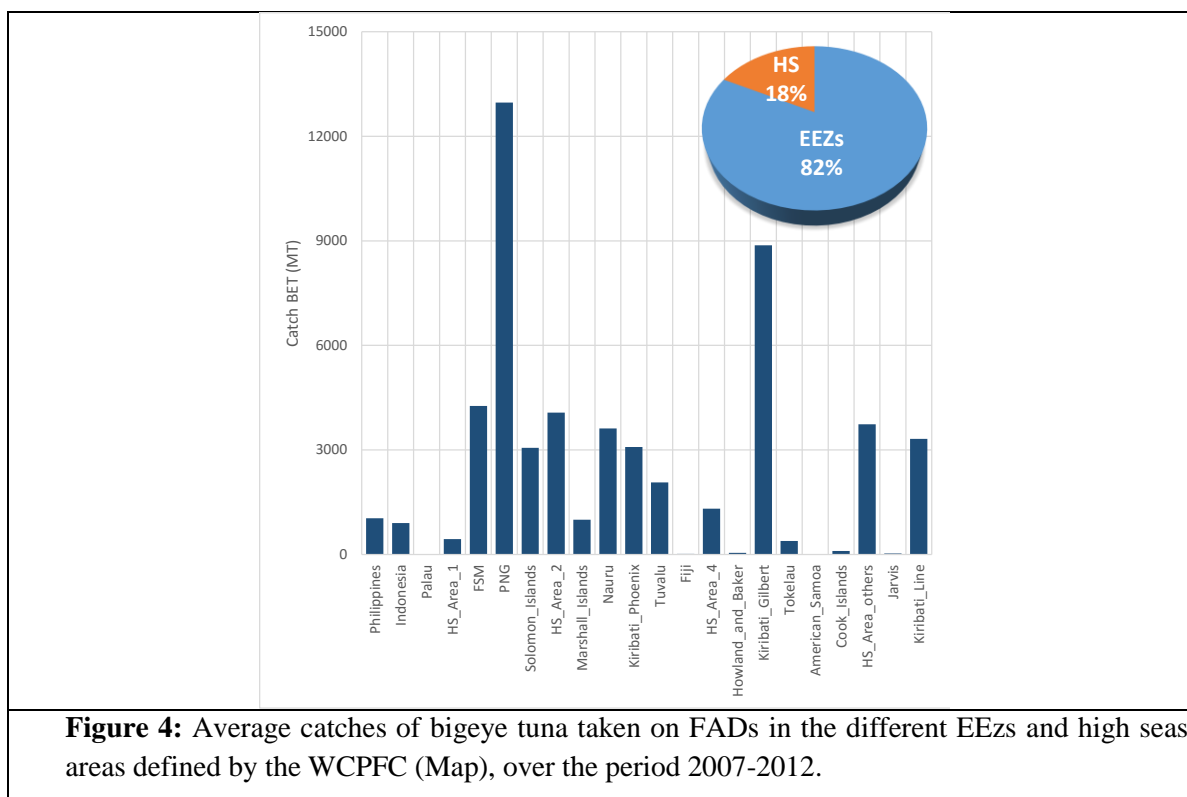
Therefore we have not responded to the comments above about trends in the FAD fishery as these are not relevant to the current assessment.

- 1.1.1 OPAGAC believes that the term sustainability shall be applied to a fish stock and fishing fleet as a whole, including all fishing activities of that fleet on such stock. If the activities of a fleet involve what MSC would consider more than one UoC the fishery concerned should be assessed for all UoC relating to the same stock, not just part of them. The contrary would be equivalent to authorising a fishing vessel to operate within the PNA area because there is no record of IUU activities of such vessel inside the area, and ignore the fact that the vessel has a history of IUU fishing outside PNA or, for that matter, in other oceans. The skipper of the vessel can therefore choose depending on demand whether it is worth seeking certified fish (i.e. sustainable) or not (not sustainable) and therefore there is no incentive whatsoever to use what MSC considers to be sustainable fishing practices. This also applies to fishing companies owing more than one purse seiner which could set targets for sustainable and not sustainable fish depending on pre-arranged sales to markets and therefore defeat the purpose of certification.

Response: See previous comment.

1.1.2 ***The current assessment ignores the effect of the fishing practices of the fleet on bigeye tuna*** and other species on the grounds that the UoC that is assessed concerns only unassociated schools and the catches of bigeye tuna on free-schools are low. However, about 40% of the activities of the fleet that is being assessed are devoted to catching tropical tunas on associated schools, mostly using FAD, which indeed have an impact on bigeye tuna and other species. Purse seine catches of BET represent around 30% of the total catches of the species in the WCPFC Area, while 80% of those catches (i.e. 25% of the total bigeye catch) are taken by purse seine vessels within the PNA area (**Figure 4**). As stated before, OPAGAC believes that certification of a fishery has to consider all activities of the fleet that is being certified and this is not the case in the present assessment. It is evident that the PNA purse seine fleet has a marked effect on the stock of BET (25% of the total catch) and that effect cannot be ignored, as it has been decided by the assessment team. And even more important, the bigeye tuna status in the WCPO since the MSC certification was given to PNA skipjack has not been improved since. The reason to that lack of effect on the Conservation and Management Measures (CMM) is directly related to PNA request giving many exceptions to PNA flag fleets and not increasing FAD closures due to PNA claims of disproportionate burden on SIDs due to the negative effect of FAD fishing reductions on certain SIDs economies. **Therefore the MSC certification to PNA has not contributed at all to improve bigeye tuna stock status in the WCPO.**

Response: The impact of the UoC on bigeye has been fully considered as a main retained species under PI 2.1 as required by the CR. Impacts from activities outside the UoC cannot be considered in the assessment.
We agree with the statement that catches by the UoC are low.



Inlay: Amount of bigeye tuna taken on FADs that comes from EEZs from states or territories in the WCPFC Area versus the amount of bigeye tuna caught on the high seas, for the period 2007-2012.
 Source used to build the figures: Information Paper: Data summaries in support of discussions on the CMM on tropical tunas, According to data last updated – 20th July 2013; Tables last updated on 21st August 2013. Presented at the WCPFC CMM 2012-01 Working Group, Tokyo, 27-30 August 2013. [WCPFC-2013-WGTT/08](#)

1.2. Identification of unassociated tuna schools

OPAGAC has serious concerns about the definition of unassociated school that has been adopted by MSC for the separation of unassociated and associated sets, in particular the ability of observers to properly identify unassociated sets using such definition. According to the report of the assessment team (footnote 1, page 5):

An unassociated set is defined as fishing on a free-school, which may include a free-school feeding on baitfish. There are no associations with objects (natural or manmade), with set distances from such objects of 1 nautical mile or greater.

OPAGAC believes that this definition is extremely vague and cannot be implemented in the field. Indeed, OPAGAC believes that it is not possible for an observer to properly identify unassociated sets, for the following reasons:

1.2.1. Definitions of associated sets

There have been a number of studies that have tried to characterize FAD fishing, with very different results. When looking into the attractiveness of a FAD they have defined distances of up to 5 nautical miles³. This means that fishing on associated schools is still possible beyond 1 nautical mile but those will be mistakenly recorded as unassociated under the present scheme. Indeed, it is also possible that a set on a free-swimming school occur in the proximity of an object, which floats at less than 1 NM from such school. If the 1 NM definition is used the observer will record that set as associated while in fact it is unassociated. Considering that the species composition of unassociated and associated schools is very similar in some areas and time periods, in particular in coastal waters (which will be equivalent to a large part of the EEZ of PNA countries) in these cases the observer will be unable to characterize those sets as unassociated.

Response: We have used the same definition of an unassociated set that it used by WCPFC.

1.2.2. *Ability of an observer to identify a set as unassociated:* Whichever the distance from the object to the fishing boat could be, OPAGAC has serious doubts that the observers are able to estimate that distance accurately. There should be many events in which objects are at a distance of just over or under 1 NM and OPAGAC wonders how observers decide whether those sets are associated or not. It is also important to note that recent studies tend to indicate that the species composition of a set cannot be conclusively used to characterize that set as associated or unassociated⁴.

1.2.3. *Serious problems of compliance:* Most FAD sets occur at dawn. This facilitates prior removal or relocation, to distances greater than 1 NM, of FAD by purse seiner crew using speedboats, something that will be extremely hard for the observer to detect.

³Reference missing

⁴<https://www.wcpfc.int/node/18881>

Therefore, we believe that it is extremely difficult for an observer to determine if a set is unassociated on the basis of the distance of the purse seiner to a FAD, or its species composition. Indeed, even in the case that identification of associated and unassociated sets were possible, it would be very difficult for the observer to monitor compliance with this measure. An example would be a skipper that sets the course of the vessel to sail at night towards a FAD because it has received information that there may be a tuna school associated, arriving to the FAD before dawn and realizing that there is indeed tuna worth fishing, then sending a crewmember to remove the FAD, and setting the net on what, to the eyes of the observer, appears to be a free-school. We believe that it is simply impossible for the observer to monitor this chain of events because it implies that he shall be able to read the skipper's mind, something that will never be an objective approach.

OPAGAC is deeply concerned that MSC has set the wrong UoC for assessments of the PNA fishery as unassociated (FAD-free) which, by extension, applies to all industrial purse seine fisheries. It is our view that purse seine fisheries have to be certified according to the stocks targeted. For the reasons expressed above, any attempt to separate those fisheries by type of set will fail and therefore defeat the purpose of a UoC defined to account only for part of the fishing activities of a purse seiner, which will be highly uncertain to differentiate from other, non-certified, activities.

Response: Identification of set type by the observers is currently accepted as the best method by WCPFC and is also considered to be sufficient for the current assessment.

The UoC is selected by the client, not by MSC, but, as noted above the certification of product from a specific set type has been previously accepted.

Concerns about the chain of custody

OPAGAC has concerns about the ability of observers to identify yellowfin tuna on board the vessels, track movements of fish onboard fishing vessels, and cross verification of unassociated catches in destination ports, for the following reasons:

2.1 Overspread misreporting of catches of yellowfin and bigeye tuna by observers: MSC-Certification systems rely fully on accurate reporting of catches of the stocks involved. However, WCPFC has reported overspread misreporting of yellowfin and bigeye tuna catches by observers (in 54% of the fishing trips assessed), mainly juveniles, which are difficult to identify⁵. The TCC of the WCPFC has recommended Port Inspection to cross-verify catch reports. OPAGAC believes that MSC-Certification of a fishery that cannot properly identify species is wrong. Especially when from the two species subject to misidentification (yellowfin and bigeye), one is overexploited from many years now in the WCPO like bigeye. **There is therefore a high risk to misidentify yellowfin tunas with bigeye tunas, and finally certify by MSC a species that is overexploited by the fleet under certification.**

2.2 Identification of fishing wells used to store the fish: In purse seine sets tuna are brailed from the water to the upper deck and then channelled through an opening in the upper deck through conveyor belts to be stored in one or more fish wells/tanks in the lower deck. To OPAGAC's knowledge, each purse seiner has just one observer on board and that observer is generally monitoring activities in the upper deck throughout the set, to verify handling of bycatch and whether there are any discards of associated fauna. Therefore, the observer is unable to monitor storage of the fish, and has to request

⁵ In Summary Report of the Eleventh Regular Session of the Technical and Compliance Committee of the WCPFC.

the vessel skipper or chief engineer at the end of each set the fish wells that were used to store the fish coming from an associated or unassociated sets, which largely contributes to have serious uncertainties about the UoC to be certified. OPAGAC believes that this is not enough as continuous monitoring of activities in the lower deck is also necessary, over the entire fishing set. This would involve using a minimum of two observers per boat, or full-time monitoring of the lower deck through other means, such as an electronic observer system.

2.3 Movements of fish from fish wells to dry holds following freezing on brine: Most Asian purse seiners, as those operating in PNA waters, use fish wells to freeze tunas following a set and then move that fish from the wells to dry holds, where fish is finally stored. In many cases fish are also sorted by species and size. Therefore, at the end of the trip fish wells contain only the fish coming from the last sets of that trip while all other fish has been moved to dry holds. It is OPAGAC's opinion that a single observer cannot monitor all those activities on board, as movement of fish may happen at any time but is likely to be more frequent during the night. Once again, OPAGAC believes that a minimum of two observers, or one observer plus an electronic observer system is required to properly certify a sound chain of custody on board purse seiners, in particular those of Asian design.

2.4 Cross-verification of the amounts of tunas unassociated unloaded by the fishing vessel and handled at the destination market(s): OPAGAC wonders if PNA has established a system to cross-verify that the catches recorded as unassociated and unloaded from each fishing vessel are cross-verified against the amounts that will be potentially labelled as MSC-Certified in the destination markets. OPAGAC believes that this is a difficult undertaking as a single cargo from a fishing vessel may be exported to many different markets and those exports may contain both certifiable and non-certifiable products. OPAGAC has been unable to find examples of cargos of skipjack tuna from individual vessels in PNA waters that were cross-verified against the amounts unloaded in the combined destinations. An example would be a purse seiner that comes with 1000 tons of tuna of which 600 are unassociated and 400 are not. This purse seiner will send two cargos of 500 tons of fish to two markets and in both markets that fish will be sold as unassociated. Each destination market verifies that the boat caught 600 tons of unassociated fish and will label the 500 tons of fish as unassociated, adding the MSC label. OPAGAC wonders if the assessment team has considered this possibility in his audit of the chain of custody and proved that PNA vessels are not involved in this practice, through presentation of hard evidence that the amounts sold in the destination markets and MSC-labelled match the amount exported by each vessel as unassociated.

For the above reasons OPAGAC has serious doubts about the chain of custody being thoroughly implemented and reiterates that certification of purse seine fisheries shall be done by stock rather than by type of set and stock.

Response: The PNA scheme to cover chain of custody has many checks and balances and sets can still be disqualified at the factory if there are any indications of being caught from a fish aggregating device (FAD). For example, presence of any indicator species like trigger fish at the factory will result in the whole catch being categorized as non-MSC eligible.

In addition, catch transfers without monitoring or insufficient separation in the dry hold result in disqualification. There have been numerous examples of disqualification. The independent observer records of what enters into each well set by set, and would be aware if a well had non-eligible MSC catch after a set and before landing.

Typically a single cargo goes to only one carrier. However, any loading and discharge is monitored from wells to carrier to sorting at Factory.

Factories undergo separate chain of custody audits which include tracebacks and mass balances (last performed in Nov 2015). The results confirmed that robust traceability systems are in place, with no evidence of substitution or mixing being found by the chain of custody auditor.

Additional comments from the Chain of Custody team are as follows:

It is clear that the concerns raised by the stakeholder are real and also reflect concerns held by the assessment team at the time of initial certification of the fishery. That original assessment team therefore determined that the fishery certificate would be required from harvest to point of first landing. Fish are only considered eligible whilst under the fishery CoC. That being the case, these comments related to concerns about chain of custody, as they do not pertain to either the UoA or the UoC, fall outside of the stakeholder comments that the assessment team is required to comment on or, in this case, is knowledgeable to comment on. Further, the MSC does not require that CoC reports nor a description of the procedures and record keeping in place for CoC clients be in the public domain. This is understandable in the generally business-to-business transactional climate of typical CoC but it may be necessary for the MSC to provide guidance on what is suggested to be made public in regarding CoC certification at the fishery level.

We feel giving the basics of the controls that PNA has put in place for the CoC system is prudent and acceptable in this case.

In order for landings to be considered MSC eligible, all of the following has to be place:

- Fishing or carrier owner must have signed an MOU with PNA meant to ensure segregation and identification of harvested fish and to sanctions set out for breach.
- Relevant crew and assigned observer must have undergone MSC specific training and passed exams before being qualified
- All vessels must have an MSC trip number issued by the PNA
- If any MSC eligible and non-eligible catch are mixed on harvest vessels and carriers, the whole well / hold / batch is considered non-eligible for certification.
- Observer monitors and records eligibility of catch from harvest to landing, including transshipment.
- All transfers including between holds are monitored in order to remain MSC eligible.
- On carriers, eligible fish are separated with a specific configuration of netting or other physical barrier and marked as MSC eligible to visually differentiate from non-eligible.
- Landing/discharge is fully monitored and there is a temporal separation between discharge of MSC eligible and non-eligible, and signage is in place
- Compliance documented on vessel reports as supporting data.
- Mass balance carried out from brail to well, well to carrier, carrier to landing. The reports document exact weights per species
- Reported compliance by observer, carrier and discharge personnel

Concerns on the efficiency of the Vessel Day Scheme (VDS) to work as a HCR in the PNA region

The assessment team indicates that PNA's VDS is working efficiently as an implicit Harvest Control Rule in the PNA region, for which they base on the status of the stock of yellowfin tuna, which has not been subject to overfishing or overfished in recent years. The same approach would apply to skipjack tuna. OPAGAC disagrees with those statements, for the following reasons:

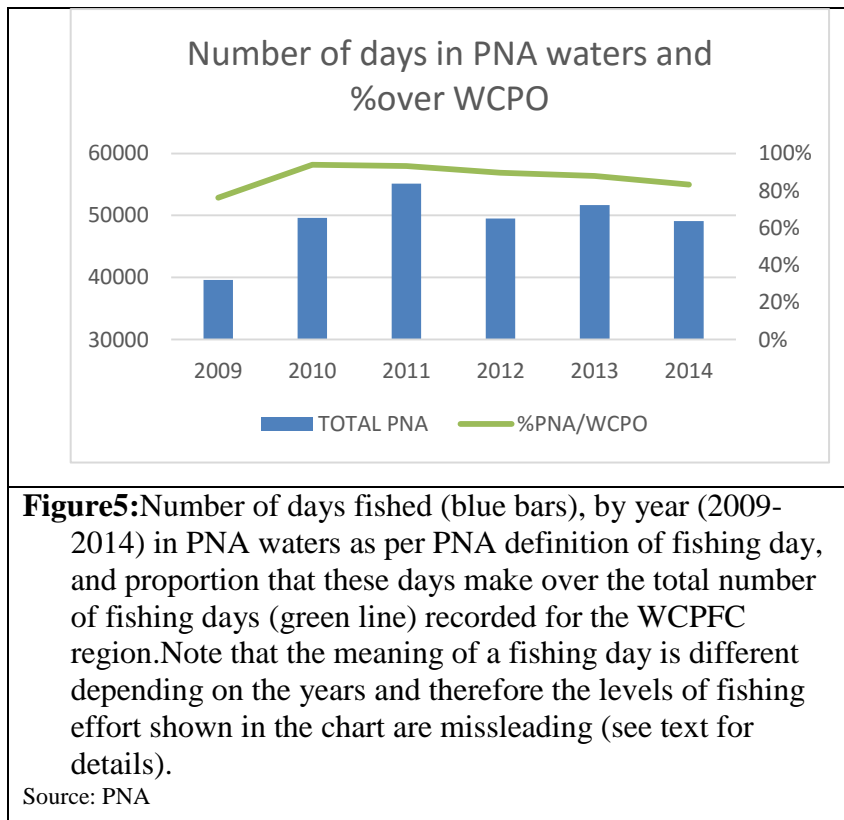
3.1 Failure of the existing management measures to curb overfishing of bigeye tuna: Both PNA and WCPFC have implemented management measures for the three stocks of tropical tunas, including bigeye tuna, and those measures have not achieved curbing overfishing of the stock of bigeye tuna over several years, because they do not apply to all fleets or fishing areas. The PNA area is responsible for 80% of the catches of bigeye tuna taken by purse seiners, and around 25% of the total catches of the species in the WCPFC region. OPAGAC does not see how the VDS or other measures in place will achieve preventing overfishing of yellowfin tuna when similar measures have proved completely ineffective to curb overfishing of BET. One example is the unrestrained growth of the purse seine fleet in the WCPFC Area⁶, which occurred in spite of all existing measures. OPAGAC's view is that the current measures are insufficient. Indeed, further increases in fishing capacity will surely put tropical tuna stocks at risk and defeat the purpose of any measure that PNA or the WCPFC may wish to implement, unless the issue of fishing capacity is taking up seriously.

Failure of the VDS to limit fishing effort in PNA countries: In spite of the decision of the assessment team to disregard the gradual increase in the amount of non-fishing days reported in the PNA region, OPAGAC believes that this is a clear sign that effort levels in the PNA area are increasing and fishing days are simply misreported as non-fishing days. This is also in line with the large increase in numbers of vessels recorded under flags of PNA countries and tends to prove that PNA observers are not monitoring properly the activities of fishing vessels. It also tends to indicate that the VDS cannot work efficiently as a harvest control rule as its driver is economic rather than biological. In recent years PNA adopted definitions for non-fishing days, to be used under its ongoing VDS. This plus the exclusion of nights from the scheme, which account as non-fishing days, has allowed for an effective increase in fishing effort. The main reason for effort levels to appear as stable in recent years is the different meaning that fishing days have had over the years, in particular after these new definitions were adopted. This is shown in **Figure 5** which contains the number of days fished in PNA waters, by year, between 2009 and 2014. As the figure shows, levels of effort in the PNA region increased dramatically between 2009 (39,625 fishing days) and 2011 (55,126 days), by around 30%, in parallel with the increase in fleet numbers and activities. The drop in the fishing effort after 2011 is simply an artefact, consequence of the new definition adopted by PNA which, by excluding nights, remove around 30% of what previously was considered as part of the fishing effort; and the likely miss-reporting of fishing days as non-fishing days by observers⁷. Indeed, levels of effort similar or higher than those recorded in 2011 are only natural for 2012 and following years considering the constant increase in the number of purse seiners and the drop in activities on the high seas following WCPFC high seas closures. It is important to note that the VDS has also favoured an increase of effective fishing effort in the PNA region due to effort creep. This has been driven by ever increasing VDS

⁶Over the last seven years, the number of vessels has gradually increased, attaining a record level of 303 vessels⁴ in 2013, with 302 vessels listed for 2014. (Excerpt from WCPFC-SC11-2014/GN WP-1)

⁷In WCPFC-SC9-2013/MI-WP-01 REV2. Analysis of the implementation and effectiveness of key management measures for tropical tunas.

prices, which have obliged fishing companies to streamline their fishing strategies (so-called cherry-picking) in order to compensate for those prices and optimize economic returns. Higher VDS prices can only promote sets on FAD where catches are higher, sailing to FAD can be classified as days in transit (rather than fishing days that will apply to searching for tuna schools), and more economic returns are expected. Therefore, rather than working as a HCR, the VDS is actually having the opposite effect.



Response: The issues with the VDS have been fully considered by the assessment team, including the potential for mis-reporting of non-fishing days. The number of non-fishing days reported has increased from an average (2009-2011) of 12% of total days to 17% of total days in 2014. Nevertheless, even if it is assumed that the number of actual non-fishing days should have remained at 12% of the total number of vessel days, and that the additional days were mis-reported fishing days, the total number of actual fishing days would have remained less than the number of fishing days allocated under the VDS (SCS 2014).

SCS 2014: The PNA Western and Central Pacific Unassociated Purse Seine Skipjack Tuna (*Katsuwonus pelamis*) Fishery. Third surveillance audit report pp 36.

Concerns on the capacity of WCPFC to address compliance issues in the PNA region

OPAGAC believes that for a management regime to work any cases of non-compliance shall be properly penalized. In this regard OPAGAC would like to note that WCPFC has systematically disregarded cases of non-compliance, with no action taken against the parties involved. This is

illustrated by the fact that WCPFC is still to finalize a formal mechanism to identify and address cases of non-compliance⁸. OPAGAC believes that it is premature for MSC to consider certification of any fishery for a stock in the WCPFC region before WCPFC finalizes this process and a proper scheme of sanctions has been established by the WCPFC. Otherwise it is very likely that the MSC certify fisheries carried out by vessels involved in cases of non-compliance, which go unnoticed due to WCPFC's lacking such mechanism.

OPAGAC also disagrees with the role that PNA has assigned to the scientific observers that board purse seiners that operate in the area, and the use of the information that they produce for compliance purposes. Past and present reviews of PNA's observer programme, conducted by the WCPFC, have reported many cases of misconduct by both observers on board fishing vessels (including alcoholism, unprofessional behaviour, etc.) and vessel crew towards observers (such as harassment, threats, etc.), noting the limitations that PNA or some responsible flag states have to identify and address those issues. WCPFC has also acknowledged that it is yet to address those cases and identify likely cases of corruption in which observers may be involved. In addition, there is a clear lack of transparency concerning the activities of observers and data collected through the programme, which is not even available to the flag states that request this information. An example is OPAGAC, that has channelled many requests for observer data through the Spanish authorities and EU administration, none of which has been addressed by the WCPFC. To this day, Spain has not received, via EU, any information collected by observers on its own WCPFC fleet, in spite of those repeated requests. OPAGAC believes that WCPFC needs to call for the observer programme to be externally reviewed and that the results of this audit shall be reviewed by MSC prior to consider certification of any fishery in the WCPFC region.

Response: Issues of compliance were fully considered under the Governance PIs of Principle 3 as part of the original skipjack assessment.

As this is an expedited assessment, these PIs are not rescored.

Any new information about compliance matters is examined during surveillance audits.

Final Comment

According to MSC his mission “...is to use our ecolabel and fishery certification program to contribute to the health of the world's oceans by recognizing and rewarding sustainable fishing practices, influencing the choices people make when buying seafood, and working with our partners to transform the seafood market to a sustainable basis.” Basing on all the evidence that we have provided **it is OPAGAC's view that MSC would go against its principles if it decides to certify PNA's unassociated yellowfin tuna purse seine fishery**, as recommended by the assessment team.

A close example is the existing PNA unassociated skipjack tuna purse seine fishery which, since obtaining that status, has not contributed at all to increased sustainability of WCPO stocks. This is illustrated by the poor status of the stock of bigeye tuna, which has not improved following certification of the PNA SKJ fishery or in response to the management measures that WCPFC has implemented over the last eight years. The crude reality is that the large majority of purse seine catches of bigeye tuna are made in PNA waters, on associated schools, and by the same purse seiners that are MSC-certified for unassociated SKJ and are allegedly eligible to be MSC-Certified for unassociated YFT. This is also the consequence of PNA's implementing of the

⁸ In Summary Report of the Eleventh Regular Session of the Technical and Compliance Committee of the WCPFC.

VDS, which has led to misreporting of fishing days, overcapacity and effort creep in the WCPFC region.

When good intentioned people decide to choose MSC-Certified FAD-Free tuna over other tuna products at the market, they make this choice convinced that they are choosing tuna from a sustainable fishery. However, as explained before, this is not the case, as the same vessels that caught that tuna did also catch about the same amount of tuna using what MSC considers as unsustainable fishing practices.

As an end note, OPAGAC would like to appreciate recent efforts by the MSC to incorporate social issues into its certification of fisheries. It is our view that those efforts shall be continued and indeed extended, to ensure that all fleets that obtain the MSC label are compliant with minimum social international standards, as defined by the relevant organizations. It would be really unfortunate that MSC certified products originate fleets that do not respect those principles.

As a final note OPAGAC would like to reiterate that it considers it **premature for MSC to certify the PNA fishery for yellowfin tuna** and indicate that the concerns it has expressed regarding the YFT apply also to PNA's MSC-Certified SKJ unassociated purse seine fishery, and will post those concerns when that fishery is reassessed for MSC status, in 2016.

<p>Response: Thank you very much for your comments. We have also added you to the stakeholder list and for the fishery and will inform you when the whole fishery enters re-assessment.</p>
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