WCPO skipjack MP monitoring strategy

WCPFC 21st Scientific Committee Meeting

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SPC-OFP

Monitoring Strategy

- Routinely checks management procedure performing as expected

- Considers:
  - Review of MP performance
    - Is the MP performing as expected?
    - Is the MP being implemented as expected?
  - Review of MP design
    - Performance of the estimation method
    - Exceptional circumstances
  - Review of evaluation framework
    - Procedures for evaluating candidate MPs
    - Scenarios considered in the OM grid

WCPFC21:
The Commission adopted the SKJ Monitoring Strategy, as recommended by SC20 and TCC20, noting the review of the SKJ Monitoring Strategy which will take place in 2025, and encourages ongoing work to consider climate change impacts within the SKJ MP operating model grid.

- May identify changes in the dynamics of the fishery resulting from environmental, economic or social factors that may require a reconsideration for the management objectives and the testing of alternative MPs

Monitoring strategy: Table 1

Table 1

1. Review of MP performance
   a. Comparison of predicted MP performance against latest stock assessment outcomes
   b. Data availability to run the MP
   c. Other sources of data to monitor performance
   d. Performance of the estimation method

2. Review of the MP design
   a. Management objectives
   b. Scope of the MP
   c. Exceptional circumstances

3. Review of MSE
   a. Operating model grid
   b. Calculation of performance indicators
   c. Modelling assumptions
   d. Data availability to support MSE framework

3. Review of MSE		
a. Operating model grid		
SC	TCC	Commission
Ensure the most important sources of uncertainty are included in the OM grid. SC19: OM grid to be extended to include climate change scenarios (robustness set). In particular the	No input anticipated.	

Issues arising

Issues identified for consideration under the SKJ monitoring strategy :

1. The development of climate change scenarios for inclusion in the OM grid (SC19).
2. Analyses to test the representativeness and appropriateness of CPUEs used in the MP (SC20).
3. Evaluation of the impact of changes in FAD closure duration on the MP performance (SC20).
4. Provision of additional catch and effort data to enable testing for compliance with the MP (TCC20).
5. The incorporation of SEAPODYM and/or other model projections into the skipjack MSE OM grid (SMD02).

2025 Skipjack stock assessment

- Key input to the monitoring strategy.
- Not finalised at the time of writing.
- Will need to be reviewed by SC21 before being formally considered withing the monitoring strategy.

Representativeness and appropriateness of CPUEs

- Table 1, 1b
- SC19: Sufficient data were available to run the MP. However, declining effort in the pole and line fishery in some regions (e.g. tropical region) and consequent reduction of informative CPUE data represents a risk to the future performance of the MP. A re-evaluation of the estimation method may need to be undertaken prior to the next implementation of the MP. **High priority**

- MI-WP-01
  - Investigates procedures for preparing CPUE inputs for recent assessments.
  - Investigates alternative platforms for standardising CPUE.
  - Describes simulations to investigate MP performance with degraded CPUE inputs.
  - Concludes that the MP is robust to short-term degradation – however longer-term degradation remains a risk.

Changes to the extent of the FAD closure

- Table 1, 3a
- SC20: Impacts of changes to the FAD closure period from 2024 should be investigated and where necessary the OM grid modified to better represent fishery dynamics.

- MI-WP-02
  - Re-ran the SKJ MP evaluations under varying assumptions of FAD closure duration.
    - 3 months EEZs and high seas + 2 months high seas
    - 1.5 months EEZs and high seas + 1 months high seas
    - No FAD closure
  - Concludes that the expected performance of the MP is relatively unaffected by changes in the mix of FAD and free-school fishing.

Catch and effort reporting

- Table 1, 1a
- TCC20: Additional information on relevant catch and effort for the fisheries subject to the MP will be needed by TCC.

- CMM 2023-01
  - The skipjack MP applies to the catch and effort of purse seine and pole and line fisheries and other commercial fisheries (paragraph 47 of CMM 2023-01) taking more than 2,000 tonnes of tropical tunas in EEZs and high seas.
  - Catch and effort summaries are regularly provided to TCC – monitor compliance with the MP.
  - Additional information required
    - Effort for pole and line fisheries – for which only catch data have previously been provided.
    - Species specific catch information required for relevant fisheries in region 5 – previously all tuna species combined

  - Information to be provided to TCC21

Incorporating climate change into OMs

- Table 1, 3a
- SC19: OM grid to be extended to include climate change scenarios (robustness set). In particular the effects of warm pool expansion in the WCPO. This requires further analysis of SEAPODYM outputs and may occur over an extended time frame. **Medium priority**
- SMD02: The incorporation of SEAPODYM and/or other model projections into the skipjack MSE OM grid.

- Re-evaluation of the modelling framework
- Greater flexibility than currently available in MULTIFAN-CL projections
  - Spatial and temporal variability in key model parameters – biological processes, movement, catchability, etc.
  - Allows for externally estimated rates to be used.
- Initial implementation for BET MP evaluations

Recommendations

This paper updates the skipjack MP monitoring strategy to reflect Commission discussions and observations at WCPFC21 and summarises work conducted to address outstanding issues.

We invite SC21 to:

- Consider the work presented in MI-WP-01 and MI-WP-02 and amend table 1, parts 1b and 3a as appropriate.
- Note that additional data to address issues in Table 1 part 1a will be provided to TCC21.
- Update any other parts of Table 1, as appropriate.
- Note that the monitoring strategy report will be further updated and provided to WCPFC22 following consideration by SC21 and TCC21.