The 18th Meeting of the ISC: Activity Report

John Holmes

ISC Chairman

http://isc.ac.affrc.go.jp

Presentation Topics

- **Participants**
- **Stock Status & Conservation Information**
- **Interactions with Regional Organizations**
- **Administrative matters**
- **Future Activities**

ISC18 Participants

July 2018, Yeosu, Republic of Korea

ISC Members

- Canada
- Chinese Taipei
- Japan
- Mexico
- Republic of Korea
- United States of America

Non-Voting Members

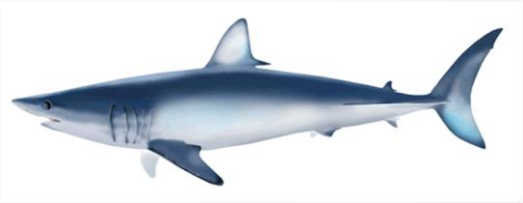
- WCPFC

Observers

- Pew Charitable Trust
- World Wildlife Fund for Nature – Japan
- Monterey Bay Aquarium
- Western Pacific Fisheries Management Council

ISC Stock Assessments in 2018

- **North Pacific Shortfin Mako Shark**
  - 1st Benchmark assessment
  - (1975-2016)



- **Western and North Central Pacific Swordfish**
  - 1st Benchmark assessment
  - (1975-2016)

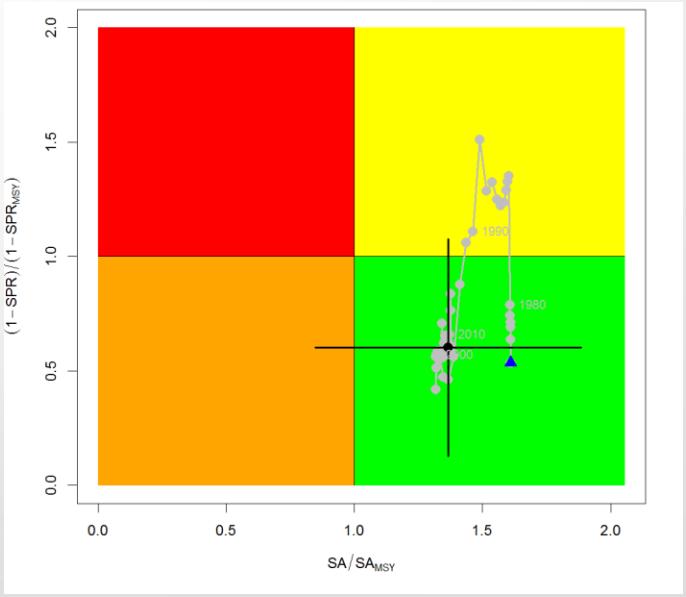
- **Pacific Bluefin Tuna**
  - Update assessment
  - (1952-2016)

- ***EPO Swordfish, NP Striped Marlin, Pacific Blue Marlin, North Pacific Albacore, and Blue Shark – Not assessments; ISC17 advice carried forward***

Stock Status - Shortfin Mako Shark (SMA)

Stock Status (1975-2016)

- Target and limit reference points have not been established for pelagic sharks in the Pacific Ocean. Stock status is reported in relation to MSY.
- The results from the base case model show that, relative to MSY, the North Pacific SMA stock is likely (>50%) not in an overfished condition and overfishing is likely (>50%) not occurring relative to MSY-based abundance and fishing intensity reference points.
- Stock status under six alternative states of nature that represented the most important sources of uncertainty in the assessment were consistent with the base case model.



Conservation Information – Shortfin Mako Shark (SMA)

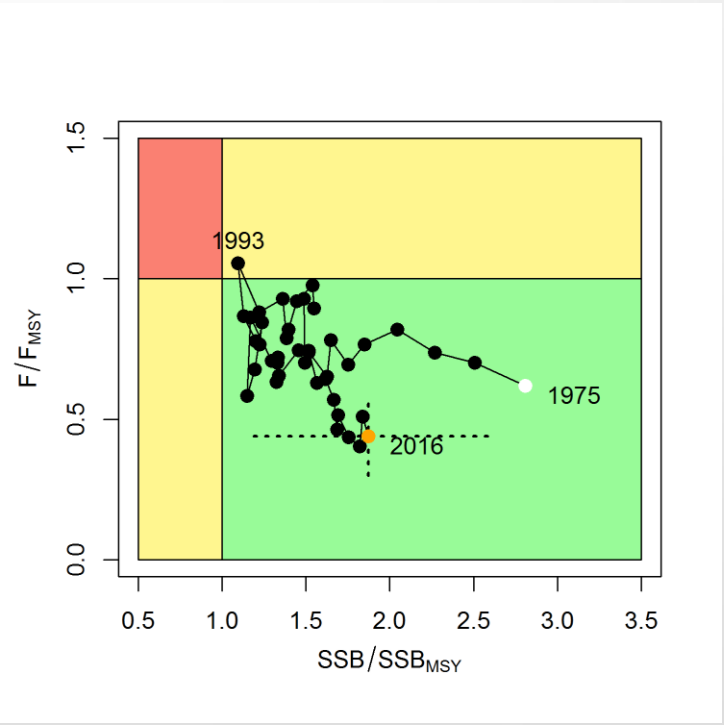
Conservation Information

1. If fishing mortality remains constant at F2013-15 or is decreased 20%, then the spawning abundance (SA; i.e., number of mature female sharks) is expected to increase gradually;
2. If fishing mortality is increased 20% relative to F2013-2015, then the SA is expected to decrease in the final years of the projection.

Stock Status – WCNPO Swordfish (SWO)

Stock Status (1975-2016)

- There is no evidence of excess fishing mortality above F_{MSY} (F2013-2015 is 45% of F_{MSY}) or substantial depletion of spawning potential (SSB_{2016} is 87% above SSB_{MSY}).
- Overall, the WCNPO SWO stock is not likely overfished and is not likely experiencing overfishing relative to MSY-based or 20% of unfished spawning biomass-based reference points.



Conservation Information – WCNPO Swordfish (SWO)

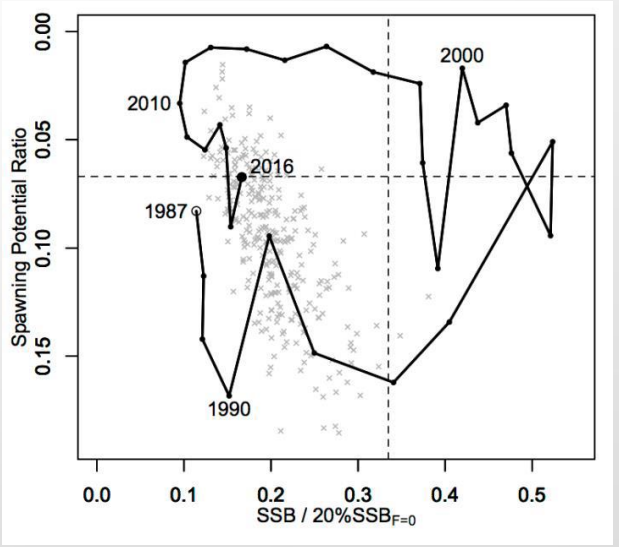
Conservation Information

- Projected female spawning biomasses is expected to increase under each of the 5 harvest scenarios explored, with greater increases expected in scenarios with lower fishing mortality rates.
- Similarly, projected catch is expected to increase under each of the 5 harvest scenarios, with greater increases expected when higher fishing mortality rates are applied.

Stock Status – Pacific Bluefin Tuna (PBF)

Stock Status (1952-2016)

- No biomass-based limit or target reference points have been adopted to evaluate the overfished status for PBF. However, the PBF stock is overfished relative to the potential biomass-based reference points evaluated (SSB_{MED} and $20\%SSB_{F=0}$).
- No fishing intensity-based limit or target reference points have been adopted to evaluate overfishing for PBF. However, the PBF stock is subject to overfishing relative to most of potential fishing intensity-based reference points evaluated.



Stock Status – Pacific Bluefin Tuna (PBF)

Conservation Information

- The projection mimicking the current management measures by the WCPFC (CMM 2017-08) and IATTC (C-16-08) under the low recruitment scenario resulted in an estimated 98% probability of achieving the initial biomass rebuilding target by 2024.
- The estimated probability of achieving the second biomass rebuilding target (20%$SSB_{F=0}$) under the average recruitment scenario 10 years after the achievement of the initial rebuilding target or by 2034, whichever is earlier, is 96%.
- These projection results are strongly influenced by the inclusion of the above average, but uncertain recruitment estimate for 2016. This estimate is based on a single observation in the JPN troll fishery and occurs in the last year of the assessment.

Interactions with Regional Organizations

WCPFC

- Overview of Western and Central Pacific Ocean fisheries and stock status presented at ISC18
- Presentation of the Shortfin Mako Shark, WCNPO Swordfish, and Pacific Bluefin Tuna stock assessment results at WCPFC-SC14 & WCPFC-NC14;
- ISC Sponsored Pacific Bluefin Tuna MSE Workshop held May 2018, Yokohama, Japan
- *3rd ISC North Pacific Albacore MSE Workshop (Vancouver, Canada).*

NP ALB MSE Update

- Third workshop for stakeholder input, Oct 20-21, 2018 in Vancouver, Canada
- Objectives:
  1. Review objectives & performance metrics previously proposed;
  2. identify acceptable level of risk for each objective, develop a preliminary set of candidate reference points and harvest control rules for testing, and
  3. review the work plan and timeline for conducting the MSE.
- Large number of TRP, LRP, HCRs, and key uncertainties identified jfor testing
- ALBWG and ISC conclude that MSE workplan is too ambitious to complete so focus on testing of TRPs with limited subset of uncertainties and HCRs
- Fourth workshop will be scheduled for March to (1) discuss preliminary MSE results in detail, (2) create a proposal for biological reference points and harvest control rules to present to the WCPFC-NC and IATTC based on those results, and (3) propose refinements to MSE.

First Pacific Bluefin Tuna MSE Workshop

- Sponsored by the ISC & Fisheries Research Agency, Japan
- May 30-31, Queen's Forum, Yokohama
- PBF MSE request related to WCPFC Harvest Strategy on PBF (2017-02) adopted in 2017
- Approximately 70 stakeholders participated
- Objectives, benefits, & requirements for implementing MSEs were reviewed,
- Roles and responsibilities of stakeholders and recent progress made by tuna-RFMOs towards adopting and implementing the MSE process were reviewed
- The PBF MSE will evaluate long-term management strategies of PBF robust to perceived uncertainties, including environmental variability, while also evaluating current rebuilding strategies
- Initial discussions on management objectives and performance indicators, finalizing them will require additional input from stakeholders

First Pacific Bluefin Tuna MSE Workshop

Next Steps

- Organizational structure to advance development of the PBF MSE was discussed, including a potential partnership with NGOs to facilitate the educational component of MSE development.
- Future considerations and work plan to complete development of the PBF MSE were presented and discussed.
- Workshop participants agreed that MSE development is an iterative process and time consuming.
- Second Workshop likely May 2019 – location to be determined

Pacific Bluefin Tuna MSE

Decision Point in 2019

- ISC requested to initiate development of the MSE in 2019 with a completion date of 2024.
- Also requested to organize MSE workshops in early 2018 and 2019 to introduce MSE requirements to stakeholders.
- By 2019 the WCPFC will provide the ISC with:
  1. one candidate target reference point,
  2. two limit reference points,
  3. one harvest control rule, and
  4. funds to hire two MSE experts.

Interactions with Regional Organizations

PICES-ISC Collaboration (2015 – 2019)

- **October 2018 Annual Meeting – Yokohama, Japan**
  - Convene Session S12: Applying ecosystem considerations in science advice for managing highly migratory species
  - Last scheduled meeting of WG

- WG will consider convening an international workshop on the impacts of climate variability on pelagic fish populations. Dates and location TBD

Administrative matters

- Template for stock status & conservation information adopted
- ISC Leadership Changes
  - Shuya Nakatsuka currently acting PBFWG Chair
  - Mikohiko Kai elected Chair of SHARKWG for 3 yr term
  - Jon Brodziak re-elected Chair of the BILLWG for 1 yr term
  - STATWG Chair and Vice-Chair are vacant
- Requests to ISC – In writing to the ISC Chair
- ISC19
  - Chinese Taipei, July 9-15, 2019

Future Activities (2018-2019)

- Dec 9-14, 2018 (Honolulu, Hawai'i) Pacific Bluefin Tuna Tagging Ad Hoc Working Group meeting to explore the development of an international NP HMS tagging program – initial focus Pacific bluefin and North Pacific albacore tuna under the auspices of ISC;
- March 5-7, 2019 – 4th ISC North Pacific Albacore MSE meeting to discuss MSE framework and results;
- March 2019 (Busan, Korea) PBF Close-kin Meeting to develop common analytical approach among all participating members;
- April 2019 (La Paz, Mexico?) North Pacific Striped Marlin stock assessment workshop; and
- May 2019 (Dates & Location TBD) 2nd ISC Pacific Bluefin Tuna MSE workshop
  - by 2019 provide staff, reference points, HCR, management strategies.

International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean

THANKS

From the New ISC Chair