



8950 Martin Luther King Jr. Street N. #202  
St. Petersburg, Florida 33702-2211  
Tel: (727) 563-9070  
Fax: (727) 563-0207  
Email: [MRAG.Americas@mragamanicas.com](mailto:MRAG.Americas@mragamanicas.com)

President: Andrew A. Rosenberg, Ph.D.

# AAFA & WFOA North Pacific Albacore Pole & Line Troll/Jig Fishery Certificate No: MSC-F-31371

## 3<sup>rd</sup> Surveillance Report

Conformity Assessment Body (CAB)	MRAG Americas, Inc.
Assessment team	Erin Wilson (team lead); Amanda Stern-Pirlot, Dr. Mónica Valle-Esquivel
Fishery client	American Albacore Fishing Association (AAFA) and Western Fishboat Owners' Association (WFOA)
Assessment type	Third Surveillance
Author name	Erin Wilson (team lead); Amanda Stern-Pirlot, Dr. Mónica Valle-Esquivel
Date	July 1 <sup>st</sup> , 2022

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## 2 Glossary

AAFA	American Albacore Fishing Association
AFRF	American Fishermen's Research Foundation
ALBWG	Albacore Working Group
CCS	California Current System
CEA	Cooperative Enforcement Agreements
CEP	Cooperative Enforcement Program
CI	Confidence Interval
CMM	Conservation and Management Measures
CPC	Contracting Party or Cooperating non-Contracting Party
CPUE	Catch Per Unit Effort
DFO	Department of Fisheries and Oceans (Canada)
DWG	Data Working Group
EFH	Essential Fish Habitat
F	Fishing Mortality
FMP	Fishery Management Plan
HCR	Harvest Control Rules
HMS	Highly Migratory Species
IATTC	Inter-American Tropical Tuna Commission
ISC	International Scientific Committee
ISSF	International Seafood Sustainability Foundation
JEA	Joint Enforcement Agreements
LRP	Limited Reference Point
M	Natural Mortality
MSE	Management Strategy Evaluation
MSY	Maximum Sustainable Yield
NC	Northern Committee
NMFS	National Marine Fisheries Service
NPALB	North Pacific Albacore
OLE	Office of Law Enforcement
OSP	Oregon State Police
PFMC	Pacific Fishery Management Council
SAC	Scientific Advisory Committee
SPC	Pacific Community
SPR	Spawning Potential Ratio
SS	Stock Synthesis
SSB	Spawning Stock Biomass
SWFSC	Southwest Fisheries Science Center
TRP	Target Reference Point
UoA	Unit of Assessment
UoC	Unit of Certification
WCPFC	Western and Central Pacific Fisheries Commission
WDFW	Washington Department of Fish and Wildlife
WFOA	Western Fishboat Owners Association

### 3 Executive summary

The American Albacore Fishing Association (AAFA) and Western Fishboat Owners Association (WFOA) North Pacific Albacore Tuna Pole & Line and Troll/Jig Fishery was originally certified in August 2007, and has completed two reassessments, with the most recent certification occurring in June 2018 (Stern-Pirlot, Stocker and Wilson, 2018). This report contains the findings of the third surveillance cycle in relation to this fishery. A remote surveillance audit was held April 18<sup>th</sup> – 22<sup>nd</sup>, with a client-closing meeting on May 2<sup>nd</sup>, 2022.

No issues were identified, and no changes in the fishery occurred that would result in a change in certification from the reassessment. The fishery had no new conditions, and the single open Condition has been judged to be on target. No performance indicators were rescored.

MRAG Americas confirms that this fishery continues to meet the MSC Fisheries Standard and shall remain certified.

### 4 Report details

#### 4.1 Surveillance information

1	Fishery name	
	AAFA and WFOA North Pacific albacore tuna	
2	Unit(s) of Assessment (UoA)	
	Albacore tuna ( <i>Thunnus alalunga</i> ) Hooks and lines – trolling lines Northeast Pacific (FAO Area 67)	
3	Date certified	Date of expiry
	14 June 2018	13 December 2023
4	Surveillance level and type	
	Level 5, Off-site  Surveillance program has changed. See Appendix 2 for details.	
5	Surveillance number	
	1st Surveillance	
	2nd Surveillance	
	3rd Surveillance	XX
	4th Surveillance	
	Other (expedited etc)	
6	Surveillance team leader	

	<p><b>Ms. Erin Wilson (Team leader and Principle 3)</b> joined MRAG Americas Inc. in 2015, where she currently works as a Senior Manager and Fisheries Consultant. She has worked as a team leader and/or member for several MSC assessments and conducts routine audits for the International Seafood Sustainability Foundation (ISSF). Prior to joining MRAG Americas, she worked at the Oregon Department of Fish and Wildlife (ODFW) as a Natural Resource Specialist and Biological Technician for the Oregon Marine Reserves. She has collaborated on a multitude of projects that focus on marine science and conservation in both a biological and social science aspect. She received a M.Sc. in Marine Resource Management from Oregon State University and a B.S. in Zoology (with a marine emphasis) from Colorado State University, along with a Spanish minor.</p> <p>MRAG Americas confirms that Ms. Wilson meets the competency criteria in Annex PC for team leader as follows:</p> <ul style="list-style-type: none"> <li>• She has an appropriate university degree and more than five years' experience in management and research in fisheries;</li> <li>• She has passed the MSC team leader training;</li> <li>• She has the required competencies described in Table PC1, section 2;</li> <li>• She has passed the MSC Traceability training module;</li> <li>• She meets ISO 19011 training requirements;</li> <li>• She has undertaken two fishery assessments as a team member in the last five years, and</li> <li>• She has experience in applying different types of interviewing and facilitation techniques and is able to effectively communicate with clients and other stakeholders.</li> </ul> <p>In addition, she has the appropriate skills and experience required to serve as a Principle 3 assessor as described in FCP Annex PC table PC3.</p> <p>MRAG Americas confirms that Ms. Wilson has no conflicts of interest in relation to the fishery under assessment.</p>
7	Surveillance team members <i>[remove if not applicable]</i>
	<p><b>Ms. Amanda Stern-Pirlot (Principle 2).</b> Amanda is an M.Sc graduate of the University of Bremen, Center for Marine Tropical Ecology (ZMT) in marine ecology and fisheries biology. Ms. Stern-Pirlot joined MRAG Americas in mid-June 2014 as MSC Certification Manager (now Director of the Fishery Certification Division) and is currently serving on several different assessment teams as team leader and team member. She has worked together with other scientists, conservationists, fisheries managers and producer groups on international fisheries sustainability issues for over 15 years. With the Institute for Marine Research (IFM-GEOMAR) in Kiel, Germany, she led a work package on simple indicators for sustainable within the EU-funded international cooperation project INCOFISH, followed by five years within the Standards Department at the Marine Stewardship Council (MSC) in London, developing standards, policies and assessment methods informed by best practices in fisheries management around the globe. Most recently she has worked with the Alaska pollock industry as a resources analyst, within the North Pacific Fisheries Management Council process, focusing on bycatch and ecosystem-based management issues, and managing the day-to-day operations of the offshore pollock cooperative. She has co-authored a dozen publications on fisheries sustainability in the developing world and the functioning of the MSC as an instrument for transforming fisheries to a sustainable basis.</p> <p>MRAG Americas confirms that Ms. Stern-Pirlot meets the competency criteria in Annex PC for team leader as follows:</p> <ul style="list-style-type: none"> <li>• She has an appropriate university degree and more than five years' experience in management and research in fisheries;</li> <li>• She has passed the MSC team leader training;</li> <li>• She has the required competencies described in Table PC1, section 2;</li> <li>• She has passed the MSC Traceability training module;</li> <li>• She meets ISO 19011 training requirements;</li> <li>• She has undertaken two fishery assessments as a team member in the last five years, and</li> <li>• She has experience in applying different types of interviewing and facilitation techniques and is able to effectively communicate with clients and other stakeholders.</li> </ul>

	<p>In addition, she has the appropriate skills and experience required to serve as a Principle 2 assessor as described in FCP Annex PC table PC3.</p> <p>MRAG Americas confirms that Ms. Stern-Pirlot has no conflicts of interest in relation to the fishery under assessment.</p> <p><b>Dr. Mónica Valle-Esquivel (Principle 1)</b> joined MRAG Americas in 2010 as Senior Fisheries Biologist. She has over 20 years of experience in sustainable management of marine fisheries. She specialized in fish and shellfish population dynamics, stock assessment, design and evaluation of management strategies, statistical analysis, risk analysis, and fishery simulation modelling. Dr. Valle worked with the University of Miami and NOAA Fisheries as a post-doctoral stock assessment scientist, and has provided scientific advice to FAO, CITES, CARICOM, ACP Fish II, the World Bank IFC, and other international organizations for the management of tropical marine species in the US, Latin America, and the Caribbean. In Mexico she coordinated a United Nations (UNIDO) coastal management project within the Gulf of Mexico Large Marine Ecosystem program. At MRAG, Dr. Valle has worked with institutions, scientists, fishers, managers, NGOs, and other stakeholders to promote and achieve sustainability of fishery resources around the world. She is a certified Marine Stewardship Council lead assessor, and for twelve years has served as a team leader and member for several fisheries, ranging from invertebrate fisheries to highly migratory fish. Among other professional achievements, Dr. Valle has acquired wide experience in the development and implementation of fishery improvement projects and fishery management plans, in the design and analysis of various monitoring programs; essential fish habitat; and ecosystem, social risk, and regulatory assessments. Dr. Valle received a B.S. degree in Biology from the National Autonomous University of Mexico (UNAM), and a Ph.D. in Marine Biology and Fisheries from the Rosenstiel School of Marine and Atmospheric Science, University of Miami.</p> <p>MRAG Americas confirms that Dr. Valle-Esquivel meets the competency criteria in Annex PC for team members as follows:</p> <ul style="list-style-type: none"> <li>• She has an appropriate university degree and more than five years' experience in management and research in fisheries;</li> <li>• She has undertaken at least two MSC fishery assessments or surveillance site visits in the last five years;</li> <li>• She is able to score a fishery using the default assessment tree and describe how conditions are set and monitored.</li> </ul> <p>In addition, she has the appropriate skills and experience required to serve as a Principle 1 assessor as described in FCP Annex PC table PC3, and MRAG Americas confirms she has no conflicts of interest in relation to the fishery under assessment.</p> <p>The whole assessment team collectively meets the requirements as described in FCP Annex PC table PC3.</p> <p>A discussion between team members regarding conflict of interest and biases was held and none were identified.</p>
8	Audit/review time and location
	<ul style="list-style-type: none"> <li>- Time and dates of surveillance or expedited audit activities. Location activities will be carried out (if off site or review of new information, this could be from CAB/auditor office).</li> </ul>
	A remote surveillance audit was held the week of April 18-22 <sup>nd</sup> , 2022, with a client-closing meeting on May 2 <sup>nd</sup> , 2022.
9	Assessment and review activities
	<ul style="list-style-type: none"> <li>- What was assessed/reviewed during the audit.</li> </ul>
	The surveillance reviewed any changes in science and management and monitored progress against the single open condition.
10	Stakeholder opportunities

	<ul style="list-style-type: none"> <li>- Include link to MSC Template for Stakeholder Input into Surveillance Audits (not applicable for expedited audits).</li> <li>- Inform stakeholders that during the surveillance audit all team members are available to meet either in person or remotely (FCP v2.2 7.28.15.b).</li> </ul>
	<p>Participate in the site visit: all team members are available to meet in person or remotely (FCP v2.2 7.28.15.b).</p> <p>Provide input or comments to the team regarding the Surveillance Audit. Stakeholders must use the MSC Template for Stakeholder Input into Surveillance Audits v1.0</p>

## 4.2 Background

### 4.2.1 Operations overview and impacts from COVID-19

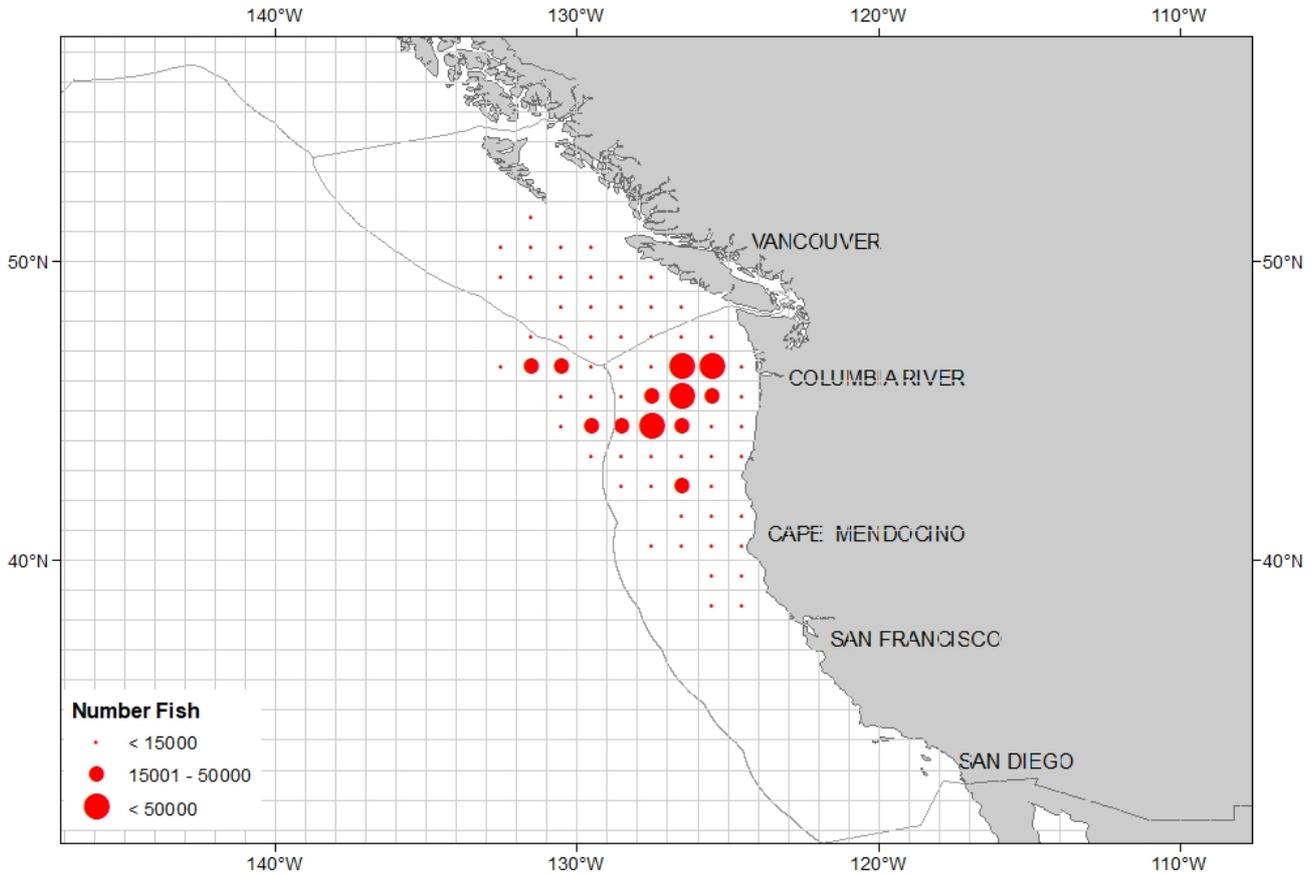
The general operations of the North Pacific Albacore fishery continued to experience an overall negative impact from COVID-19, although lifting of domestic restrictions did help the domestic market to rebound. The last few seasons reported a steady decline in total landings. This has been attributed to reduced participation and effort, sea surface conditions, movement of forage species and other unknowns. There also has been three La Niña events in a row and a possible fourth in the summer of 2022. Domestic markets especially for blue fish are considered good now; however, the cost and availability of transport has increased by several-fold in the last few years and international markets remain negatively impacted as a result. Additionally, the client reported that the fish were farther offshore than the smaller ice boats could reach, which negatively impacted total catch. Other potential impacts to the fishery include ramifications from offshore wind development.

The PFMC and Science Center meetings were still held virtually and most of the staff were able to work from home. The tagging program resumed after an initial delay due to COVID-19; however, it was noted that this program may be discontinued anyway due to the low return on investment in terms of recovered tags.

### 4.2.2 Changes to scientific base of information

#### Principle 1

Together, AAFA and WFOA make up the entire United States albacore troll and pole-and-line fleet in the North Pacific Ocean. The U.S. troll and pole-and-line fishery for North Pacific albacore started in the early 1900s. Under a treaty between the U.S. and Canada, the fishery operates in waters between the North American West Coast and 160°W longitude (Figure 1). Fishing usually starts in May or June and ends in October or November. The fishery catches almost exclusively albacore, with minor bycatches of Pacific bluefin tuna (*Thunnus orientalis*), eastern Pacific bonito (*Sarda chiliensis lineolata*), yellowtail amberjack (*Seriola dorsalis*), and mahi mahi (*Coryphaena hippurus*).



**Figure 1 (ISC, 2021b).** Spatial distribution of reported logbook fishing catch by the 2020 U.S. albacore troll and pole-and-line fishery in number of fish. The size of circles is proportional to the amount of catch. Some catch areas are not shown in order to preserve data confidentiality.

Since 1985, the U.S. albacore troll catch has ranged from a low of 1,917 t in 1991 to a high of 17,160 t in 1996. In 2020 the troll fleet caught 7,316 t of albacore, similar to the 2019 catch of 7,766 t. In 2020, there were 401 U.S. albacore troll vessels fishing in the North Pacific Ocean, down from 554 in 2019 (ISC, 2021b). The U.S. catch of North Pacific albacore is dominated by the troll fleet catch. The next largest contribution is from sport vessels, at 260 t in 2020 and 1,364 t in 2019 (ISC, 2021c).

Generally, sizes of albacore caught range between 55 cm fork length (8.5 pounds) and 90 cm (32 pounds). Weight distribution of the catch for 2020 is shown in Figure 2. State fishery personnel collect the size data according to sampling instructions provided by NOAA Fisheries, who maintain the database. Cooperative fishermen also collect size data on selected fishing trips to augment data collected through the port sampling program (ISC, 2021b).

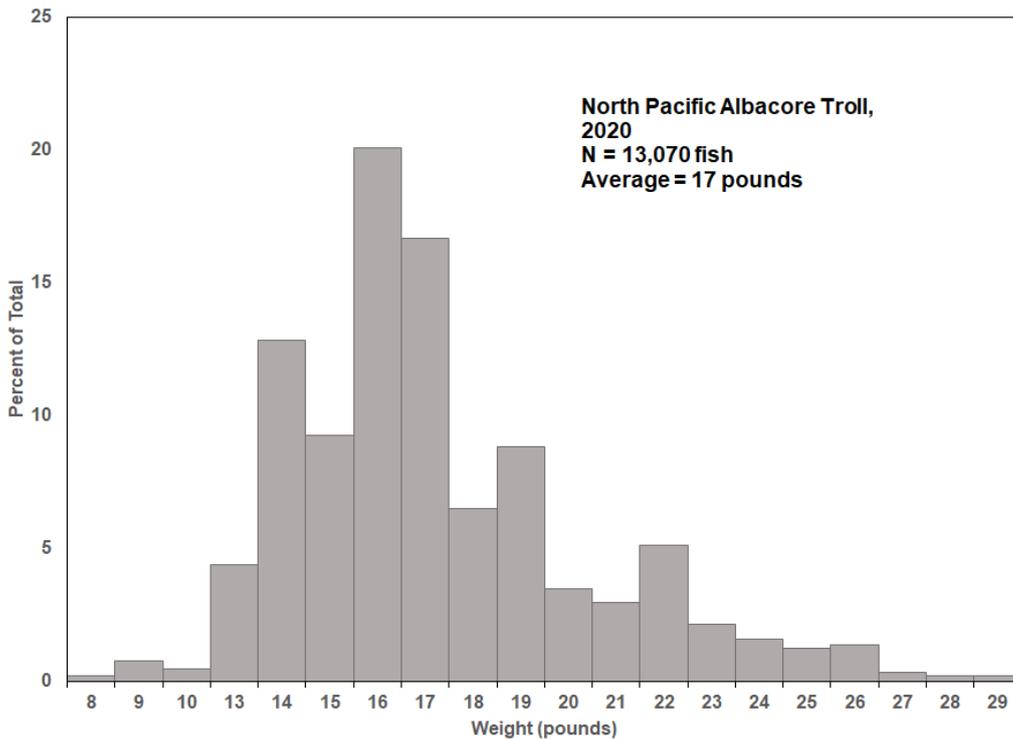


Figure 2 (ISC, 2020b). Size distribution of albacore (*Thunnus alalunga*) caught by the 2020 U.S. albacore troll and pole-and-line fishery.

In addition to the U.S. fishery, Canadian and Japanese fisheries currently make up the rest of the total troll and pole-and-line fishing effort on the North Pacific albacore stock. In 2020, a total of 18,748 t were caught by troll and pole-and line, of which 7,317 t were caught by the U.S. fishery (ISC, 2021c). In 2019 a total of 19,220 t were caught by troll and pole and line, of which 7,767 t were caught by the U.S. fishery. The 2019 troll and pole-and-line catch of 19,220 t is much lower than originally reported (28,167 t; MRAG, 2021) due to major adjustment of 2019 Japanese pole-and-line catch in the most recent report (ISC, 2021c). In recent years, troll and pole-and-line has accounted for approximately half of the total North Pacific albacore catch in the West-Central Pacific (Figure 3) and most of the catch in the Eastern Pacific (Figure 4), with the longline fishery primarily in the West-Central Pacific accounting for most of the remaining catch.

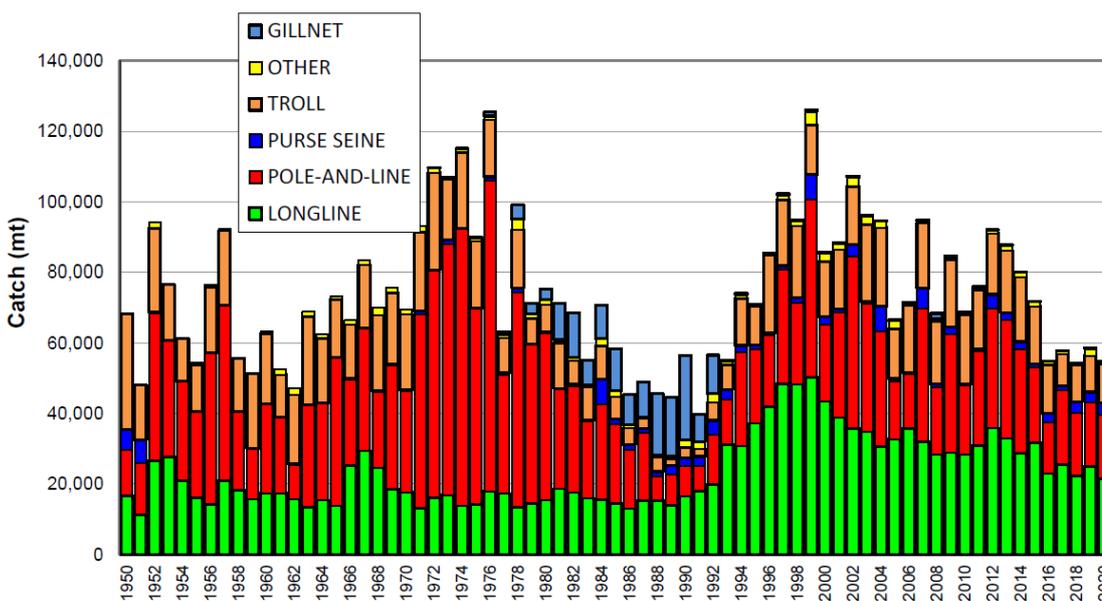


Figure 3 (Williams and Ruaia, 2021). North Pacific albacore catch (t) by gear in the WCPFC Convention Area. Williams and Ruaia note that some estimates have yet to be reconciled with estimates from ISC and IATTC.

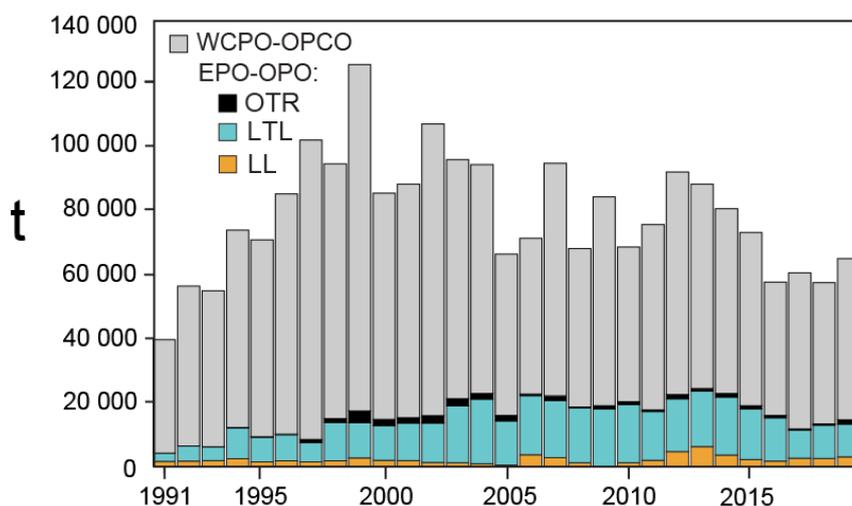


Figure 4 (IATTC, 2021c). Retained catches of North Pacific albacore in the West-Central and Eastern Pacific Ocean (WCPO and EPO), by gear in the EPO: longline (LL), troll (LTL), or other (OTR).

The Northern Committee (NC) of the WCPFC reviewed the summary table of members' updated information on North Pacific albacore fishing effort data (WCPFC, 2021a). The United States reported 8,564 vessel days of fishing effort for North Pacific albacore in 2020. This is the lowest annual total on record since at least the reference period of 2002-2004, the average of which defines the upper limit of allowable effort under CMM 2019-03. United States effort has not exceeded its limit (13,311 vessel days) in any year since the reference period.

Significant fishing effort data gaps in past years, including the 2002-2004 reference period, were identified at the prior meeting of the NC. To resolve the problem, members were encouraged to prepare proposals to amend CMM 2019-03 for the most recent NC meeting and hold further discussion. No proposals to amend CMM 2019-03 were submitted, but the discussion that occurred identified several changes to improve the accuracy and coverage of data. No significant changes were made to past US effort data (WCPFC, 2021a).

#### Stock status

No stock assessment updates for North Pacific albacore are available since the prior surveillance (MRAG, 2021). In 2020, the Albacore Working Group (ALBWG) of the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC) conducted a stock assessment that was endorsed by the ISC Plenary as the best available scientific information on North Pacific albacore (ISC, 2020c). At this time, the ALBWG does not plan to release stock status updates between its stock assessments, which are conducted every three years (S. Teo, pers. comm.). Therefore, the 2020 assessment remains the best available scientific information on the stock, and the following stock status summary is adapted from that assessment (ISC, 2020a).

ISC (2020d) provides a record of discussions and decisions of the ALBWG during the electronic workshop in which the 2020 stock assessment of North Pacific albacore was conducted. Nine working papers were submitted to the workshop. The working papers are publicly available through the ISC website (<http://isc.fra.go.jp/>).

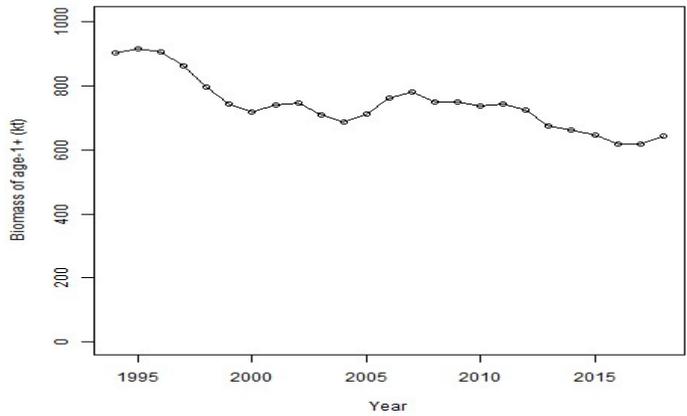
The 2020 stock assessment modelling period was from 1994 to 2018. All north Pacific catch and size composition data from ISC member and non-member states were compiled for the assessment. Important changes were made to the base case model in this assessment compared to the previous assessment in 2017 (ISC, 2020a):

- Input sample sizes of the size composition data were allowed to vary between fisheries and over time, depending on the sampling that occurred, because of improvements in data preparation;
- The primary Japan pole-and-line fisheries were subdivided into seasonal fisheries, and the selectivity of the two most important Japanese pole-and-line fisheries were allowed to vary annually; and
- The Japan longline fisheries that caught albacore in the main spawning area were also subdivided into seasonal fisheries with separate selectivity patterns.

The stock was assessed using a length-based, age-, and sex-structured Stock Synthesis (SS Version 3.30.14.08) model. The model assumed that there is instantaneous mixing of albacore on a quarterly basis. Biological parameters including growth, natural mortality (M) and stock-recruitment steepness, were the same as for the 2017 assessment

(ISC, 2017). The base case model was fitted to the F09 index (1996-2018) and all representative size composition data in a likelihood-based statistical framework.

The total biomass estimates in the first quarter, which includes all age-1+ male and female albacore, have fluctuated during the assessment period, ranging from a low of 617,363 t in 2016 to a high of 916,529 t in 1995. Estimated total stock biomass (males and female at age-1+) shows a declining trend at the beginning of the time series until 2000. From 2000-2018 the biomass trend is relatively stable (Figure 5) (ISC, 2020a).



**Figure 5 Maximum likelihood estimates of total age-1+ biomass of North Pacific albacore tuna (*Thunnus alalunga*). Estimates of total biomass are based on estimates from Quarter 1 of each year. (ISC, 2020a).**

Estimated female spawning stock biomass (SSB) exhibits a similar population trend to the total stock biomass trend, with an initial decline until 2003 followed by fluctuations without a clear trend through 2018 (Figure 6). In 2018 (terminal year of the assessment), female SSB was estimated to be  $58,858 \pm 15,871$  t. The limited reference point (LRP) ( $20\%SSB_{current, F=0}$ ) adopted by the WCPFC is based on dynamic  $SSB_0$  and has fluctuated between 24,870 to 31,001 t during the assessment period (1994-2018). The maximum likelihood estimate of female SSB has been above the LRP throughout the assessment period (ISC, 2020a).

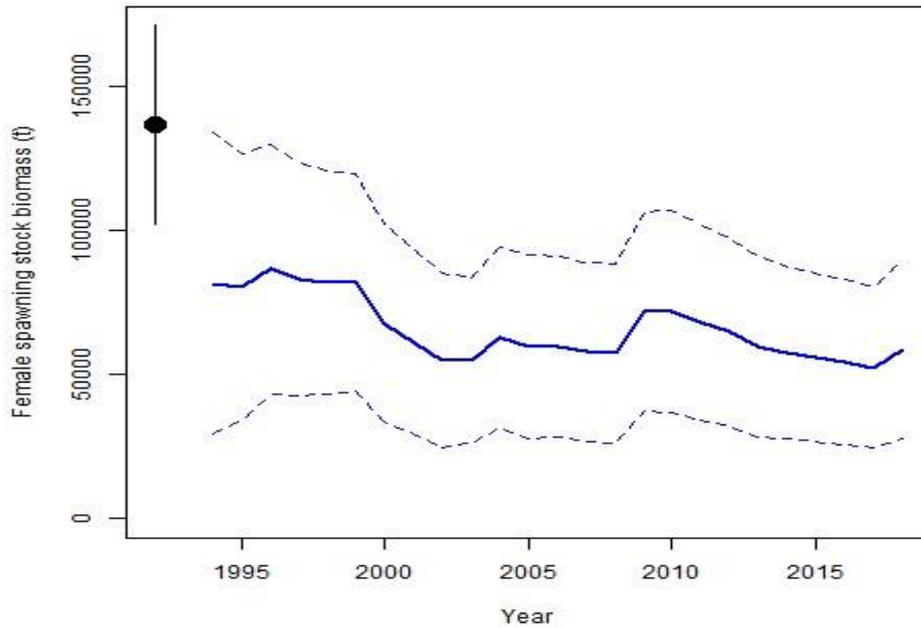


Figure 6 Maximum likelihood estimates of female spawning biomass (SSB) (solid blue line) of north Pacific albacore tuna (*Thunnus alalunga*). Dashed lines indicate 95% confidence intervals of female SSB. Closed black circle and error bars are the maximum likelihood estimate and 95% confidence intervals of unfished female spawning biomass, SSB<sub>0</sub>. Estimates of female SSB are based on estimates from Quarter 2 of each year (ISC, 2020a).

Estimated recruitment reached historical lows in 2014 (~125 million fish; 95% CI: 69 – 180 million fish) and 2015 (~113 million fish; 95% CI: 56 – 170 million fish) (Figure 7). These historically low recruitments may have contributed to relatively low catches of fisheries catching juvenile albacore in recent years. It is currently unclear whether recruitment improved after 2015 because recruitment during the terminal years of the assessment (2016 – 2018) have large uncertainties (ISC, 2020a).

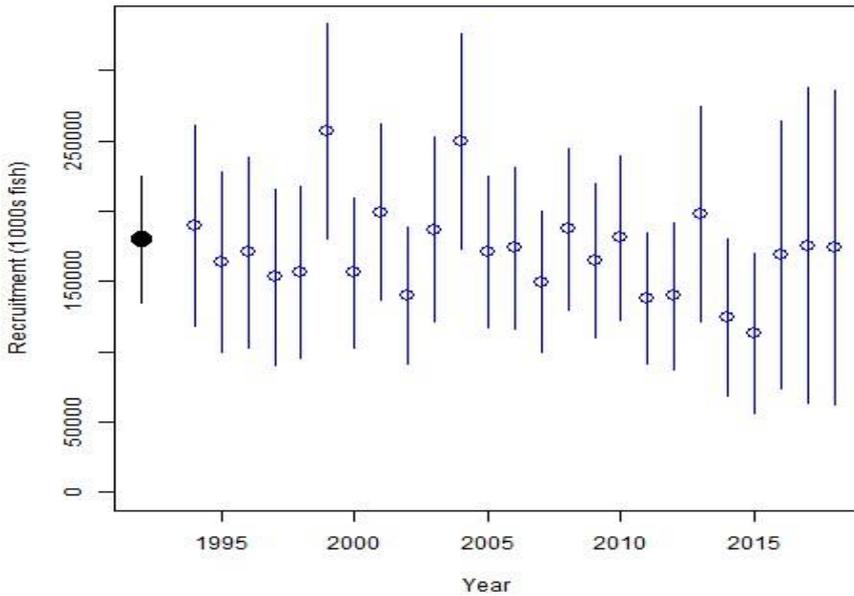


Figure 7 Maximum likelihood estimates of age-0 recruitment (open circles) of north Pacific albacore tuna (*Thunnus alalunga*). Vertical bars indicate 95% confidence intervals of recruitment estimates. Estimates of age-0 recruitment are based on estimates from QTR 2 of each year (ISC, 2020a).

The ALBWG uses spawning potential ratio (SPR) to describe the fishing on the North Pacific albacore stock. The SPR of a population is the ratio of female SSB per recruit under fishing to the female SSB per recruit under unfished conditions. The ALBWG uses 1-SPR (the reduction in female SSB per recruit due to fishing) to describe the overall fishing intensity on the albacore stock. The fishing intensity (1-SPR) on the North Pacific albacore stock has fluctuated between 0.40 and 0.71 during the assessment period (1994 – 2018). The estimated mean fishing intensity during 2015 – 2017 was  $0.50 \pm 0.07$ , which corresponds to a moderate level of exploitation (ISC, 2020a).

Instantaneous fishing mortality at age (F-at-age) is similar in both sexes through age-5, peaking at age-4 and declining to a low at age-6, after which males experience higher F-at-age than females up to age 12. Juvenile albacore aged 2 to 4 years comprised approximately 70% of the annual catch between 1994 and 2018. The dominance of juveniles is also reflected in the larger impact of surface fisheries (primarily troll, pole-and-line), which remove juvenile fish, relative to longline fisheries, which primarily remove adult fish (Figure 8) (ISC, 2020a).

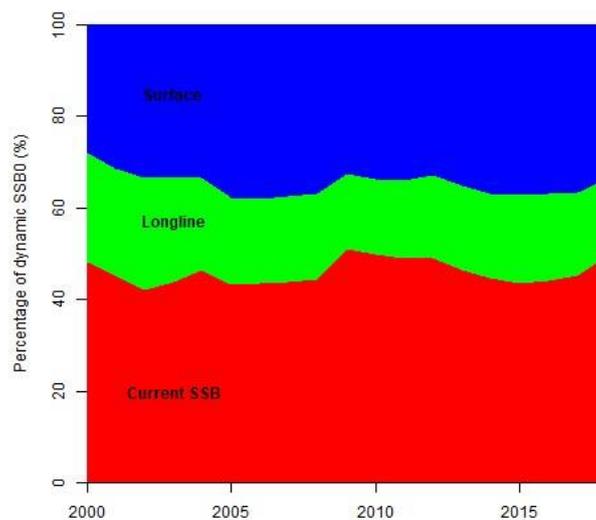
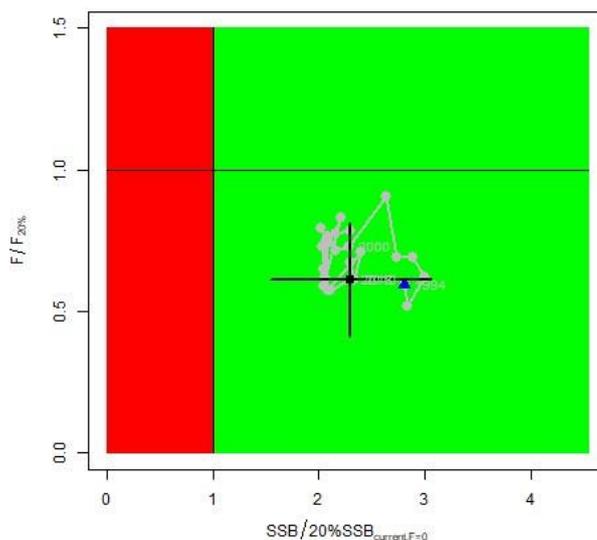


Figure 8 Fishery impact analysis on north Pacific albacore (*Thunnus alalunga*) showing female spawning biomass (SSB) (red) estimated by the 2020 base case model as a percentage of dynamic unfished female SSB ( $SSB_0$ ). Colored areas show the relative proportion of fishing impact attributed to longline (USA, Japan,

Chinese-Taipei, Korea, China, Vanuatu and others) (green) and surface (USA, Canada, and Japan) (blue) fisheries (primarily troll and pole-and-line gear but including all other gears except longline) (ISC, 2020a).

Stock status is depicted in relation to the limit reference point (LRP;  $20\%SSB_{current, F=0}$ ) adopted by the Northern Committee of the WCPFC (<https://www.wcpfc.int/meetings/nc13>) for the stock and the equivalent fishing intensity ( $F_{20\%}$ ; calculated as  $1-SPR_{20\%}$ ) (Figure 9). Fishing intensity is considered a proxy of fishing mortality. The Kobe plot shows that the estimated female SSB has never fallen below the LRP since 1994, even though large uncertainty in the terminal year exists (2018). It is noted, that even when alternative hypotheses about key model uncertainties such as growth were evaluated, the point estimate of female SSB in 2018 ( $SSB_{2018}$ ) did not fall below the LRP, although the risk increases with this more extreme assumption (ISC, 2020a).



**Figure 9** Kobe plot showing the status of the north Pacific albacore (*Thunnus alalunga*) stock relative to the  $20\%SSB_{current, F=0}$  biomass-based limit reference point, and equivalent fishing intensity ( $F_{20\%}$ ; calculated as  $1-SPR_{20\%}$ ) over the base case modelling period (1994-2018). Blue triangle indicates the start year (1994) and black circle with 95% confidence intervals indicates the terminal year (2018). The coefficients of variation of the  $SSB/20\%SSB_{current, F=0}$  ratios are assumed to be the same as for the  $SSB/20\%SSB_0$  ratios.  $F_s$  in this figure are not based on instantaneous fishing mortality. Instead, the  $F_s$  are indicators of fishing intensity based on SPR and calculated as  $1-SPR$  so that the  $F_s$  reflects changes in fishing mortality. SPR is the equilibrium SSB per recruit that would result from the current year's pattern and intensity of fishing mortality. Current fishing intensity is calculated as the average fishing intensity during 2015-2017 ( $F_{2015-2017}$ ), while current female spawning biomass refers to the terminal year of this assessment (i.e., 2018) (ISC, 2020a).

Biological reference points were computed from the base case model (Table 1). The point estimate ( $\pm SE$ ) of maximum sustainable yield (MSY – which includes male and female juvenile and adult fish) was  $102,236 \pm 12,862$  t and the point estimate of female SSB that produces MSY ( $SSB_{MSY}$ ) was estimated at  $19,535 \pm 2,395$  t. Current  $F$  ( $F_{2015-2017}$ ) was defined as the average  $1-SPR$  for the years 2015-2017 because terminal year estimates of fishing intensity were generally considered to be uncertain. Current SSB ( $SSB_{2018}$ ) was defined as the female SSB in 2018. The ratio of  $F_{2015-2017}/F_{MSY}$  was estimated to be  $0.60 \pm 0.09$ , and the ratio of  $SSB_{2018}/20\%SSB_{current, F=0}$  was estimated to be  $2.30 \pm 0.41$ . Current fishing intensity ( $F_{2015-2017}$ ) is likely at or below  $F_{MSY}$  and all MSY-proxy reference points, and  $SSB_{2018}$  were estimated to be well above the LRP threshold (Table 1). Note that  $F_{2015-2017}$  and  $F$ -based reference points were not based on the average instantaneous fishing mortality. Instead,  $F_{2015-2017}$  and  $F$ -based reference points were indices of fishing intensity based on SPR and calculated as  $1-SPR$  so that they reflected changes in fishing mortality (ISC, 2020a).

**Table 1** Estimates of maximum sustainable yield (MSY), female spawning biomass (SSB), and fishing intensity (F) based reference point ratios for North Pacific albacore tuna for: 1) the base case model; 2) an important sensitivity model due to uncertainty in growth parameters; and 3) a model representing an update of the 2017 base case model to 2020 data.  $SSB_0$  and  $SSB_{MSY}$  are the unfished biomass of mature female fish and at MSY, respectively. The  $F_s$  in this table are indicators of fishing intensity based on SPR and calculated as  $1-SPR$  so

that the  $F_s$  reflect changes in fishing mortality (e.g.,  $F_{20\%}$  is calculated as  $1-SPR_{20\%}$ ).  $SPR$  is the equilibrium  $SSB$  per recruit that would result from the current year's pattern and intensity of fishing mortality. Current fishing intensity is based on the average fishing intensity during 2015-2017 ( $F_{2015-2017}$ ).  $20\%SSB_{current, F=0}$  is 20% of the current unfished dynamic female spawning biomass, where current refers to the terminal year of this assessment (i.e., 2018). The model representing an update of the 2017 base case model is highly similar to but not identical to the 2017 base case model due to changes in data preparation and model structure.

Quantity	Base Case	Growth CV = 0.06 for $L_{inf}$	Update of 2017 base case model to 2020 data
MSY (t) <sup>A</sup>	102,236	84,385	113,522
$SSB_{MSY}$ (t) <sup>B</sup>	19,535	16,404	21,431
$SSB_0$ (t) <sup>B</sup>	136,833	113,331	152,301
$SSB_{2018}$ (t) <sup>B</sup>	58,858	34,872	77,077
$SSB_{2018}/20\%SSB_{current, F=0}$ <sup>B</sup>	2.30	1.63	2.63
$F_{2015-2017}$	0.50	0.64	0.43
$F_{2015-2017}/F_{MSY}$	0.60	0.77	0.52
$F_{2015-2017}/F_{0.1}$	0.57	0.75	0.49
$F_{2015-2017}/F_{10\%}$	0.55	0.71	0.48
$F_{2015-2017}/F_{20\%}$	0.62	0.80	0.54
$F_{2015-2017}/F_{30\%}$	0.71	0.91	0.62
$F_{2015-2017}/F_{40\%}$	0.83	1.06	0.72
$F_{2015-2017}/F_{50\%}$	1.00	1.27	0.86

A – MSY includes male and female juvenile and adult fish

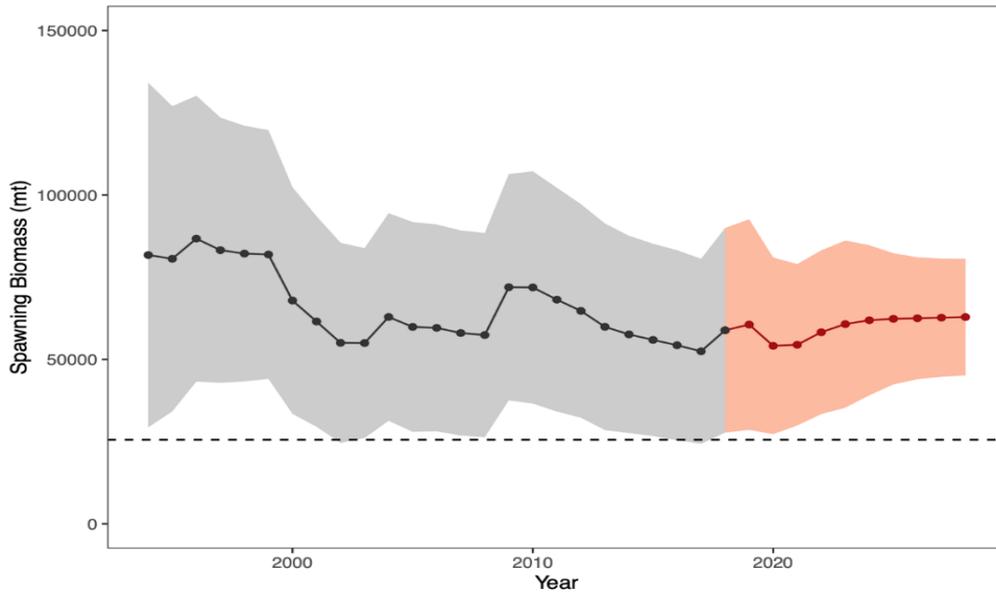
B – Spawning stock biomass (SSB) in this assessment refers to mature female biomass only.

Based on these findings, ISC20 provided the following information on the status of the North Pacific albacore stock (ISC, 2020c):

1. The stock is likely not overfished relative to the limit reference point adopted by the Western and Central Pacific Fisheries Commission ( $20\%SSB_{current, F=0}$ ), and
2. No F-based reference points have been adopted to evaluate overfishing. Stock status was evaluated against seven potential reference points. Current fishing intensity ( $F_{2015-2017}$ ) is likely at or below all seven potential reference points (see ratios in Table 1).

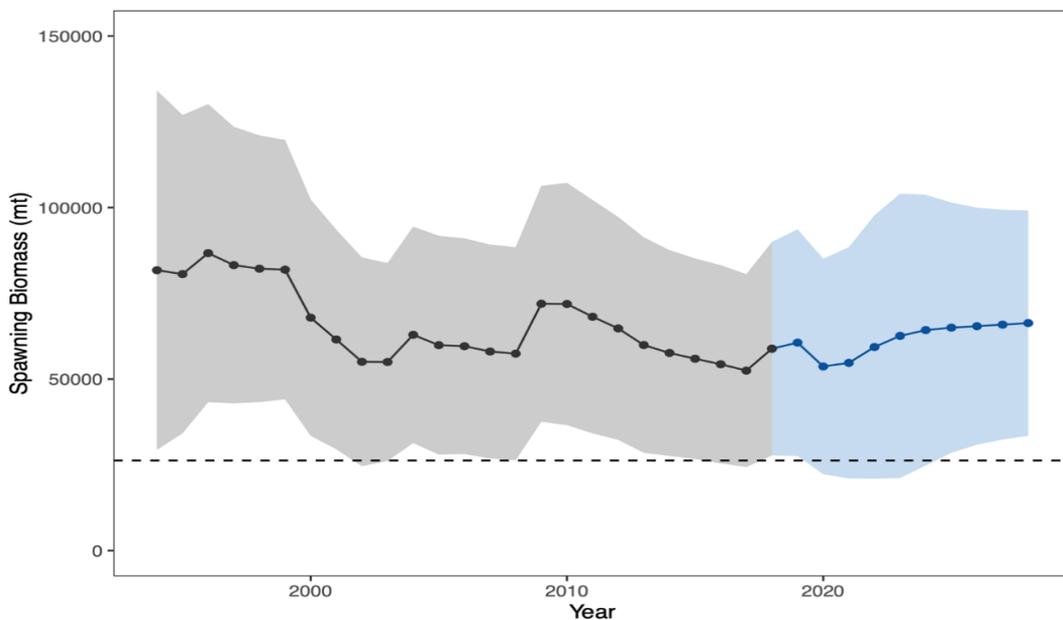
### Outlook

During the 2020 assessment, the ALBWG conducted two 10-yr harvest scenarios to evaluate impacts on future female SSB: F constant at the 2015-2017 rate ( $F_{2015-2017}$ ) and constant catch (average of 2013-2017 = 69,354 t). Median female SSB is expected to increase to 62,873 t (95% CI: 45,123 - 80,622 t) by 2028, with a low probability of being below the LRP by 2028, if fishing intensity remains at the 2015-2017 level (Figure 10) (ISC 2020a).



**Figure 10** Historical and future trajectory of North Pacific albacore (*Thunnus alalunga*) female spawning biomass (SSB) under a constant fishing intensity ( $F_{2015-2017}$ ) harvest scenario. Future recruitment is based on the expected recruitment variability. Black line and gray area indicate maximum likelihood estimates and 95% confidence intervals (CI), respectively, of historical female SSB, which includes parameter uncertainty. Red line and red area indicate mean value and 95% CI of projected female SSB, which only includes future recruitment variability and SSB uncertainty in the terminal year. The dashed black line indicates the  $20\%SSB_{current, F=0}$  limit reference point for 2018 (25,573 t) (ISC, 2020a).

If future catch is held constant at 69,354 t, then the female SSB is expected to increase to 66,313 t (95% CI: 33,463 - 99,164 t) by 2028 and the probability that female SSB will be below the LRP by 2028 is slightly higher than the constant F scenario (Figure 11). Although the projections appear to underestimate the future uncertainty in female SSB trends, the probability of breaching the LRP in the future is likely small if the future fishing intensity is around current levels (ISC, 2020a).



**Figure 11** Historical and future trajectory of north Pacific albacore (*Thunnus alalunga*) female spawning biomass (SSB) under a constant catch (average 2013-2017 = 69,354 t) harvest scenario. Future recruitment is based on the expected recruitment variability. Black line and grey area indicate maximum likelihood estimates and 95% confidence intervals (CI), respectively, of historical female SSB, which includes parameter uncertainty. Blue line and blue area indicate mean value and 95% CI of projected female SSB, which only

includes future recruitment variability and SSB uncertainty in the terminal year. Dashed black line is the 20%SSB<sub>current, F=0</sub> limit reference point for 2018 (25,573 t) (ISC, 2020a).

Based on these findings, ISC20 provided the following conservation information (ISC, 2020c):

1. If a constant fishing intensity ( $F_{2015-2017}$ ) is applied to the stock, then median female spawning biomass is expected to increase to 62,873 t and there will be a low probability of falling below the limit reference point established by the WCPFC by 2028.
2. If a constant average catch ( $C_{2013-2017} = 69,354$  t) is removed from the stock in the future, then the median female spawning biomass is also expected to increase to 66,313 t and the probability that SSB falls below the LRP by 2028 will be slightly higher than the constant fishing intensity scenario.

### Harvest strategy and harvest control rules

In response to the scientific advice resulting from North Pacific albacore stock assessments conducted by the ALBWG in 2005, both the IATTC and the WCPFC adopted management measures for this stock.

In 2005, the IATTC adopted Resolution C-05-02 (with supplemental Resolution C-13-03 in 2013 and amended by Resolution C-18-03 in 2018) which resolved that “the total level of fishing effort for North Pacific albacore tuna in the Eastern Pacific Ocean not be increased beyond current levels.” The resolution also requires all fishing entities within the IATTC Convention Area to take necessary measures to ensure that their vessels’ fishing effort is not increased, and that they report all albacore catches annually.

*The WCPFC adopted CMM-2005-03 in 2005 (replaced by CMM-2019-03 in 2019), which adopted that “the total level of fishing effort for North Pacific albacore in the Convention Area north of the equator shall not be increased beyond current levels.” WCPFC defines the baseline for “current levels” as average annual fishing effort from 2002-2004. In addition, members and cooperating non-members are required to ensure that their vessels’ fishing effort is not increased, and to report albacore catch and effort annually.*

These regional management measures are still in place and harmonized between IATTC and WCPFC in 2022. In addition to the harmonized management measures, WCPFC established a limit reference point (LRP) at 20% of dynamic unfished SSB. So far, no formal target reference point (TRP) or harvest control rule (HCR) has been adopted by WCPFC or IATTC. However, both have agreed on the management and conservation objectives for assessing HCRs under the management strategy evaluation (MSE), which has been ongoing since 2015.

The status of the MSE and responses to stakeholder feedback were presented by Steve Teo and Desiree Tommasi (stock assessment and MSE experts, respectively) at the 2021 ALBWG workshop (ISC, 2021). The ISC reviewed the final MSE report and does not anticipate conducting further work on the MSE at this time, noting that managers and stakeholders should now take time to absorb and discuss results and potentially propose management measures based on the MSE, with which the ALBWG agreed (ISC, 2021a&d; WCPFC, 2021a).

The NC reviewed and adopted the 2022-2024 Work Programme for the Northern Committee (WCPFC, 2021a). Objectives for North Pacific albacore include continuing work to establish the target reference point (TRP) and other elements of harvest strategies, if appropriate based on the MSE. Under the Work Programme, considering retention or modification of the LRP and adoption of a TRP are slated for 2022, while establishment of the HCR and threshold reference point are slated for 2023. Similarly, the Scientific Advisory Committee (SAC) recommended the next steps for IATTC members include consideration of a suitable HCR and reference points based on the MSE results (IATTC, 2021b).

The audit team concluded that progress is being made by IATTC and WCPFC toward establishing a TRP and HCR for North Pacific albacore. Thus, PI 1.2.2 (Harvest Control Rules) cannot be rescored at this time and Condition 1 remains open.

## **Principle 2**

No changes were reported in the total composition of primary, secondary or ETP species since the 2<sup>nd</sup> reassessment, nor have there been any changes in terms of the status and management of ecosystems and habitats.

### **4.2.3 Research Update**

The American Fishermen’s Research Foundation (AFRF) was founded by the albacore troll fishing industry to support cooperative research with scientists and continues to fund research projects that support sustainable and science-

based management. In 2021-2022, AFRF continued or completed several research projects involving North Pacific albacore (E. Carlson, pers. comm.).

A total of 82 biological samples including otoliths, gonads, DNA, stomachs, and muscle tissue were collected in 2021 for life history studies with the National Marine Fisheries Service (NMFS). This research, ongoing since 2009, focuses on growth, reproduction, diets, and stock structure.

Another 500 genetic samples were collected in 2021 to investigate stock structure in collaboration with Oregon State University. Results of this research effort so far support management based on separate North and South stocks, but also suggest there is some level of migration and interbreeding across the equator that was not detected by prior tagging studies (Vaux et al., 2021). Ongoing analyses will use the newly identified North and South Pacific genetic profiles to more deeply investigate this connectivity between stocks.

The ongoing tagging program in collaboration with NMFS deployed 78 archival tags in 2021. These tags provide movement information for stock assessments and the development of management guidelines. Data from prior tags deployed in the California Current were published in a new study (Muhling et al., 2022). The study identified distinct albacore migration patterns representing different strategies to balance an energy trade-off between rewards of distant foraging habitats and costs of movement and local temperatures. Results suggested that migration patterns are diverse among individuals, but highly consistent within individuals in different years. The tagging program is ongoing but may be discontinued due to low return on investment in terms of recovered tags.

#### 4.2.4 Potential or actual changes to the management system

##### **Principle 3**

NOAA Fisheries and the Pacific Fishery Management Council (PFMC) manage the North Pacific albacore stock and fisheries off the West Coast of the U.S., and it is managed under the Highly Migratory Species (HMS) Fishery Management Plan (FMP). Internationally, North Pacific albacore is managed by the Inter-American Tropical Tuna Commission (IATTC) and the Western and Central Pacific Fisheries Commission (WCPFC). These Commissions rely on the scientific advice of the ISC to develop and adopt international resolutions for conservation and management measures. Working with the U.S. Department of State, NOAA Fisheries domestically implements these conservation and management measures (NOAA 2021).

The Albacore Working Group (ALBWG) of the International Scientific Committee for Tuna and Tuna-like species in the North Pacific Ocean (ISC) finished the Management Strategy Evaluation (MSE) for the North Pacific albacore stock. The first round of the MSE was reported in March 2019 and a second round was completed during 2020. Management and conservation objectives were agreed and endorsed by the Commission in 2020. During 2021, several regional workshops took place to discuss the results of the MSE to stakeholders (See Section 4.2.2 for further details on the MSE process). On April 5<sup>th</sup>, 2022, NOAA Fisheries Pacific Islands Regional Office and West Coast Region hosted a virtual meeting to receive stakeholder input on a harvest strategy for the IATTC and the WCPFC for North Pacific albacore (NPALB).

At the recent 13<sup>th</sup> Meeting of the Scientific Advisory Committee (SAC) (May 2022), the IATTC has not recommended a particular HCR, however noted that while all HCRs maintain the stock above undesirable levels, the HCRs with mixed control do so with higher probability, are more robust under low productive regimes and maintain a less variable stock biomass). The staff recommended that CPCs use the results of the concluded MSE process to consider choosing a suitable HCR given the trade-offs among catches, management interventions and avoidance of undesirable stock levels:

1. Contracting Party or Cooperating non-Contracting Parties (CPCs) should continue to implement Resolutions C-05-02, C-13-03, C-18-03, presently in force.
2. CPCs should use the results of the concluded MSE process to establish reference points and a harvest control rule (HCR) for North Pacific albacore tuna.

There was discussion regarding the MSE for N-ALB and the SAC endorsed the staff's recommendations. The adoption of reference points and an HCR are the next steps under consideration by the Commission, possibly at the at the upcoming 100<sup>th</sup> Meeting of the IATTC on 1-5 August 2022 (Personal communication, IATTC staff, June 2<sup>nd</sup>, 2022).

The current US/Canada albacore treaty regime expires on December 31, 2022. The fishing regime, which includes the number of permitted vessels and season length, has not changed since 2013. Negotiations to renew or modify the fishing regime are expected to begin in the fall of 2022 with the intent to have a resolution in time for the 2023 season.

#### 4.2.5 Changes in personnel in science, management or industry

Peter Flournoy, legal counsel and client representative for WFOA, retired in March 2022. Mike Conroy, who previously did legal consulting for AAFA, will now represent both WFOA and AAFA in matters relating to U.S. albacore tuna.

Wayne Heikkila, WFOA Executive Director and client representative, will retire December 2022. Ericka Carlson is the new Executive Director of the Oregon Albacore Commission (OAC) and administrator of AFRF.

Dr. Carolina Minte-Vera from the IATTC staff remains collaborating with the ISC Working Group (WG) on N-ALB.

#### 4.2.6 Enforcement update

Enforcement for the North Pacific Albacore fishery is conducted by the West Coast Enforcement Division Office of Law Enforcement (OLE). Under the federally-funded NOAA Cooperative Enforcement Program (CEP), Ole has ongoing Cooperative Enforcement Agreements (CEA) and Joint Enforcement Agreements (JEA) with all three West Coast States: California Department of Fish and Wildlife, Oregon State Police (OSP) – Fish and Wildlife Division, and Washington Department of Fish and Wildlife (WDFW) (NOAA, 2022). According to the June 2022 NOAA Fisheries Office of Law Enforcement (OLE), one finding for a commercial albacore fishing vessel was issued for failing to record two trips in the logbook. A Summary Settlement for \$500 was issued and paid. Another Summary Settlement was issued for lack of submitting logbooks within the HMS permit, however there was no indication that this was the commercial albacore tuna fishery. No changes or infractions were noted that would suggest this fishery is in non-compliance.

#### 4.2.7 Changes in traceability

The client group provided a “fish ticket packet”, which listed, the species, gear, area caught, fishing dates, vessel names, fish ticket #s, etc. and offloading receipts to verify the traceability systems in place. No changes in traceability were noted as part of this surveillance audit.

### 4.3 Version details

The 3<sup>rd</sup> surveillance audit for AAFA & WFOA North Pacific albacore followed FCPv2.2, MSC Fisheries Standard v 2.01 and the other documents reported in the table below.

Table 2 Fisheries program documents versions

Document	Version number
MSC Fisheries Certification Process	<b>Version 2.2</b>
MSC Fisheries Standard	<b>Version 2.01</b>
MSC General Certification Requirements	<b>Version 2.4.1</b>
MSC Surveillance Reporting Template	<b>Version 2.1</b>

## 5 Results

### 5.1 Surveillance results overview

#### 5.1.1 Summary of conditions

Table 3 Summary of conditions

Condition number	Condition	Performance Indicator (PI)	Status	PI original score	PI revised score
1	By the end of the fourth year of certification, the SG 80 scoring requirements above must	1.2.2	<b>On target</b>	<b>60</b>	<b>Not revised</b>

	<p>be met in full. This will be achieved if well-defined harvest control rules are in place at the IATTC and WCPFC that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as the PRI is approached, the selection of the harvest control rule takes into account the main uncertainties, and available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules.</p>				
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### 5.1.2 Total Allowable Catch (TAC) and catch data

Table 4 Catch data (ISC, 2021c). This fishery does not operate with a TAC. The “TAC” listed is the total catch landed under total allowable effort restrictions. The UoA share includes U.S. and Canada fisheries in the Northeast Pacific, while the UoC catch includes only the U.S. fishery.

TAC	Year	<b>2020</b>	Amount	<b>36,226 t</b>
UoA share of TAC	Year	<b>2020</b>	Amount	<b>9,673 t</b>
UoA share of total TAC	Year	<b>2020</b>	Amount	<b>9,673 t</b>
Total green weight catch by UoC	Year (most recent)	<b>2020</b>	Amount	<b>7,317</b>
Total green weight catch by UoC	Year (second most recent)	<b>2019</b>	Amount	<b>7,767 t</b>

### 5.1.3 Recommendations

This fishery has very low levels of non-target species or bycatch, however this is currently verified solely by logbooks. Additional monitoring, e.g., electronic monitoring, could be beneficial in terms of implementing a precautionary approach for bycatch. However, as noted by the client group, that this option would be great expense for this fishery that has very little impact on the overall stock.

## 5.2 Re-scoring Performance Indicators

No performance indicators were rescored during the 3<sup>rd</sup> surveillance audit.

## 5.3 Conditions

### 5.3.1 Closed Conditions

No conditions were closed during the 3<sup>rd</sup> surveillance audit.

### 5.3.2 Progress against conditions

According to the variation granted by the MSC on 14 January 2019, the deadline for closing the harvest control rule condition for all North Pacific Albacore certified fisheries was after the IATTC commission meeting in 2023. The MSC issued two derogations due to the COVID-19 pandemic. Derogation 3, issued March 27<sup>th</sup>, 2020, extended all certificates by 6 months. MSC Derogation 6, effective on March 28<sup>th</sup>, 2021, allowed the existing deadline on eligible conditions to be extended by 12 months. PIs 1.2.1, 1.2.2, 2.2.2, 2.3.2, and 3.2.3 are eligible PIs as per Table 1 of the derogation.<sup>1</sup>

Table 5 Progress against conditions

Performance Indicator	1.2.2
Score	60
Justification	Page 144 – 146 in the PCR from June 14 <sup>th</sup> , 2018
Condition	By the end of the fourth year of certification, the SG 80 scoring requirements above must be met in full. This will be achieved if well-defined harvest control rules are in place at the IATTC and WCPFC that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as the PRI is approached, the selection of the harvest control rule takes into account the main uncertainties, and available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules.
Condition start	June 14 <sup>th</sup> , 2018
Condition deadline	According to the variation granted by the MSC on 14 January 2019, the deadline for closing the harvest control rule condition for all North Pacific Albacore certified fisheries was after the IATTC commission meeting in 2023. The MSC issued 2 derogations (Derogation 3 and Derogation 6) due to the COVID-19 pandemic that extended certificates by six months and progress on applicable conditions by one year. Therefore, the condition deadline for this fishery is now <b>May 2025</b> . The milestones are revised accordingly.
Milestones	<ol style="list-style-type: none"> <li>1. By the first annual surveillance audit (December 2019), the certifier will be presented with information on those consultations which have occurred with the responsible parties.</li> <li>2. By the second surveillance audit (<b>May 2021; 6 months +12 months</b>) the certifier will be presented with information on progress which has been made in establishing a scientifically based target reference point and harvest control rules.</li> <li>3. By the <b>third</b> annual surveillance (<b>May 2022; 6 months +12 months</b>) the certifier will be presented with information on how those harvest control rules, assuming they have been agreed to by the RFMOs, might be implemented.</li> <li>4. By the fourth annual surveillance (<b>May 2023; 6 months +12 months</b>) the certifier will be presented with information on how those harvest control rules, assuming they have been agreed to by the RFMOs, might be implemented, and evidence of the clients' support and contribution to their implementation.</li> <li>5. By the fifth year (<b>May 2024; 6 months +12 months</b>) the certifier will be presented with evidence that the RFMOs have an implementation plan in</li> </ol>

<sup>1</sup> <https://www.msc.org/docs/default-source/default-document-library/for-business/program-documents/chain-of-custody-supporting-documents/msc-derogation-3-covid-19-fishery-and-chain-of-custody-remote-auditing.pdf>; <https://www.msc.org/docs/default-source/default-document-library/for-business/program-documents/chain-of-custody-supporting-documents/msc-derogation-6-covid-19-fishery-conditions-extension.pdf>

	<p>progress, and the evidence that the clients support and contribute to their implementation.</p> <p>By <b>May 2025</b>, well defined HCRs will be in place that ensure that the exploitation rate is reduced as the PRI is approached, that are expected to keep the stock fluctuating around a target level consistent with (or above) MSY.</p>	
<p>Progress on Condition</p>	<p><i>The progress made by the fishery client to address conditions shall be detailed, along with any observations from the assessment team. The CAB may include progress summaries from previous surveillance audits.</i></p>	
	<p>Year 1 (2019)</p>	<p>AAFA/WFOA in the past two years 2018 and 2019 has sent representatives to all the listed RFMO's and Federal Council meetings to advocate for sustainability in the west coast albacore troll fishery. The client indicated that they participated in the following meetings since the re-certification:</p> <ul style="list-style-type: none"> <li>• WCPFC Northern Committee Fourteenth Regular Session, Japan</li> <li>• IATTC annual meeting, Bilbao, Spain</li> <li>• WCPFC Fifteenth Regular Session, Honolulu, Hawaii</li> <li>• Fourth ISC MSE workshop, Yokohama, Japan</li> <li>• Nineteenth Meeting of the ISC, Teipei City, Taiwan</li> <li>• PFMC Council Meeting</li> <li>• WCPFC-SC Meeting in Pohnpei, FSM</li> <li>• WCPFC Northern Committee Fifteenth Regular Session, Portland, Oregon</li> </ul> <p>Details of client activities related to the action plan are provided in Appendix 5.4. (MRAG, 2019)</p>
	<p>Year 2 (2021)</p>	<p><b>Regional Progress:</b> MSE results for North Pacific Albacore Tuna were presented at the 12<sup>th</sup> Meeting of the IATTC Scientific Advisory Committee (IATTC, 2021a). SAC also recommended that CPCs use results of the concluded MSE process to establish reference points and harvest control rule for North Pacific albacore tuna (IATTC, 2021b). The report, coupled with the results of runs from previous iterations in this process, represent a substantial amount of information for WCPFC-NC and IATTC member countries and managers on which to base decisions concerning harvest strategy for this stock. The report will be reviewed by ISC21 in July 2021.</p> <p><b>Client Progress:</b> While WFOA and AAFA, and previously AFRF, representatives have attended and given support to US positions on MSE for meetings throughout 2020 and now 2021, it must be recognized that during this entire time period all the meetings were virtual. Progress on making decisions involving the application of MSE to the management of fisheries was minimal and most of the effort expended was to have further explanatory sessions with stakeholders. The other problem with this arrangement is that unless it is during pre-meeting delegation meetings, it is almost impossible to talk in any meaningful manner to the one or two representatives who are allowed to speak for each delegation. All the GAC and PAC meetings discuss both SPA and NPA but these sessions are usually kept confidential as much as possible since they may involve discussions of USG strategies in negotiating. That is why there is no specific reporting even though WFOA and AAFA</p>

representatives attend or are members of these two advisory groups. The advocacy of MSC positions is nevertheless continued.

AAFA/WFOA in the past 18 months has participated at all the listed RFMO's and Federal Council meetings to advocate for sustainability in the west coast albacore troll fishery. The client indicated that they participated in the following meetings since the re-certification:

**2019**

**PFMC June 2019 Meeting:**

WFOA and AAFA representatives attended and participated in the Council's June meeting. Those representatives serve of the Council's Highly Migratory Species Advisory Subpanel (HMSAS). The HMSAS advises the Council on fishery management issues, planning, and the content and effects of fishery management plans, amendments, and regulations impacting those stocks managed under the Council's HMS Fishery Management Plan. Our representatives offered advice on the following:

- Report for the 1st round of North Pacific Albacore Management Strategy Evaluation
- Forward a proposed Draft Resolution to the US Commissioners to the IATTC. This measure is urgent and needs to be presented at the July 22-26 Annual Meeting of the IATTC in Bilbao, Spain. This Resolution is designed to address increase in longline effort by vessels purported to be from Fiji and Vanuatu.
- The upcoming 15<sup>th</sup> Regular Session of the Northern Committee (NC15).

**9/3-9/6 NC 15 Meeting**

WFOA and AAFA representatives attended and participated in the 15th Regular Session of the Northern Committee (NC15). There were items of interest to the NPA fishery which were scheduled for discussion and potential consensus on recommendations to present to WCPFC16.

- Potential modifications to CMM 2005-03 - Conservation and Management Measure for North Pacific Albacore
- Interim harvest strategy for North Pacific albacore fishery (HS 2017-01)

The meeting failed to have a quorum, so no recommendations came out of NC15. However, it is envisioned the discussions by those in attendance could lead to recommendations when the NC reconvenes during WCPFC16.

**9/16/2019 - PFMC September 2019 Meeting**

WFOA and AAFA representatives attended and participated in the Council's November meeting. and offered advice on the following:

- A presentation given to the Council by the Southwest Fisheries Science Center which outlined HMS related science being undertaken. For NPA that included

- Life History (stomach contents and Age and Growth expanded sampling to regional/ sex specific curves; and
- Habitat Modeling
- Next steps:
  - Incorporate multi-year SWFSC diet studies into models (O. Snodgrass and C. Nickels)
  - Examine importance of migration behavior vs. local conditions for determining interannual availability
  - Consider potential climate change impacts ("Future Seas" project)
- Report on the September NC meeting which took place in Portland, Oregon. Unfortunately, there was no quorum present and therefore there were no recommend decisions to the WCPFC. Nonetheless, members present discussed a number of issues and prepared a report that will be considered when the NC convenes on the margins of the WCPFC meeting in December 2020.
- Request NMFS and Dept. of Commerce increase research of potential mislabeling regarding country of origin for albacore imported into Canada for processing; and then exported to the U.S. market under "Product of Canada" labeling. Industry fishing groups and U.S. individuals cannot track specific information (harvesting nation, traceability throughout the supply chain, etc.).

11/18 & 19 2019 - PFMC November 2019 Meeting  
WFOA and AAFA representatives attended and participated in the Council's November meeting. and offered advice on the following:

- Recommendations from the Permanent Advisory Committee to the U.S. Section to the Western and Central Pacific Fisheries Commission meeting held - October 10-11, 2019. There were recommendations regarding the SPA fishery. Concern was expressed regarding the flagrant disregard by certain CCMs of the provisions of both the North Pacific albacore and the South Pacific albacore CMMs and their limitations on effort.
- Those, and other, key issues of interest to be discussed at the WCPFC 16th Regular Session.
- A discussion on the expiring Regime under the Treaty between the Government of Canada and the Government of the United States of America on Pacific Coast Albacore Tuna Vessels and Port Privileges.
- Concerns on possible increased IUU catch

## **2020**

3/7 & 3/8 2020 – PFMC March 2020 Meeting  
WFOA and AAFA representatives attended and participated in the Council's March meeting. It is worth noting that this was right around the beginning of the outbreak of Covid 19 in California. The meeting was held in Rohnert Park, California which is about 10 miles from Santa Rosa,

California where a nursing home had reported a cluster of cases. To say there were distractions during the meeting would be an understatement.

The Council discussed the following items which may impact management of the NPA fishery:

- The Treaty between the Government of Canada and the Government of the United States of America on Pacific Coast Albacore Tuna Vessels and Port Privileges. The most recent three-year regime under the Treaty expired on December 31, 2019.
- Outcomes of the 16<sup>th</sup> Regular Session of the WCPFC (12/5 – 11, 2019).
  - A revised CMM for North Pacific albacore, CMM 2019-03, which will replace CMM 2005-03. The revised measure removes a six-month reporting requirement and clarifies the baseline for fishing effort limits (2002-04). The main provisions of the CMM, including fishing effort limits and catch limits, remain the same, and no regulatory action is needed to implement the modifications.
- Members of the HMSAS met with representatives from the USCG to discuss strategies and tactic to identify possible IUU fishing activity occurring on the high seas. This included an update on the ability of NPA harvesters to photograph and submit pictures of fish which appear to have net marks on them (the thought being an illegal drift net fleet is operating on the high seas on the North Pacific harvesting NPA).

6/12/2020 – PFMC June 2020 Meeting

WFOA and AAFA representatives participated in the Council's June meeting. Given that this was the first Council meeting where HMS was on the agenda after implementation of Covid-19 restrictions, this meeting (and all subsequent PFMC meetings thru June 2021) took place remotely. We were advised of the status of many previously scheduled international meetings, none which were intended to directly impact NPA management.

During this meeting the Council was informed of the availability of Preliminary Results of the 2020 Stock Assessment for NPA. WFOA and AAFA representatives participated in the development of the HSMAS report to the Council which noted the 2020 Assessment appeared to show the stock in a more favorable condition than the 2017 Assessment.

6/18 IATTC GAC  
7/7 WCPFC PAC

8/21 to 26 WCPFC Science and Statistical Committee Virtual: At this meeting a lot of time was spent reviewing the work of the ISC and it was pointed out that neither the IATTC nor the WCFPC had adopted F-based limit reference points for the North Pacific albacore stock. However, the stock status has been depicted in relation to the interim limit reference point (LRP; 20%SSBcurrent, F=0) for the stock and the equivalent fishing intensity (F20%; calculated as 1-

SPR20%). Fishing intensity (F, calculated as 1-SPR) is a measure of fishing mortality expressed as the decline in the proportion of the spawning biomass produced by each recruit relative to the unfished state. For example, a fishing intensity of 0.8 will result in a SSB of approximately 20% of SSB<sub>0</sub> over the long run. Fishing intensity is considered a proxy of fishing mortality. There was no opportunity to consider LRPs, TRPs, Threshold Points or HCRs.

9/14/2020 - PFMC September 2020 Meeting  
WFOA and AAFA representatives engaged in Council discussions about the possibility of an increase in recreational fishing vessels less than 30 feet also operating as commercial fishing vessels in order to opportunistically sell their catch. The Council's Highly Migratory Species Management Team reported to the Council that there was no significant increase in commercially licensed vessels less than 30 feet.

10/7 WCPFC-NC Virtual: WFOA and AAFA representatives supported the US position to continue the MSE process and try to bring it into management measures as soon as possible according to the extended work plan. The Northern Committee also considered and discussed recent assessments of northern stocks, including North Pacific albacore (NPALB).

10/14 to 16 WCPFC PAC Virtual

11/10 IATTC GAC Virtual

11/12 WCPFC South Pacific Albacore Roadmap. Virtual: WFOA representatives encouraged the Working Group to push the WCPFC to continue the work that had been begun for the MSE process for South Pacific albacore. This process has been complicated by the WCPFC decision to use a LRP and a HCR based not on SSB, but rather on reaching a target CPUE.

11/19/2020 - PFMC November 2020 Meeting  
WFOA and AAFA representatives attended the Council meeting and offered advice on the Recommendations from the Permanent Advisory Committee to the U.S. Section to the Western and Central Pacific Fisheries Commission Web Conference - October 14-16, 2020. While NPA was not specifically mentioned, there were recommendations regarding the SPA fishery.

11/30 to 12/4 IATTC Annual Meeting Virtual

12/8 to 14 WCPFC Annual Meeting Virtual

12/22 IATTC Extraordinary Meeting Virtual

### **2021**

3/9 & 3/10/2021 – PFMC March 2021 Meeting  
WFOA and AAFA representatives attended the Council meeting and offered advice on the following items which may impact management of the NPA fishery.

- Provisional outcomes from the 17<sup>th</sup> Regular Session of the WCPFC (12/8 – 15, 2020).
  - We noted the WCPFC received a general overview of the stock status of SPA (as presented by the Scientific Services Provider (SPC)) and general overview of the stock status of NPA (as presented by the International Scientific Committee for Tuna and Tuna-like Species in the Northern Pacific Ocean (ISC))
  - The WCPFC noted the report of progress from the SPA Roadmap Working Group
  - The WCPFC noted that the review of CMM 2015-02 Conservation and Management Measure for South Pacific Albacore is ongoing as part of the work of the SP Albacore Roadmap Working Group.
- We expressed with concern the transfer of 6,000 metric tons (mt) of Eastern Pacific Ocean (EPO) Bigeye Tuna quota from Japan to China for the 2021 fishing season, to be harvested using longline gear. The concern being that increased effort by any fleet in the EPO could lead to problems not only with bigeye but other species such as North Pacific albacore.
- Given the completion of the North Pacific Ocean Albacore Management Strategy Evaluation (NPALB MSE), we expressed support for the intended meeting with representatives of the ALBWG to provide the MSE results to stakeholders in their respective countries. The United States will be holding a joint virtual workshop with Canada's representatives and stakeholders from March 22-25, 2021, 9:30am-12:30pm. The aim of this workshop is to present the results of the MSE and assist stakeholders in understanding how to interpret and utilize the final results of the MSE

3/22 to 25 ISC-MSE Explanatory Meeting NPA MSE Virtual:  
At this meeting WFOA and AAFA representatives were primarily in a listening mode as the ISC announced it had completed its work in providing the MSE scientific basis for the managers and stakeholders to make decisions with regard to LRPs, TRPs, Threshold Points and HCRs. This presentation was made to both the Canadian and US fishermen and engendered a lengthy discussion of what the agreed upon LRPs, TRPs, LRPs and Threshold Points would be the right ones to use in management. There was also discussion of the scientific data uncertainties which went into the ISC MSE operating models, the lack of data after 2017 and other concerns. It was pointed out that a separate presentation had been made to Japan and the Asian participants in the albacore troll and longline fishery, however the views from these presentations had not been reconciled. The one thing that was agreed to is that whatever reference points and control rules were eventually agreed to should be the same across the North Pacific and the same in the IATTC and the WCPFC.

5/3 to 4 IATTC MSE for Tropical Tunas Virtual  
5/26 Combined IATTC SAS and GAC Virtual

6/1 WCR/PIRO MSE Stakeholder Meeting Virtual: WFOA and AAFA representatives attended the U.S. Stakeholder meeting convened by NMFS Pacific Islands Regional Office and West Coast Region to provide an opportunity for U.S. stakeholders to express their priorities and consider future management of NPALB. The concerns expressed in the March Explanation meetings were reiterated.

6/24 WCPFC South Pacific Albacore Road Map Mtg.  
6/25/2021 – June PFMC 2021 Meeting

WFOA and AAFA representatives attended the Council meeting and offered advice on the following items which may impact management of the NPA fishery.

- Provided the Council with a brief summary of the 2020 Stock Assessment which found the North Pacific albacore (NPALB) stock “is likely not overfished relative to the limit reference point adopted by the Western and Central Pacific Fisheries Commission (20%SSBcurrent, F=0).”
- Provided the Council with updates on the following recently completed meetings: ISC ALBWG US-Canada Stakeholder Meeting (March, 2021); NPALB US Stakeholder Meeting (June, 2021)

Regarding the ISC ALBWG US-Canada Stakeholder Meeting

- That we remain concerned there is a general lack of understanding surrounding the nuances of MSE, assumptions made in the model and how those impact the model's results. For example:
- How does the model estimate: (1) the percentage of the stock that migrates to the eastern Pacific; (2) the catchability of those fish; or (3) the stock impact of fish harvested in the Eastern Pacific versus those taken Western Pacific (juveniles vs. spawning age fish).
- Impacts of a rogue nation who has not participated in the MSE process and may not agree to be bound by any management measures; and has shown a history of not prioritizing RFMO engagement/enforcement.
- As stated in the MSE analysis, if a ghost fleet of unmanaged harvesters develops or is revealed, current harvesters will have reduced harvest opportunity.
- We would encourage the Council to support any and all efforts to facilitate additional conversations as the management process unfolds in the RFMOs.

Regarding the June 1 NPALB US Stakeholder Meeting

- Meaningful participation by fishery stakeholders necessitates clear understanding of the measures being discussed. Thoughtful, considered and well-understood reference points (Target, Threshold and Limit) and resulting Harvest Control Rules are supportable by industry.
- We offered the following specific suggestions:
  - a consistent and enforceable harvest strategy across the Pacific

		<ul style="list-style-type: none"> <li>○ ensuring SSB is maintained above the limit reference point (LRP) should be the top priority</li> <li>○ support the inclusion of a Threshold reference point</li> <li>○ Additional understanding is necessary regarding the implication(s) of various levels of F and how those influence the HCRs</li> <li>○ Additional conversations are needed regarding controls (TAE vs. TAC).</li> <li>○ In terms of a timeline, moving forward with management proposals (development of HCRs) in 2021 is not recommended – the fishing season is about to start, there is no stock related need for immediate action, there are likely going to be other priorities (tropical tunas, PBF) at the RFMOs this year, etc. We would be supportive of moving this forward next year.</li> </ul>
<p>Year 3 (2022)</p>		<p><b>Regional progress:</b> The ISC reviewed the final MSE report and does not anticipate conducting further work on the MSE at this time, noting that managers and stakeholders should now take time to absorb and discuss results and potentially propose management measures based on the MSE, with which the ALBWG agreed (ISC, 2021a&amp;d; WCPFC, 2021a). According to the Work Programme adopted by the NC (WCPFC, 2021a), considering retention or modification of the LRP and adoption of a TRP are slated for 2022, while establishment of the HCR and threshold reference point are slated for 2023.</p> <p><b>Client progress:</b> Due to COVID 19 management of tunas by the RFMOs was delayed during 2020 and the early months of 2021. In 2020 the IATTC and the WCPFC were only able to roll over for one year those resolutions which were scheduled to lapse. In 2021 the two RFMOs have focused primarily on the tropical tunas (skipjack, yellowfin and bigeye) and bluefin. All 2020 and 2021 meetings have been virtual. Nevertheless, client advocacy at the relevant RFMO and council meetings has continued.</p> <p>The client indicated that AAFA and/or WFOA (referred to as Certificate Holders below) have participated in the following meetings since the prior surveillance audit:</p> <p><b><u>2021</u></b> <b><u>March 2021 - MSE Workshop</u></b></p> <p>In March 2021 there was a 4-day Management Strategy Evaluation Workshop on North Pacific Albacore presented by the ISC Albacore Working Group and SWFSC scientists Steve Teo and Desiree Tommasi to both U.S. and Canadian managers and stakeholders. This was the fifth and last workshop held over 6 years for the ISC's MSE process. The overall definition used for the MSE process is “a simulation-based analysis to evaluate trade-offs achieved by alternative harvest (or management) strategies (HCRs) and to assess the consequences of uncertainty in achieving management objectives.” This process utilizes an assessment model, a management model and an operating</p>

model, and as with all computer models, it is only as accurate as the information which is fed into it. The scientists do admit some of the limitations including: assuming catch and effort controls are implemented equally across the longline and surface fleets, including those targeting albacore as well as those that have incidental albacore catch; little is known about how much albacore migrates from the west to the Eastern Pacific Ocean (EPO); the data that was used in the MSE models was only from 1993 forward to 2015, not including the recent unusual three seasons; and there is little understanding of how recruitment rates operate. Not explicitly recognized by the scientists are other unknowns and assumptions such as changes in fishing costs, market availability, weather, ocean conditions, and price paid.

The scientists evaluated 16 Harvest Control Rules (HCRs) given the agreed upon management objectives. These objectives were discussed and finalized with input from the Certificate Holders. The management goals used to evaluate the different HCRs were: (1) maintain historic spawning biomass (2) maintain historic total biomass; (3) keep catches above historic average; (4) keep the fishing impact around the target value (TRP); and (5) minimize changes in management over time. These objectives then formed the basis for performance indicators which were used to quantitatively evaluate the performance of the HCRs tested relative to the management objectives. There is not much difference between the five objectives, which accounts for the analysis coming out relatively close between all 16 of the HCRs. The primary focus was on a LRP of 20% SSB although 7.7% and 14% were analyzed as well. During the 2022 albacore stakeholder meeting (more on that below), we learned there is no conservation concern with an LRP of 14% or 20%. TRPs of taking 50% or 60% of the SSB and Threshold points at 20% and 30% SSB.

The MSE workshop did not make specific recommendations but stakeholders could draw certain conclusions. In deciding to use Total Allowable Catch (TAC) or Total Allowable Effort (TAE) for a HCR, it seems a TAC on the longline fleets and a TAE on the surface fleets would work best for the albacore fleet and the stock. NMFS seems to be comfortable using the number of fishing days to measure effort although it is probably simpler and better for fishermen to use the number of vessels. (Although for either of these flexibility needs to be built into the system so if the fish are close to shore and there are a lot of opportunistic small vessels fishing this doesn't impact the fishing days or vessel limit number). Managers present seemed likely to favor a TRP of F-50, which means leaving 50% of the SSB unfished. The current catch is at about 46% SSB. If one is talking about the female SSB (favored by the scientists) the catch is around 51%. While the scientists also looked at F-40, (taking 60% of the SSB), that TRP did not perform well in the analysis.

The Threshold Reference Point (T), the point at which managers would take some management action to reduce catch or effort to avoid reaching or breaching the Limit Reference Point (LRP) was also discussed. The interim LRP has been set at 20% by the WCPFC-NC for north Pacific albacore. The suggested T point was F-30. This

means that the managers would take action to reduce fishing catch and effort if the stock assessment, done every 3 years, showed 70% of the SSB was being taken. Use of T provides additional flexibility for managers to implement gradual reductions in catch/effort when the stock condition dictates. The closer T is to the LRP, the less flexibility is allowed depending on the agreed upon level of risk of breaching the LRP scientists and managers are comfortable with. The Certificate Holders continue to support proposed Reference Points (LRP, TRP & T) which are protective of the stock while minimizing the potential for drastic management actions absent breaching the LRP.

This is a broad-brush summary to provide a background for subsequent discussions of MSE in 2021 and 2022. The U.S. and Canadian managers attending the seminars said the next steps in the MSE process would be to have more meetings with the stakeholders. The Certificate Holders have strongly supported and participated in this process through the six years of development. Both organizations have also advocated for and supported the US government's position to push for harvest strategies which are based on a management system based on the MSE process.

#### June 2021 - PIRO Stakeholder Meeting

The PIRO office of NOAA/NMFS scheduled a manager/stakeholder meeting for June 1, 2021. The two-hour virtual meeting's purpose was to get stakeholder input on the ISC's Management Strategy Evaluation of various potential harvest strategies using different Limit Reference Points, Target Reference Points, and Threshold points.

The discussions broadened the range of acceptable Threshold points to 40%SSB from 20% and 30% and included a potential limit reference point at 14%. There were at least 40 participants most of whom were managers from both NMFS offices and ENGOs. The ENGOs and PIRO were pushing to have discussions of a draft Harvest Strategy at the Northern Committee meeting of the WCPFC in August or September. It was suggested by NMFS that the WCPFC PAC meeting on June 10<sup>th</sup> and the IATTC GAC meeting set for July 20-21 would give stakeholders additional opportunities for input. The four albacore fleet representatives suggested that the MSE information was not well enough understood by the majority of albacore fishermen due to the limitations of virtual meetings and the MSE process's complexity. While they supported the adoption of harvest strategies based on the MSE process in the tRFMOs they also requested more time and resources be spent as soon as possible on educating all stakeholders. All attendees agreed that LRPs, TRPs, T points, Harvest Strategy and resulting HCRs should be the same across the North Pacific on both sides of the 150-degree line in both the WCPFC and the IATTC treaty areas.

Many of the unknowns and complexities in developing HCRs so they which would actually work on the ocean were discussed. Knowing the level of the SSB did not predict the amount of albacore would be available in the EPO for the west coast fishery which depends on the percentage of

SSB moving from the west to the EPO. Other problems discussed were predicting catchability and that the MSE process did not use data from the last 3 years when the EPO catch was down by 30% from the average catch. The US stakeholders favored a mixed management system where the longline fleets were under a TAC and the surface fleets were under effort limitations. When the MSE workshop was presented to the Japanese, they objected to this and wanted TACs across all gears and fleets. The problems with enforcing any HCRs on the Chinese and Taiwanese fleets were discussed, as was the difficulty with managing those fleets which sometimes targeted skipjack rather than albacore and those fleets which claimed only an incidental catch of albacore.

#### WCPFC-SCC Meeting

This virtual meeting was held from August 11-19, 2021 and was attended by representatives of the US albacore fleet. The discussion of most importance was the 2021 South Pacific albacore stock assessment. No time was spent on North Pacific albacore and this meeting is summarized in the South Pacific albacore surveillance report.

#### WCPFC TCC Meeting

This virtual meeting was held from September 22-28, 2021 and attended by representatives of the Certificate Holders. The WCPFC-TCC meeting spent a great deal of time discussing Chinese and Taiwanese utilizing more longline vessels and obtaining larger catches in the areas south of 20 degrees South thus violating CMM 2015-02. There are conflicting views of how the phrase "fishing for" South Pacific albacore should be interpreted. The Secretariat said it meant those vessels which harvested 50% or more of albacore measured against the yellowfin and big eye catch. China and Taiwan argued that it meant 50% or more measured against all species of fish caught.

There was also a lengthy discussion of electronic reporting on a daily basis of catch and effort for vessels fishing on the high seas and in EEZs. This was an effort to get more control on the high seas longline fleets. New Zealand put forth a proposed recommendation that there should be such electronic reporting in place by 2023, however no decision was reached on any TCC recommendation to the WCPFC because of Asian objections. PIRO was made aware of the west coast albacore fleet's concern with the expensive burden of such a requirement and the lack of need for it since it has been repeatedly acknowledged that the impact of the high seas troll fishery is negligible. On the other hand, the U.S. stated it would work cooperatively with New Zealand on such a proposal. Apparently both the Hawaiian and American Samoan fleets are already doing this reporting after PIRO enforcement people figured out how this could be done using the VMS system with little or no expense.

There was also a discussion of a proposed crew labor standard resolution. There were at least two issues: should the recommendation be limited to labor standards or crew safety; and should the measure only apply to the high seas

or also to members' EEZs. Further consideration was put off to the holding of an intersessional electronic working group meeting which was later cancelled. The proposal on a forced labor resolution was objected to strongly by China. Although it will be raised again in the annual meeting of the WCPFC, with China's flat-out rejection of such a measure it may not even be discussed given the focus on the tropical tuna resolution which is in the process of difficult renegotiations.

WCPFC-NC Meeting

This was a virtual meeting held on October 5-7, 2021, and representatives of the Certificate Holders were in attendance. As usual a lot of the meeting was spent on Bluefin tuna. On albacore, Vanuatu's changes to its baseline effort data, were questioned by Japan. Vanuatu said that at NC16, it presented its effort limits using 2004 effort as it had little catch and effort data for the years 2002 and 2003. Since then, it has collected more historical catch data and found that a good number of its vessels which were licensed then were longline vessels fishing for NPALB, so it is now using the number of vessels which were licensed in 2002-2004 instead. Vanuatu updated its 2004 effort baseline using the number of vessels licensed as the average. Japan said that Vanuatu should not increase its fishing effort from the current levels until it confirmed the appropriate effort data base for 2002-2004 by the NC18 meeting. Vanuatu said that it would be willing to consider any data that other members have, otherwise it believes that the information it has provided is based on all available data and it does not expect to change the base number again. This was not a very satisfying answer.

The US pointed out a discrepancy in Korea's effort data for 2002-2004, whereby it has zero vessels but 1,072 fishing days. Korea explained that it has no vessels targeting NPALB and that the fishing days is that of vessels that caught NPALB as bycatch. Korea stated its intent to revise the fishing days to zero.

The NC reviewed the progress of the ISC's MSE process. The Certificate Holders were instrumental in obtaining a statement in the meeting's report that encouraged each member to work with their domestic stakeholders to deepen the understanding of the MSE process. This is necessary to be prepared to discuss and advance the process collectively at NC18. Both organizations supported the US government's position to obtain a revised NC work plan so that in 2022 it would reconsider the interim LRP of 20% SSB and adopt a TRP. In 2023 it plans to set a T point and develop HCRs which are to be reviewed in 2024. The NC17 Summary included the following work plan for 2022 and 2023 for North Pacific Albacore:

2022:

Based on MSE results, consider retention or modification of LRP and consider adoption of TRP to complete Task.

Recommend any necessary changes to CMM.

2023:

Further development of harvest strategy including establishment of harvest control rule and threshold reference point to complete Task (B)(2).

Obtain the new assessment results from ISC and recommend any necessary

#### WCPFC-PAC Meeting

This virtual meeting was held on October 13-15, 2021, and was attended by Certificate Holder representatives to support US government positions to encourage the adoption of harvest strategies for Pacific albacore. As a quick summary many recommendations covered earlier WFOA positions such as: transshipping; getting better information on longline fleets catches and effort on South Pacific albacore; keeping South Pacific albacore regulations confined to the longline fleet and not have them apply to the US troll fleet; and focusing on child and forced labor without getting into the specifics of wages and hours.

Newer subjects resulting from some of the meetings reviewed above included creating a more specific definition of what is meant by “fishing for” albacore so nations with a large bycatch of albacore which are not targeting albacore will report catch and effort instead of just reporting they have no vessels “fishing for albacore”. Also new is an effort to push hard for completion of the MSE process for South Pacific albacore. This has assumed new importance particularly to the purse seine fleet that catches yellowfin, skipjack and the longline fleets that catch yellowfin and albacore. The pressure is increasing from the processors to do whatever MSC says is necessary to keep their resource certification. It bears noting, there is considerable uncertainty regarding the implications of the proposed revisions to the MSC standards, particularly as they may impact fisheries managed by the RFMOs. An outstanding issue is how to assure that the WCPFC-NC and the IATTC MSE processes will come to the same LRPs, TRPs, threshold points and HCRs. All seem to agree this must be done, and this point was reiterated during the April 2022 stakeholder Workshop, but to date the Western Region Office which has jurisdiction for the IATTC has not pressed this point to get a definite conclusion from the scientists.

#### IATTC Meetings

The IATTC held its annual meeting during August 23-27, 2021, and then resumed the meeting on October 18-22, 2021 where the primary items of business were to pass a new conservation and management measure for tropical tunas and a bluefin resolution to agree with the WCPFC-NC and IATTC Bluefin Working Group recommendations. There was no discussion of albacore. Certificate Holders have been engaging with the West Coast Region in an effort to develop a strategy to be sure that any harvest strategies and HCRs resulting from the MSE process is compatible between the IATTC and the WCPFC for NP albacore.

#### WCPFC Annual Meeting December 2021

Representatives of the Certificate Holders attended this meeting, but the discussion focused on a potential binding

resolution to stop longline fishing for South Pacific albacore on the high seas. This meeting is summarized in the South Pacific albacore surveillance report.

## **2022**

### **April 2022 – NMFS/PIRO North Pacific Albacore Harvest Strategy Meeting**

On April 5, 2022, NOAA Fisheries Pacific Islands Regional Office and West Coast Region hosted a virtual meeting to gather U.S. stakeholder input on a North Pacific albacore (NPALB) harvest strategy for the IATTC and WCPFC. The Certificate Holders were well represented and actively participated in the discussions. The primary purpose of the meeting was to gather input on the Management Objectives, LRPs, and TRPs. The meeting was centered on obtaining guidance on the following questions:

Regarding management objectives:

1. Is the current WCPFC interim management objective satisfactory, or do you have any suggested changes? *It was recommended that the interim management objectives be revised utilizing those identified during the MSE process*
2. Should the IATTC adopt similar management objectives for NPALB? *Yes*
3. Are any objectives evaluated in the management strategy evaluation (MSE) more important to you than others? *Yes, in order of importance: (a). Status: maintaining fishing mortality around the target reference point; (b) Safety: maintaining SSB above the LRP; and (c) Changes in total allowable catch between years should be gradual.*

Regarding limit reference points (LRPs):

1. What are important factors for the United States to consider in reviewing the LRP for NPALB?
2. Do you support retaining the LRP of 20% unfished spawning stock biomass (SSB<sub>0</sub>) in the WCPFC? If not, what LRP would you prefer? Based on the candidate LRPs evaluated in the MSE, is there an LRP that you do not support? Do you support the IATTC adopting the same LRP? *In general, the majority of participants expressed support for either an LRP of 14%SSB<sub>0</sub> or 20%SSB<sub>0</sub>. There is no real difference from a conservation standpoint, according to the scientists, There was general support that an LRP chosen by the RFMOs should be more conservative than domestic laws to avoid a scenario in which the U.S. fleet is constrained while the remainder of the international fleet is not.*
3. What level of risk of breaching the LRP would you support? *The risk of breaching the LRP should be low but noted that the risk level could depend on the threshold reference point chosen.*

Regarding target reference points (TRPs):

1. What are important factors for the United States to consider in proposing a TRP for NPALB?
2. Should the United States advocate a TRP for F<sub>40</sub>, F<sub>50</sub>, or another level? *It was suggested that a TRP chosen be one of those tested in the MSE. In particular, either F<sub>40</sub> or F<sub>50</sub> because both appeared to achieve the conservation target. However, it was*

*recognized that if F50 was chosen, it may be economically threatening to the EPO fisheries because new fishing opportunities may be afforded in the WCPO. A participant noted that F40 would be preferred provided the threshold reference point was appropriately placed to reduce the risk of breaching the LRP.*

Regarding the process and next steps:

1. The NC adopted a stepwise approach to further develop the harvest strategy for North Pacific albacore fisheries. Do you support focusing on adoption of a TRP and review of an LRP for 2022 (adoption of LRP in the IATTC)? Do you still support this schedule? Are there additional elements of the harvest strategy that you would like addressed in 2022 or 2023? *Fishing industry participants supported proposing a harvest strategy at both RFMO's this year, beginning with the IATTC. Additionally, some participants suggested proposing a full harvest strategy, not just objectives, LRP and TRP, because, at a minimum, this would socialize concepts if members are not ready to adopt a HS yet.*
2. Do you have suggestions on how to coordinate approaches on developing harvest strategies in the WCPFC and IATTC?

May 16 – 20 – IATTC Scientific Advisory Committee Meeting

Certificate Holders attended and participated in the IATTC SAC meeting, which had topics related to both North Pacific and South Pacific albacore.

North Pacific focused on discussions focused on MSE and developing a harvest strategy. The SAC recommendation to the Commission was to use the results of the concluded MSE process to establish reference points and harvest control rules for the North Pacific albacore tuna.

Certificate Holders expressed concern about rushing to develop HCRs not in accordance with the NC workplan (which clearly states that HCRs were to be discussed in 2023). This also was contrary to what we were told during the April 5, 2022, stakeholder workshop where the stepwise approach was preferred. The Certificate Holders spend significant time and energy educating our respective memberships on the primary components of the Harvest Strategy (Reference Points and Management Objectives) and were able to get consensus viewpoints on those items. Given that the fishing season was about to begin, it would be virtually impossible to engage fishery participants before the upcoming IATTC meeting in an effort to gain consensus on HCRs.

June 8 – 14 – Pacific Fishery Management Council meeting

There were no detailed conversations on North Pacific albacore before the PFMC in the second half of 2021 or in March of 2022. The June of 2022 meeting of the PFMC did discuss North Pacific albacore management. NMFS presented a Draft Resolution on North Pacific albacore

which included the following components: Management Objectives, Reference Points, Acceptable Levels of Risk, Monitoring, and Harvest Control Rules.

The Certificate Holders have representatives that serve on the PFMC's Highly Migratory Species Advisory Subpanel (HMSAS). In its Report to the Council, the HMSAS noted the stepwise approach included in the Northern Committee workplan as well as stating, "Both before and after [the April 5 Stakeholder meeting] fishery participants were briefed on the management objectives as well as target and limit reference points. It was generally understood that obtaining international agreement on Reference Points and the Management Objectives, in the form of a Harvest Strategy, would then pave the way for the development of Harvest Control Rules (HCRs) based on the Harvest Strategy. Given the likelihood of different approaches to controlling harvest of directed fleets (surface fisheries) versus longline fleets which directly or indirectly harvest NPA, the stepwise approach is a logical one. Discussing nuances of HCRs (Total Allowable Effort for surface fisheries v Total Allowable Catch for other fleets) could thwart the ability to get consensus on the foundational elements of the HCRs – target and limit reference points." The HMSAS recommendation to the Council read as follows:

The HMSAS supports NOAA's intention to advance a comprehensive harvest strategy to the IATTC for North Pacific Albacore, with an intention that any future harvest strategy adopted in the WCPFC be compatible. We also agree with and generally support Section 1, clauses a – e as currently provided in the Draft Resolution, including Management Objectives, Reference Points, Acceptable Levels of Risk, and Monitoring, with modifications as presented above. The HMSAS is concerned that there has not been sufficient time to review, discuss, and develop a position on the contents of any proposed HCRs. The HMSAS requests that NOAA allow for further discussions with stakeholders on the HCRs. In particular, additional specificity is needed to outline an appropriate total allowable catch and/or total allowable effort to control impacts from non-target fisheries and provide clarity on actions at reference points. The HMSAS further recommends that the Council instruct NMFS to move forward with seeking international agreement on Management Objectives, Reference Points, Acceptable Levels of Risk, and Monitoring while seeking further consultation from domestic stakeholders on Harvest Control Rules so that fishery participants have had a chance to review, discuss, and develop a position on the contents of any proposed HCRs.

The PFMC, after deliberations and discussion recommended to NMFS, regarding the Draft Resolution, "[d]efer inclusion of harvest control rules (paragraph 1(f)) until further consultations with stakeholders can be completed"

The Certificate Holders remain committed to being valued participants in developing a harvest strategy and harvest control rules for North Pacific albacore in accordance with the timeline outlined in the Northern Committee workplan prepared last year.

	Year 4	Summary of progress
	<i>Insert additional years if relevant</i>	
Progress status	The assessment team concluded that substantial progress has been made through the MSE process towards the MSC requirements for PI 1.2.2 to establish well defined harvest control rules for North Pacific albacore. The AAFA/WFOA has acted in good faith to advocate for progress towards the MSC requirements for PI 1.2.2 to establish well defined harvest control rules for north Pacific albacore. This condition is on target.	
Remedial action	N/A	
Additional information	N/A	

## 5.4 Client Action Plan

The client action plan milestones were updated to reflect the changes on the condition milestones in Table 5 due to the two MSC derogations for COVID-19 that extended the condition deadlines.

1. AAFA and WFOA will continue, through their participation in the US delegations to the annual meetings of the two relevant tuna RFMOs, the IATTC and WCPFC, to promote the development of a scientifically based target reference point and harvest control rules that apply to all of the fishing mortality of the north Pacific albacore stock. For South Pacific albacore, this work is being primarily conducted by the Science Committee of the WCPFC and its science provider, the SPC. Because of the extremely expensive travel costs associated with these meetings, the clients will continue to actively participate in the US delegation conference calls concerning these SC meetings and stay in close and regular touch with the Pacific Islands Regional Office (“PIRO”) and the Hawaiian Laboratory. As they have in the past, both WFOA and AAFA will support positions taken by the US delegations to the IATTC and WCPFC annual meetings to develop and implement a scientifically based target reference point and harvest control rules.
2. AAFA and WFOA will continue to work with, and will report on, ongoing efforts to explore opportunities to cooperate with and support the work of other tuna fisheries organizations to develop a scientifically based target reference point and harvest control rules.
3. WFOA’s science advisor will also continue to work with the Albacore Working Group of the International Scientific Committee as it proceeds with its Management Strategy Evaluation process to pursue the establishment of a scientifically based target reference point and harvest control rules. It is hoped that the WCPFC-SC and the WCPFC will utilize some of the MSE work and conclusions for north Pacific albacore in their considerations of south Pacific albacore.

### Responsible parties:

AAFA and WFOA will support the West Coast Region of the National Marine Fisheries Service and their scientific staffs, the Pacific Islands Regional Office of the National Marine Fisheries Service, which usually heads delegations to the WCPFC Science Committee and the annual WCPFC meetings, to develop a scientifically based target reference point and harvest control rules. Both organizations will also support the efforts of the U.S. Department of State to negotiate the acceptance of a scientifically based target reference point and harvest control rules.

### Timeframe and Milestones:

1. By the first annual surveillance audit the certifier will be presented with information on those consultations which have occurred with the responsible parties.
2. By the second surveillance audit (**May 2021, 6 months +12 months**) the certifier will be presented with information on progress which has been made in establishing a scientifically based target reference point and harvest control rules.
3. By the third annual surveillance (**May 2022; 6 months +12 months**) the certifier will be presented with information on how those harvest control rules, assuming they have been agreed to by the RFMOs, might be implemented.
4. By the fourth annual surveillance (**May 2023; 6 months +12 months**) the certifier will be presented with information on how those harvest control rules, assuming they have been agreed to by the RFMOs, might be implemented, and evidence of the clients’ support and contribution to their implementation.
5. By the fifth year (**May 2024; 6 months +12 months**) the certifier will be presented with evidence that the RFMOs have an implementation plan in progress, and the evidence that the clients support and contribute to their implementation.

By **May 2025**, well defined HCRs will be in place that ensure that the exploitation rate is reduced as the PRI is approached, that are expected to keep the stock fluctuating around a target level consistent with (or above) MSY.

## 6 Appendices

### 6.1 Evaluation processes and techniques

#### 6.1.1 Site visits

The surveillance audit process as defined in the MSC FCP v2.1 was followed in this audit.

Information supplied by the client and management agencies was reviewed by the assessment team ahead of the remote meeting, and discussions with the client and management agencies centered on the content within the provided documentation. In cases where relevant documentation was not provided in advance of the meeting, it was requested by the assessment team and subsequently supplied during, or shortly after the meeting.

Thirty days prior to the remote audit, all stakeholders from the full assessment were informed of the visit and the opportunity to provide information to the auditors in advance of, or during, audit. Table 6 lists the stakeholders that were contacted for this surveillance audit.

**Table 6 Stakeholders contacted**

Name	Organization
Jose Roques	Bellingham Cold Storage
Doug Heater	Bornstein Seafood
Andrew Bornstein	Bornstein Seafood
Chris Wick	North Delta Seafoods
Brad McLean	French Creek Seafood
Bob Abbott	Ilwaco Landing
Don Alber	Alber Seafoods, Inc.
Sherri Blevins	J.K. Seafood, Inc.
Dennis Rydman	Ocean Gold Seafoods
James Elstad	Oregon Seafoods LLC
Larz Malony	Pacific Seafood
Steve Stinnett	Pacific Seafood
Rick Harris	Pacific Seafood
Dave Wright	Pacific Seafood
Bill Weidman	Pacific Seafood
	Pacific Seafood
Jeff Reynolds	Seafood Producers Cooperative
	Seawater Seafood Company
Anthony Vuoso	Cal-Marine Fish company
Bill Carvalho	Wild Planet Foods
	Wild Planet Foods
	Wild Planet Foods
Mike Babcock	Oregon Seafoods LLC
Adrian Gutteridge	MSC
Alison Cross	WWF - US
Cisco Werner	NOAA
Dorothy Lowman	PFMC
Doug Loder	Tuna Management Association of New Zealand
	IATTC

Name	Organization
John Hall	Coastal & Offshore Pacific Corporation
	Intertek
Kit Dahl	NOAA
Natalie Webster	American Albacore Fishing Association
Peter Flournoy	Western Fishboat Owners Association
Mike Conroy	American Albacore Fishing Association
Robert Gillett	Gillett, Preston and Associates, Inc.
Stephen Stohs	NOAA
Wayne Heikkila	Western Fishboat Owners Association
	WCPFC
Ana Justel	ISSF
Susan Jackson	ISSF
Victor Restrepo	ISSF
David Itano	American Fishermen's Research Foundation
Douglas Fricke	Washington Trollers Association
	CU Pesca
Geraldine Criquet	NSF International
Tom Seaman	Undercurrent News

### 6.1.2 Stakeholder participation

A remote surveillance audit was held April 18<sup>th</sup> – 22<sup>nd</sup>, with a client-closing meeting on May 2<sup>nd</sup>, 2022. The following participants were in attendance via teleconference:

Name	Organization
Amanda Stern-Pirlot	MRAG Americas, Assessment team leader
Erin Wilson	MRAG Americas, Assessment team member
Dr. Monica Valle-Esquivel	MRAG Americas, Assessment team member
Dr. Nick Hahlbeck	MRAG Americas, observer
Wayne Heikkila	WFOA
Natalie Webster	AAFA
Mike Conroy	AAFA/WFOA
Joshlyn Hardwick	AAFA
Steve Teo	SWFSC
Desiree Tomasi	SWFSC

IATTC also participated by answering our questions sent during the site visit to their staff. Due to the demand of the many MSC assessments, a question format is requested and their new protocol. Mr. Alexandre Aires Da Silva helped coordinate with the IATTC staff (Appendix **Error! Reference source not found.**).

A general agenda for the surveillance audit is included as follows:

- 
- Introductions
    - Screen shot for attendance
  - Overview of the MSC Surveillance Process
    - Where to find more materials: Guide to the MSC process
-

- 
- Review the following updates to the fishery:
    - Changes to the fishery and its management
    - Any developments or changes to traceability
    - Any changes in personnel relevant to science, management, or industry
    - Any potential changes to scientific information, including stock assessments
    - Any other significant changes to the fishery
  - Meetings with others for this assessment:
    - SWFSC – April 19<sup>th</sup> 10:30 AM PDT
    - Sending list of questions to IATTC
  - Review Overall Progress on Conditions: See Appendix 1 for the Summary of Conditions
  - Harmonization discussions
    - SCS and Control Union
  - Stakeholder comments
    - ISSF
  - What is still needed for this audit
    - Catch information
    - Progress on Conditions
- 

Main topics for discussion:

- General overview of NP albacore fishery
- 

Principle 1: Target Stock

- MSE process and review
  - New data updates?
  - Abundance indices?
  - Stock assessment: main results; compare to previous assessments
  - Overview of the Evaluation Tool
  - Any potential changes that occurred in the management (new rules affecting discards, TAC, etc.) in the last year.
- 

Principle 2 Ecosystem:

- Updates on research into fishery impacts on habitats or ecosystems
  - Noteworthy protected species interactions, regulations or new research
- 

Principle 3 Management System:

- Any potential or actual changes monitoring, reporting, etc.
- Personnel: any changes in 2020 and 2021 in science, management or industry and their impacts on the management of the fishery?
- Timelines to complete Harvest Strategies at the RFMO level?

## 6.2 Stakeholder input

Thirty days prior to the audit site visit, all stakeholders from the full assessment were informed of the visit and the opportunity to provide information to the auditors in advance of, or during, the site visit.

MRAG Americas received one set of comments from the International Seafood Sustainability Foundation (ISSF). ISSF's comments and MRAG's responses to those comments are listed below.

## Performance Indicator (PI) input

Performance Indicator (PI)	Condition	Input summary	Input detail	Evidence or references	Stakeholder input code	CAB response to stakeholder input	CAB response code
Performance Indicator - <b>please copy and insert rows to raise more than one input against a Performance Indicator</b>	If relevant, please provide the associated condition - <b>please copy and insert rows to raise more than one input against a condition</b>	Summary sentence	Detail of stakeholder input	Objective evidence or references should be provided in support of any claims or claimed errors of fact.	Please assign an input code to describe the suggested change based on your input and evidence. <b>Optional.</b>  See the Codes section for a description of the codes.	The CAB shall respond in this column.  CAB responses should include details of where different changes have been made in the report (which section #, table etc).	The CAB shall assign a response code to each row completed by the stakeholder.
<b>Principle 1 - Sustainable fish stocks</b>							
1.1.1 - Stock status							
1.1.2 - Stock rebuilding							
1.2.1 - Harvest strategy NP ALB		The independent report by Medley et al. (2022) indicates that the fishery would not meet SG80 for this PI and that, as a result, a condition should be set.	The current harvest strategy for North Pacific albacore is set out in IATTC Resolution C-05-02 and WCPFC CMM 2019-03 which state the same thing: i.e., CPCs/CCMs should take measures to ensure that fishing effort on North Pacific albacore does not increase above “current levels”. This is the same as previous conservation measures, but WCPFC has set a new “current” level. IATTC have also passed Resolutions C-13-03 and C-18-03 which improve the reporting framework. In 2017, the WCPFC Northern Committee passed an ‘interim harvest strategy’ for North Pacific albacore which supplements the above harvest strategy (see report Attachment H); although it will not come into force unless endorsed by the WCPFC plenary. This puts in place the WCPFC LRP of 20%BF=0. It does not fix a TRP but notes that this should be determined as part of an MSE included under the Committee’s future work. It also puts in place a decision rule relating to the LRP, as follows: <i>In the event that, based on information from ISC, the spawning stock size decreases below the LRP at any time, NC will, at its next regular session or intersessionally if warranted, adopt a reasonable timeline, but no longer</i>	<a href="#">Medley et al. (2022)</a>	The PI should be rescored	Projections suggest that the stock is highly likely to remain above the LRP under both constant catch and constant effort (as mentioned in the comment). Thus, the fact that there is no means to control catch directly does not suggest that the fishery will fail to keep the stock above the LRP, because the fishery controls and monitors effort. The justification for this PI in the reassessment report (Stern-Pirlot, et al., 2018) noted that while there are no formally agreed HCRs yet in place, management has operated informally to meet stock objectives despite the harvest strategy leaving enforcement to CPCs/CCMs. This is still true as effort continued to decrease through 2020, 15 years after the effort limit was first established under CMM 2005-03 (WCPFC 2021). During the same 15 years, SSB has remained stable, rather than declining as it was before that time. This is evidence that the harvest strategy is achieving its	Not accepted (information for PI score has not changed)

			<p><i>than 10 years, for rebuilding the spawning stock to at least the LRP and recommend a CMM that can be expected to achieve such rebuilding within that timeline. ... The 2020 stock assessment estimates that F (fishing intensity; 1-SPR) is below all the proxy targets evaluated (FMSY, F0.1, F10%-F50%) except for F50% (the base case model estimates it to be ~at this level). Fishing intensity is estimated to have fluctuated at a ~constant level since the 2002-4 reference period.</i></p> <p>Projections at constant fishing intensity (consistent with the harvest strategy) suggest a low probability (&lt;1%) that biomass will decline below the 20%BF=0 by 2028, however, these projections imply a reduction in catch over this period, because of patterns of recent recruitment. Projections at constant catch suggest &gt;2.5% probability that female SSB will drop below 20%BF=0 LRP by 2022, but this probability decreases, dependent on future recruitment.</p> <p>On this basis, the harvest strategy (no increase in fishing effort) can be expected to achieve stock management objectives, at least in the short term; SG60 is met. In the longer term it does not seem that the current management measures to implement the harvest strategy would necessarily achieve stock management objectives (maintain biomass above the LRP), since there is currently no means of controlling catches directly and no means of enforcing the requirements on fishing effort at regional level. There is a commitment to introduce another CMM should biomass fall below the LRP, but not necessarily in the circumstances of increased probability of biomass falling below the LRP in the future. Therefore the evidence that the harvest strategy will continue to meet this objective is weak. SG80 is not met.</p> <p>In order to improve this score, the harvest strategy needs to be improved such that i) it explicitly takes into account the risk of the stock falling below the LRP, and ii) such that there is evidence that effective tools can be put in place to implement the strategy, if required.</p>			<p>objectives even if not fully tested (SG80, 1.2.1b). It is also evidence that the elements of the harvest strategy—the high-quality stock assessment and effort compliance information, and the “available” HCRs (Stern-Pirlot et al., 2018)—are continuing to work together towards the objectives and respond to the state of the stock (SG80, 1.2.1a). This perspective is in line with existing harmonization decisions made under a similar stock status (see Section 6.4 below).</p> <p>It is also worth noting that the open condition on PI 1.2.2 (Table 5) already requires development of HCRs which should 1) be consistent with the harvest strategy, 2) be well-defined and in place, 3) ensure the exploitation rate declines as the PRI is approached, 4) take the main uncertainties into account, and 5) be demonstrably effective by available evidence. Recommendations i) and ii) from the comment seem to be addressed there.</p>	
1.2.2 - Harvest control rules and tools NP ALB		The independent report by Medley et al. (2022) indicates that the fishery would not meet SG60 for SI 1.2.2.a and 1.2.2.c and that, as a result, the	1.2.2.a: The estimate of BMSY from the stock assessment is low relative to unfished biomass and is therefore not a precautionary target. Although the harvest strategy is predicated on constraining fishing effort, there are no stock-wide measures in place to do this; the harvest strategy relies on individual countries taking action for their fleets. The most recent stock assessment, however, estimates that in order to maintain F at the level requirement for the stock biomass to be kept above the LRP, some reduction in catch is required from present levels. Since there is no evidence at the moment that this can be achieved, there is not really a good reason to expect that the harvest strategy can reduce the	<a href="#">Medley et al. (2022)</a>	The PI should be rescored	1.2.2a: The most recent stock assessment does not estimate that catch reduction is required to keep the stock above the LRP. It estimates that there is a slightly higher risk of falling below the LRP if catch is held constant rather than effort, but the risk even under constant catch is below 0.5% in all years (ISC, 2020 p. 43). In other words, the stock assessment estimates a 99.5% probability that SSB will remain above the LRP if catch does not change from 2013-2017 levels, which are even higher than	Not accepted (information for PI score has not changed)

		<p>overall PI score would be less than 60 ("Fail").</p>	<p>exploitation rate as the LRP is approached. Therefore, SG60 is not met. 1.2.2.c: Catches have been falling recently. The stock is highly likely above the LRP (20% Blatest/B0). However, there are no convincing tools in place at present to achieve a catch reduction should this become necessary. While the ISC notes that catches have been falling, some countries expressed concern in the Northern Committee about declining CPUEs, as well as an unreported increase in Chinese effort on the stock. In this situation of increased risk to the stock under the current management regime, it is not appropriate to consider that 'available' tools will be effective in constraining fishing mortality to appropriate levels, so SG60 is not met.</p>			<p>falling recent catches as noted in the comment. SG60 is met.</p> <p>1.2.2c: Correct, the HCRs cannot currently achieve catch reduction directly because they are "available" rather than "in place". However, MSC guidance GSA2.5.2-2.5.5 states that if HCRs are expected to be introduced in the future when needed, and if biomass has been consistently at/above Bmsy, then available HCRs may meet SG60. The available HCRs are expected to be introduced because the open condition requires it by 2025, and progress has been made via the MSE process and ongoing stakeholder discussions (Table 5). The stock assessment indicates that biomass is above Bmsy, which "should be used... for measuring stock status unless additional precaution is sought" when it is analytically determined (MSC GSA2.2.3.1). Management has not adopted a more precautionary reference point and thus biomass meets the Bmsy criterion for available HCRs, although it is worth noting that biomass is also above the criterion of 2 x LRP specified in Medley et al. (2022) (ISC, 2020 Table 5.4). The remaining question then is whether the available HCRs are expected to be effective per SG80 once they are in place, given the threats cited in the comment. The MSE suggested that the stock would likely remain above the LRP under the candidate HCRs even with unreported catch reaching 50,000 t. This is because 1) the biomass indicators are sensitive enough to detect the unmanaged impacts, and 2) proposed targets for fishing effort are low enough to allow the managed fleet to compensate, albeit with slightly greater odds of a reduced catch (ISC, 2021a p. 13 &amp; 169-170). Thus, existing plans to put available HCRs in place, which are aligned with RFMO workplans (see Section 6.4), meet SG60 at this time. Unreported catch and declining CPUEs are certainly concerns worth monitoring in case new data shows a need for a more urgent timeline.</p>	
<p>1.2.3 - Information and monitoring</p>							

1.2.4 - Assessment of stock status							
<b>Principle 2 - Minimising environmental impacts</b>							
2.1.1 - Primary species outcome							
2.1.2 - Primary species management							
2.1.3 - Primary species information							
2.2.1 - Secondary species outcome							
2.2.2 - Secondary species management							
2.2.3 - Secondary species information							
2.3.1 - ETP species outcome							
2.3.2 - ETP species management							
2.3.3 - ETP species information							
2.4.1 - Habitats outcome							
2.4.2 - Habitats management strategy							
2.4.3 - Habitats information							
2.5.1 - Ecosystem outcome							

2.5.2 - Ecosystem management strategy							
2.5.3 - Ecosystem information							
<b>Principle 3 - Effective management</b>							
3.1.1 - Legal and/or customary framework							
3.1.2 - Consultation, roles and responsibilities							
3.1.3 - Long term objectives							
3.2.1 - Fishery-specific objectives							
3.2.2 - Decision-making processes							
3.2.3 - Compliance and enforcement							
3.2.4 - Monitoring and management performance evaluation							

## General comments

General comments	Evidence or references	CAB response to stakeholder input	CAB Response Code
General comments on the surveillance audit Stakeholders should note that input is most useful for assessment teams when attributed to an MSC Performance Indicator,	Objective evidence or references should be provided in support of any	CABs should respond in this column. CAB responses should include details of	The CAB shall assign a response code to each row

condition or milestone, and when objective evidence and references are provided in support of any claims or claimed errors of fact.	claims or claimed errors of fact.	where different changes have been made in the report (which section #, table etc).	completed by the stakeholder.
<p><b>HS Advocacy actions</b></p> <p>ISSF encourages the Client fishery to continue their very valuable advocacy efforts in the future. For this purpose, ISSF would like to update the recommendations made to the fishery at its second surveillance audit with the following actions that AAFA and WFOA could consider including in the Client Action Plan for their Condition on HCR:</p> <p>1) Publicly support the high-level appeals for RFMOs developed by global NGOs that are participants in the NGO Tuna Forum.</p> <p>In 2022, companies will have the opportunity to engage in other direct RFMO advocacy tactics to demonstrate market support for specific tuna sustainability asks. NGO participants in the NGO Tuna Forum have begun reaching out to market partners with these opportunities.</p> <p>2) Advocate for accelerated progress on the adoption and implementation of Harvest Strategies and Harvest Control Rules through tRFMOs, such as through continued direct engagement with national delegations. For example, once the WCPO MSC Alignment Group is reactivated, ISSF encourages the client fishery to participate in the Group.</p> <p>3) Continue urging the delegation of the US and of all other parties associated with AAFA and WFOA at WCPFC and IATTC to take a strong public position on advancing harvest strategies, including HCR and the establishment of Target and Limit Reference Points for Northern Pacific albacore, as part of the deliberations WCPFC and IATTC will undertake this year and at future meetings. Advocate for and support the US delegation in making proposals for the development of harvest strategies including harvest control rules, and to underscore that under Fisheries Standard Version 2.01 MSC has established hard deadlines for P1 conditions for certified tuna fisheries, which for North Pacific Albacore HCR's is May 2025. If these deadlines are not met, the corresponding Western Pacific Albacore MSC certifications will be suspended. In particular, specifically, for 2022, advocate for the WCPFC/IATTC to:</p> <ul style="list-style-type: none"> <li>• Adopt Target Reference Points for northern albacore.</li> <li>• Adopt a list of candidate management procedures for albacore.</li> </ul> <p>4) Have meetings with relevant WCPFC and IATTC delegations where The Client fishery has business interests to advocate for the adoption of Harvest Strategies.</p> <p>5) Publicly support ISSF Position Statements that contain detailed asks on Harvest Strategies and Harvest Control Rules to the virtual sessions of WCPFC and IATTC in 2022, as well as future in-person meetings, and document that support (e.g. by submitting a letter or some other communication citing the ISSF Position Statement).</p> <p>(6) Support technical work of WCPFC and IATTC as well as capacity workshops on Management Strategy Evaluation in the various RFMO regions so as to increase the leverage of RFMO members for the discussion and adoption of robust Harvest Strategies and HCRs.</p>	<p>- <a href="https://ngotunaforum.org/">https://ngotunaforum.org/</a> - <a href="https://iss-foundation.org/what-we-do/influence/position-statements/">https://iss-foundation.org/what-we-do/influence/position-statements/</a></p>	<p>As the certifier, we do not make specific recommendations on the Client Action Plan; we only provide guidance on what is needed to remove the condition. Thank you for your comments and we have brought them to the attention of the client.</p>	<p>Not accepted (information for PI score has not changed)</p>
<p><b>Interactions with non target species</b></p> <p>The fishery appears to have a very little ecosystem impact. It is noted that it continues not being regularly observed, nor an obligation to keep logbook records of any non-target species. As a precautionary measure, ISSF urges the fishery to implement some level of monitoring that allows for an independent verification of the interactions and a confirmation that the fishery continues not posing a risk to ecosystem components. EMS systems might be a practical and affordable means to collect this type of information.</p>	<p>None given</p>	<p>Thank you for your comment. This fishery has low levels of bycatch or non-target species; however, the assessment team agrees that additional monitoring could be beneficial in terms of the precautionary approach. We have included a recommendation.</p>	<p>Not accepted (information for PI score has not changed)</p>
<p><b>Letter of support from the US administration</b></p> <p>ISSF reiterates the importance to include a letter of support from the national fisheries agency. The action plan sets a conditions for PI 1.2.2 (HCR) of the Northern Pacific Albacore stock. Taking into account the national government will probably have a relevant role in the action plan for these conditions, ISSF is concerned that, without a letter of support from the US government, there is no clear expectation that the Client Action Plan will achieve its objectives. Other tuna fisheries that have obtained MSC certification in recent years, the evidence of government support and involvement presented consisted of a letter from the national fisheries agency or ministry of fisheries stating their conformity and commitment to the milestones and actions described in the Client's Action Plan (see for example the Final Report of the Solomon Islands longline albacore and yellowfin tuna fishery (P.279)).</p>	<p><a href="https://cert.msc.org/FileLoader/FileLinkDownload.aspx?GetFile?encryptedKey=+qi2N83wZ9VnJ8Ep4QpeFEJ+aZOZ23KSTEFgoorNggDjrCzt+pTxDh47ZcdaRb6A">https://cert.msc.org/FileLoader/FileLinkDownload.aspx?GetFile?encryptedKey=+qi2N83wZ9VnJ8Ep4QpeFEJ+aZOZ23KSTEFgoorNggDjrCzt+pTxDh47ZcdaRb6A</a></p>	<p>As the certifier, we do not make specific recommendations on the Client Action Plan; we only provide guidance on what is needed to remove the condition. Thank you for your comments and we have brought them to the attention of the client.</p>	<p>Not accepted (information for PI score has not changed)</p>

## 6.3 Revised surveillance program

Table 7 Fishery surveillance program

Surveillance level	Year 1	Year 2	Year 3	Year 4
e.g. Level 5	e.g. On-site surveillance audit	e.g. On-site surveillance audit	e.g. On-site surveillance audit	e.g. On-site surveillance audit & re-certification site visit
<b>Level 5</b>	<b>On-site surveillance audit</b>	Off-site surveillance audit	Off-site surveillance audit	On-site surveillance audit & re-certification site visit

Table 8 Timing of surveillance audit

Year	Anniversary date of certificate	Proposed date of surveillance audit	Justification
e.g. 1	e.g. May 2018	e.g. July 2018	e.g. Scientific advice to be released in June 2018, proposal to postpone audit to include findings of scientific advice
3	December 2021 (North) May 2022 (South)	April 2022 (North and South)	Surveillance audit was scheduled to combine the North and South Pacific albacore site visit.

Table 9 Surveillance level justification

Year	Surveillance activity	Number of auditors	Justification
3	Off-site audit	3 auditors working remotely	The MSC's Derogation 3: Covid-19 Fishery and Chain of Custody Remote Auditing enables CABs to conduct reassessments and surveillance audits remotely when certificate holder or CAB company policies are in place. Those the assessment team need to speak to are limiting access to their offices. Additionally, regulatory and scientific meetings relevant to the assessment are all occurring online.

## 6.4 Harmonised fishery assessments

On 12<sup>th</sup> November 2018, accredited CABs submitted a joint VR for all tuna fisheries currently in the MSC Program. MSC has accepted this VR which allows:

- Not to suspend fisheries that are behind target on P1 conditions raised against CR v.1.3.
- To upgrade all tuna fisheries currently under CR v.1.3 to V.2.0 at the next available opportunity.
- To harmonise P1 conditions and timelines for all tuna fisheries on the same stock.
- To set a shared deadline for achieving conditions in line with RFMO workplans.

MSC accepted the joint VR on February 14, 2019.

Since the 1<sup>st</sup> Surveillance Audit (MRAG, 2019) three additional fisheries for North Pacific albacore received MSC certification:

- Pan Pacific yellowfin, bigeye and albacore longline fishery (Jones, *et al.*, 2020);
- Owasebussan Co. Ltd North Pacific Longline Tuna Fishery for Albacore, Yellowfin Tuna & Bigeye Tuna (DiNardo, *et al.*, 2021); and
- Kiribati albacore, bigeye and yellowfin tuna longline fishery (Gascoine *et al.*, 2021)

The certification status of the overlapping fisheries is summarized in Table 10. Due to the Covid-19 outbreak the MSC has issued a derogation that allows a 6-month extension for all fishery certificates, conditions and fishery assessment/audit activities. Accordingly, the certificate expiry dates in Table 10 have been updated.<sup>2</sup>

**Table 10 Overlapping fisheries**

Fishery name	Certification status and date	Performance Indicators to harmonise
CHMSF British Columbia albacore tuna North Pacific	Date re-certified: 9 June, 2020; Expiry date: 7 Dec., 2025	All P1 performance indicators
AAFA and WFOA North Pacific albacore tuna	Date re-certified: 14 June, 2018; Expiry date: 13 Dec., 2023	All P1 performance indicators
Meiho Gyogyo Japanese pole and line albacore and skipjack fishery	Date certified: 17 October, 2016; Expiry date: 16 April, 2022	All P1 performance indicators
Ishihara Marine Products albacore and skipjack pole and line fishery	Date certified: 12 March 2019; Expiry date: 11 Nov., 2024	All P1 performance indicators
Owasebussen Co. Ltd North Pacific Longline Tuna Fishery for Albacore, Yellowfin Tuna & Bigeye Tuna	Date certified: 05 Feb. 2021; Expiry date: 04 Feb. 2026	All P1 performance indicators
Pan Pacific yellowfin, bigeye and albacore longline fishery	Date certified: 26 June, 2020; Expiry date: 25 Dec., 2025	All P1 performance indicators
Kiribati albacore, bigeye and yellowfin tuna longline fishery	Date certified: 19 Jan., 2021; Expiry date: 18 July., 2027	All P1 performance indicators

**Table 11 Harmonization**

Supporting information
- Describe any background or supporting information relevant to the harmonisation activities, processes and outcomes.
Harmonisation meetings have been taking place in connection with the 1 <sup>st</sup> surveillance audit of the AAFA/WFOA albacore fishery and the 2 <sup>nd</sup> re-assessment of the CHMSF albacore fishery at the end of August/early September 2019. More recently, harmonization discussions took place via email in August 2021 and April 2022.

<sup>2</sup> Stakeholder Notification: Confirmation of condition deadlines for Tuna stocks covered under the multi-fishery variation request accepted 14<sup>th</sup> January 2019.

Was either FCP v2.2 Annex PB1.3.3.4 or PB1.3.4.5 applied when harmonising?	<b>No</b>
Date of harmonisation meeting	<b>Sept 2019; Aug 2021; April 2022</b>
If applicable, describe the meeting outcome	
- e.g. Agreement found among teams or lowest score adopted.	
No changes to scoring were deemed necessary by all CABs impacted by harmonisation for North Pacific albacore. CABs will continue to engage in harmonisation discussions to ensure that P1 scoring is harmonised.	

**Table 12 Scoring differences**

Performance Indicators (PIs)	AAFA/WFOA North Pacific albacore	CHMSF British Columbia albacore	Japanese pole and line skipjack and albacore tuna fishery	Owasebussan Co. Ltd. North Pacific longline tuna fishery for albacore yellowfin tuna and bigeye tuna	Pan Pacific yellowfin, bigeye and albacore longline fishery	Ishihara Marine Products albacore and skipjack pole and line fishery	Kiribati albacore, bigeye and yellowfin tuna longline fishery	MSC harmonization scores
1.1.1	90	90	90	90	80	100	100	100
1.1.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1.2.1	80	85	85	85	85	85	85	80
1.2.2	60	60	60	60	60	60	60	60
1.2.3	90	90	90	90	90	90	90	90
1.2.4	100	100	95	100	100	95	100	100

**Table 13 Rationale for scoring differences**

If applicable, explain and justify any difference in scoring and rationale for the relevant Performance Indicators (FCP v2.2 Annex PB1.3.6)
Not applicable. All P1 performance indicators were harmonized.
If exceptional circumstances apply, outline the situation and whether there is agreement between or among teams on this determination
Not applicable

## 6.5 Questions/responses from IATTC

Questions for the MSC 3<sup>rd</sup> surveillance audit for AAFA/WFOA North and South Pacific albacore  
MRAG Americas Assessment Team: Erin Wilson (team lead), Amanda Stern-Pirlot, Dr. Monica Valle-Esquivel; Dr. Nick Hahlbeck - April 27<sup>th</sup>, 2022

1. Do you have any updates on the timeline for the MSE implementation for North Pacific albacore?

**Staff's response:** The Albacore Working Group (ALBWG) of the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC) finished the Management Strategy Evaluation (MSE) for the North Pacific albacore stock. The first round of the MSE was reported in March 2019 (ISC/19/ANNEX/06), and a second round was completed during 2020 and the final report was finalized in 2021 (ISC/21/ANNEX/11). In the context of the MSE process, management and conservation objectives were agreed<sup>3</sup> and endorsed by the Commission in 2020. During 2021, several regional workshops took place to present and discuss the results of the MSE to stakeholders.

The MSE process included input from managers and stakeholders and extensive simulation work. Candidate harvest control rules (HCRs) were suggested by managers and stakeholders. All HCRs are based on inputs from the assessment model and included target, limit, and threshold reference points. Sixteen HCRs were tested under several scenarios ranging from low to high productivity of the stock, of which four (which were deemed a good representation of the plausible mechanisms operating in the population) were retained to present the results. The performance of the HCRs under those scenarios was measured through indicators consisting of quantitative representations of the overall management objectives adopted for the fishery.

In the spirit of the MSE process in which the choice of an HCR is a product of the dialogue process among stakeholders, the IATTC staff has not recommended a particular HCR at the recent 13<sup>th</sup> Meeting of the Scientific Advisory Committee (for details see section 1.3. in Document SAC-13-14). The staff, however, noted that while all HCRs maintain the stock above undesirable levels, the HCRs with mixed control do so with higher probability, are more robust under low productive regimes and maintain a less variable stock biomass. In addition, current management measures in the IATTC for tropical tunas are based on mixed controls: effort control (temporal closures) for the purse-seine fleet and TACs for the longline fleet, with the recent introduction of IVLs for bigeye caught in the purse-seine fleet.

The staff recommended that CPCs use the results of the concluded MSE process to consider choosing a suitable HCR given the trade-offs among catches, management interventions and avoidance of undesirable stock levels:

### RECOMMENDATIONS:

1. CPCs should continue to implement Resolutions C-05-02, C-13-03, C-18-03, presently in force.
2. CPCs should use the results of the concluded MSE process to establish reference points and a harvest control rule (HCR) for North Pacific albacore tuna.

There was discussion at 13<sup>th</sup> Meeting of the SAC regarding the MSE for N-ALB and the SAC endorsed the staff's recommendations. As a result, developments on the MSE implementation for N-ALB are possible at the upcoming 100<sup>th</sup> Meeting of the IATTC on 1-5 August 2022.

2. Does IATTC have any plans to develop a harvest strategy and/or management objectives for NP albacore, similar to the WCPFC?

<sup>3</sup> The following management objectives for North Pacific albacore tuna were developed in the context of the MSE process, given the overarching objective of maintaining the viability and sustainability of the current North Pacific albacore stock and fisheries, agreed upon in the process:

- Maintain spawning biomass above the limit reference point.
- Maintain total biomass, with reasonable variability, around the historical average depletion of total biomass.
- Maintain harvest ratios by fishery (fraction of fishing impact with respect to SSB) at historical average.
- Maintain catches by fishery above average historical catch.
- If a change in total allowable effort and/or total allowable catch occurs, the rate of change should be relatively gradual.
- Maintain *F* at the target value with reasonable variability.

**Staff's response:** See response to question 1 above. In the context of the MSE process, management and conservation objectives have already been agreed<sup>1</sup> and endorsed by the IATTC in 2020. The adoption of reference points and an HCR are the next steps under consideration by the Commission, possibly at the at the upcoming 100<sup>th</sup> Meeting of the IATTC on 1-5 August 2022.

3. The most recent stock assessment estimates that in order to maintain F at the level requirement for the stock biomass to be kept above the LRP, some reduction in catch is required from present levels. What are the proposed methods to reduce catch or constrain fishing effort?

**Staff's response:**

The last benchmark stock assessment for the North Pacific Albacore was completed in 2020 (SAC-11-Inf-I) by the Albacore Working Group (ALBWG) of the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC), and the next is planned for 2023. The spawning biomass was at 46% of the dynamic virgin spawning biomass in 2018, the last year in the assessment, and the fishing mortality during 2015-2017 (F<sub>2015-2017</sub>) is below the level corresponding to the maximum sustainable yield (F<sub>2015-2017</sub>/F<sub>MSY</sub> = 0.60). Ten-year projections with either constant catch (2013-2017 average, 69,000 t) or constant fishing mortality (at the F<sub>2015-2017</sub> level) predicted an increase in the female spawning biomass. The Working Group noted that there was no evidence that fishing had reduced the spawning stock biomass below thresholds associated with most potential biomass-based reference points. The Working Group concluded that the north Pacific albacore stock is healthy, when contrasted with a set of potential reference points, and that the productivity was sufficient to sustain recent exploitation levels, assuming average historical recruitment in both the short and the long term.

The LRP for the stock is not yet adopted by the IATTC as it is expected to be one of the decisions taken when adopting a HCR from the MSE process.

4. Any other changes in management related to albacore?

**Staff's response:** As mentioned in 1, management and conservation objectives have already been agreed<sup>1</sup> and endorsed by the IATTC in 2020.

5. Any new research being conducted on North (or South) Pacific albacore?

**Staff's response:** In collaboration with the IATTC, the Pacific Community (SPC) conducted a benchmark stock assessment for South Pacific albacore tuna in 2021. It is based on a spatially-explicit stock assessment model in which the South EPO is considered as a single area due to the lack of tagging data. In summary, the benchmark assessment suggests that the South Pacific albacore stock is healthy and the recent fishing mortality is much lower than the fishing mortality at MSY. Nevertheless, it should be noted that the spawning biomass of South Pacific albacore was estimated to have decreased sharply since 2017 due likely to the continuing increase in the amount of longline catch in recent years (see SAC-13-03). For albacore in the south EPO, the spawning biomass ratio (spawning biomass divided by spawning biomass in an un-fished condition) is estimated to have decreased from above 0.9 in 1960 to less than 0.5 in 2019 (for details see section 1.4. in Document SAC-13-14).

The staff made the following recommendation at the recent 13<sup>th</sup> Meeting of the SAC:

**RECOMMENDATION:**

1. Continue collaborating with the Pacific Community (SPC) to monitor the stock status of South Pacific albacore tuna (*e.g.*, using sock status indicators and conducting another benchmark assessment in 3-4 years).

6. Any changes in personnel related to the management of albacore in the last year?

**Staff's response:** Dr. Carolina Minte-Vera from the IATTC staff remains collaborating with the ISC WG on N-ALB. Dr. Haikun Xu is the IATTC staff collaborator in the South Pacific ALB assessment with SPC.

## 7 References

AFRF. 2020. American Fishermen's Research Foundation News. Issue 117. March 1, 2021: 4 p.

Craig, M. T. and J. R. Hyde. 2020. PCR-based sex determination for North Pacific albacore (*Thunnus alalunga*). ISC/20/ALBWG-01/08: 8 p.

DiNardo, G., M. Suzuki, R. Omoto, G. Anhalzer and B. Ahlers. 2020. Owasebussan Co. Ltd. North Pacific longline tuna fishery for albacore, yellowfin tuna & bigeye tuna. MSC Fishery Assessment Report (PCR). SCS Global Services. #600-2000 Powell Street, Emeryville, CA 94608 USA: 385p.

Fujioka, K., D. Ochi, H. Ijima and K. Hidetata. 2020. Estimation of adult and immature abundance indices of North Pacific albacore caught by Japanese longline fisheries over long period of time, from 1976 to 2018. ISC/20/ALBWG-01/01: 16 p.

Gascoigne, J., P. Watt, K. Collinson and C. Seip-Markensteijn. 2021. MSC Public Certification report. Kiribati albacore, bigeye and yellowfin tuna longline fishery. Control Union (UK) Limited, 56 High Street, Lymington SO41 9AH, UK: 538 p.

IATTC. 2021a. Inter-American Tropical Tuna Commission. Report of the North Pacific albacore tuna Management Strategy Evaluation. Scientific Advisory Committee 12th Meeting. Videoconference. 10-14 May 2021. Document SAC-12- INF-C: 152 p.

IATTC. 2021b. Inter-American Tropical Tuna Commission. Staff Recommendations for Management and Data Collection, 2022. Scientific Advisory Committee 13th Meeting. Videoconference 16-20 May 2022. Document SAC-13-14. 23 p.

IATTC. 2021c. The tuna fishery in the Eastern Pacific Ocean in 2020. Scientific Advisory Committee 12th Meeting. Videoconference. Document SAC-12-03. 48 p.

Ijima, H. 2020. The test run future of projection for North Pacific albacore stock using the SSfuture C++ and multivariate normal distribution. ISC/20/ALBWG-01/03: 14 p.

Ijima, H. 2019. Update future projection program. Albacore Working Group Intercessional Workshop, 26 February – 5 March 2019, NEIFSF/FRA, Shimizu, Shizuoka, Japan. ISC/19/ALBWG/01-02: 3 p.

ISC. 2020a. Annex 12. Stock assessment of albacore tuna in the north Pacific Ocean in 2020. In: Report of the Twentieth Meeting of the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean. Plenary Session, 15-20 July 2020, Virtual Meeting. 112 p.  
[http://isc.fra.go.jp/pdf/ISC20/ISC20\\_ANNEX12\\_Stock\\_Assessment\\_Report\\_for\\_Albacore\\_Tuna\\_in\\_NorthPacific.pdf](http://isc.fra.go.jp/pdf/ISC20/ISC20_ANNEX12_Stock_Assessment_Report_for_Albacore_Tuna_in_NorthPacific.pdf)

ISC. 2021a. Annex 11. Report of the North Pacific albacore tuna management strategy evaluation. Northern Committee Seventeenth Regular Session. Electronic Meeting. 5-7 October 2021. Document WCPFC-NC17-2021/IP-06.

ISC. 2021b. National report U.S.A. (U.S.A. fisheries and research on tuna and tuna-like fisheries in the north Pacific Ocean). Twenty-first Meeting of the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean. Plenary Session, July 12-20, 2021, Virtual Meeting. ISC/21/Plenary/09: 46 p.

ISC. 2021c. Report of the Twenty-first Meeting of the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean. Plenary Session, July 12-20, 2021, Virtual Meeting. 69 p.

ISC. 2021d. Annex 13. Report of the Albacore Working Group Workshop. In: Report of the Twenty-First Meeting of the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean. Plenary Session, July 12-20 2021, Virtual Meeting. 16 p.

ISC. 2019. National report U.S.A. (U.S.A. fisheries and research on tuna and tuna-like fisheries in the north Pacific Ocean). Nineteenth Meeting of the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean. Plenary Session, July 11-16, 2019, Taipei City, Taiwan. ISC/19/Plenary/09: 38 p.

- ISC. 2017. Annex 12. Report of the Albacore Working Group. Stock assessment of the Albacore Tuna in the North Pacific Ocean in 2017. In: Report of the Seventeenth Meeting of the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean. Plenary Session, 12-17 July 2017, Vancouver, BC, Canada. 110 p.
- James, K., H. Dewar and S. Teo. 2020a. Review of current status of North Pacific albacore (*Thunnus alalunga*) age and growth. ISC/20/ALBWG-01/07: 13 p.
- James, K., H. Dewar and S Teo. 2020b. Ideas for future sampling programs of North Pacific albacore (*Thunnus alalunga*). ISC/20/ALBWG-01/09: 13 p.
- Jones, H., P. Trott, T. Emery, C. Daxboeck, L. Kell and K. Collins. 2020. MSC Public Certification Report. Pan Pacific yellowfin, bigeye and albacore tuna longline fishery. Control Union (UK) Limited, 56 High Street, Lymington SO41 9AH, UK: 593 p.
- Kiyofuji, H. 2020. North Pacific albacore catch provided by WCPFC and IATTC. ISC/20/ALBWG-01/04: 3 p.
- Matsubara, N., Y. Aoki and H. Kiyofuji. 2020. Standardized CPUE for North Pacific albacore caught by the Japanese pole and line from 1972 to 2018. ISC/20/ALBWG-01/02: 2 p.
- MRAG. 2021. AAFA & WFOA North Pacific Albacore Tuna Pole & Line and Troll/Jig Fishery. 2nd Surveillance Report. MRAG Americas, #202-8950 Martin Luther King Jr. Street N., St Petersburg, FL 33702-2211. 40 p.
- Muhling, B., S. Brodie, M. Jacox, O. Snodgrass, H. Dewar, D. Tommasi, C. A. Edwards, Y. Xu, S. Snyder, J. Childers. In Press. Dynamic habitat use of albacore and their primary prey species in the California Current System. CalCOFI Rep. 60: 76-93.
- Muhling, B., S. Snyder, E.L. Hazen, R.E. Whitlock, H. Dewar, J. Park, C.A. Stock, B.A. Block. 2022. Risk and reward in foraging migrations of North Pacific albacore determined from estimates of energy intake and movement costs. *Frontiers in Marine Science* 9:730428.
- NOAA 2021. FY20 Annual Enforcement Report to the Pacific Fishery Management Council, West Coast Enforcement Division. June 2021. <https://www.pcouncil.org/documents/2021/06/informational-report-2-fy20-annual-enforcement-report-to-the-pacific-fishery-management-council-west-coast-enforcement-division.pdf/>.
- Pacific Fishery Management Council (PFMC) 2021. U.S. – Canada Albacore Treaty data exchange. <https://www.pcouncil.org/u-s-canada-albacore-treaty-data-exchange/>
- PFMC 2020. Newsletter: Council to consider changes to essential fish habitat for highly migratory species. <https://www.pcouncil.org/pacific-council-news-fall-2020-highly-migratory-species/#EFH>.
- Stern-Pirilot, A., M. Stocker, and E. Wilson. 2018. AAFA and WFOA North Pacific Albacore Tuna. MSC 2nd Re-assessment. Public Certification Report. MRAG Americas, Inc. #202-8950 Martin Luther King Jr. Street, St. Petersburg, FL 33702, USA. 184 p.
- Teo, S. L. H., K. R. Piner, H. Lee and P. T. Kuriyama. 2020. Development of a preliminary model for 2020 north Pacific albacore tune stock assessment. ISC/20/ALBWG-01/06: 45 p.
- Tommasi, D. and S. L. H. Teo. 2020. Relationship between effort of longline and surface fleets in the North Pacific and albacore fishing mortality. ISC/20/ALBWG-01/05: 23 p.
- Vaux, F., S. Bohn, J.R. Hyde, and K.G. O'Malley. 2021. Adaptive markers distinguish North and South Pacific Albacore amid low population differentiation. *Evolutionary Applications* 14(5):1343-1364.
- Western & Central Pacific Fisheries Commission (WCPFC) 2021. Conservation and Management Measures. <https://www.wcpfc.int/conservation-and-management-measures>
- WCPFC. 2021. Northern Committee Seventeenth Regular Session. Summary Report. Electronic Meeting 5-7 October 2021. 61 p.
- WCPFC. 2020b. The Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. Seventeenth Regular Session. Summary Report. Electronic Meeting, 8-15 December 2020: 264 p.
- WCPFC. 2019. The Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. Sixteenth Regular Session. Conservation and Management Measure for North Pacific Albacore. Port Moresby, Papua New Guinea, 5-11 December 2019: 3 p.

Williams, P. and T. Ruaia. 2021. Overview of tuna fisheries in the western and central Pacific Ocean, including economic conditions-2020. Scientific Committee Seventeenth Regular Session. Online Meeting, 11-19 August 2021. WCPFC-SC17-2021/GN IP-1(Rev.3): 75 p.

Xu, Y., T. Sippel, S. L. H. Teo, K. Piner, K.-S. Chen, and R. J. Wells. 2014. A comparison study of North Pacific albacore (*Thunnus alalunga*) age and growth among various sources. ISC/14/ALBWG/04