

INTER-AMERICAN TROPICAL TUNA COMMISSION

1ST EXTERNAL REVIEW OF DATA USED OF STOCK ASSESSMENTS OF TROPICAL TUNA IN THE EASTERN PACIFIC OCEAN

La Jolla, California (USA)

06-10 November 2023
(hybrid meeting)

List of topics:

1. Comparisons of the assessments for the 3 species
2. Risk analysis approach and hypotheses for the risk analysis for bigeye tuna
3. Hypotheses for the risk analysis for yellowfin tuna
4. Spatial structure (stock structure, areas as fleets – fishery definitions)
5. Selectivity
6. Time step of the model, number of age classes
7. Initial conditions and start year (why we choose a particular start year)
8. Recruitment
9. Growth
10. Natural mortality
11. Indices of abundance
12. Data weighting
13. Model diagnostics
14. Model weighting
15. Estimation of management quantities and associated uncertainty

Key references (priority in bold):

- **1st External review of the data used in the assessments:** [RVDTT-01](#)
- IATTC approach for stock assessment (Areas as fleets with areas defined using tree analysis, model fit to index obtained using spatiotemporal models, simulation testing): Xu, H. 2023 ([presentation recording](#)). Results of the spatial simulation experiment YFT IO (IATTC team). Presentation to the In-person workshop of the [Spatial Stock Assessment Simulation Experiment](#)
- **Bigeye tuna benchmark assessment:** [SAC-11-06](#)
- **Yellowfin tuna benchmark assessment:** [SAC-11-07](#)
- **Risk analysis approach, model weighting and hypotheses for the risk analysis for bigeye tuna:** [SAC-11 INF-F](#)
- **Hypotheses for the risk analysis for yellowfin tuna:** [SAC-11 INF-J](#)
- **Exploratory stock assessment for bigeye tuna in the EPO:** [SAC-14-05](#)
- **Conceptual model and exploratory analysis for yellowfin tuna in the EPO:** [SAC-14-06](#)
- Growth bigeye tuna: [Aires-da-Silva et al. 2015](#)
- Natural mortality bigeye tuna: [WSBET-02-07](#)
- Natural mortality yellowfin tuna: [YFT-01-07](#) and [Hoyle et al 2022](#)
- Risk analysis workshop 1 – integrated models diagnostics: [WSRSK-01](#)
- Risk analysis workshop 2 – model weighting: [WSRSK-02](#)

Previous IATTC external reviews:

Yellowfin 2019: [YFT-02](#)

Yellowfin 2012: [YFT-01](#)

Bigeye 2019: [BET-02](#)

Bigeye 2010: [BET-01](#)

Skipjack 2022: [SKJ-01](#)

Other relevant documents:

CAPAM [Tuna stock assessment good practices workshop](#)

WCPO Yellowfin tuna external review: [WCPFC-SC19-2023/WP-01](#)

IOTC Yellowfin tuna external review: (in prep, was forwarded to review panel)

Skipjack interim stock assessment: [SAC-13-07](#)

Overall results of the risk analyses and management advice: [SAC-11-08 REV](#)

Link to SS3 models:

Bigeye tuna [2020 Benchmark assessment](#)

Yellowfin tuna [2020 Benchmark assessment](#)

Skipjack tuna [2022 Interim assessment](#)

New models (to come)

here is a draft of the review report for IATTC stock assessment data inputs

https://docs.google.com/document/d/1W1_omsmccvz7VaFdpfx9dqkkYuxmFrGL/edit