Western Pacific Stock Assessment Review of the Bottomfish Management Unit Species Complex Data for the Next Benchmark Assessment in Guam

Short Description: A data review of the Guam bottomfish complex.

Scientists from the Pacific Islands Fisheries Science Center have generated data reports on catch composition, life history, catch-per-unit-effort (CPUE), and length composition, serving as critical sources for the upcoming benchmark stock assessment. These reports were reviewed during a regional peer-review session from July 8-12, 2024, at the Guam Hilton Resort and Spa, chaired by a member of the Scientific and Statistical Committee of the Western Pacific Fishery Management Council and two members from the Center of Independent Experts.

For the 13 Bottomfish Management Unit Species (BMUS) of Guam, four data sources were integrated to create a time series of annual estimated catch. The Guam Department of Agriculture, Division of Aquatic and Wildlife Resources conducted boat-based and shore-based creel surveys, providing species-level annual catch estimates. These figures were validated against lower bounds from the Commercial Fisheries Biosampling and Commercial Purchase Invoice Programs. The estimates exhibit high uncertainty due to limited sample sizes, potentially obscuring temporal trends for certain BMUS. Nonetheless, decreasing catch trends were observed for several shallower BMUS, whereas deeper BMUS displayed increasing trends.

Additionally, the compilation of growth, maturity, longevity, and other life history traits for each Guam BMUS was undertaken. Data availability varied significantly, with local life history studies available for only four species. For six species, no local information existed, prompting the use of non-local studies for species showing similar lengths. StepwiseLH was employed to estimate growth values where necessary, while maturity and longevity data predominantly relied on non-local sources.

The standardized CPUE for Guam's BMUS, based on the Division of Aquatic and Wildlife Resources' boat-based creel survey, covers 1982–2023 for 11 out of the 13 species. A delta-type modeling approach was utilized to assess the expected CPUE as a function of species occurrence and catch rates, incorporating variables such as area, time of year, vessel, and additional factors like lunar phase and wind conditions. The selected models accounted for 21% to 68% of data variability, reflecting significant

interannual variability and wide confidence intervals linked to small sample sizes and high observation errors. The improved CPUE methodologies represent progress for future single-species assessments.

Finally, length composition data is categorized into recent and time series types, with recent data providing a snapshot of current catches based on the most recent measurements. These comprehensive analyses will enhance the accuracy of future stock assessments for Guam's BMUS.

NOAA Fisheries and the Western Pacific Fishery Management Council announced the review of the 2024 Stock Assessment Update for the Guam Bottomfish Complex in the Federal Register on June 18, 2024.

Additional Info:
Date: February 7 – 8, 2024 (HST) / February 8 - 9, 2024 (ChST)
Time: 12:00 noon - 6:00 pm (HST) / 8:00 am - 2:00 pm
Location: Gallery Room
Guam Hilton Resort and Spa
Tumon, Guam

Schedule:

Monday, July 8th

8:30am - 5:00pm ChST

1. Introductions (people and roles)
2. Background on Guam Bottomfish data WPSAR
    a. Guam Bottomfish Stock Assessment and FEP Background
    b. Data Workshops and Stock Assessment needs
3. WPSAR Terms of Reference
4. Presentation of Catch Estimation data
    a. Discussion / Q&A

6:00pm - 7:00pm ChST

5. End of day summary for Catch Estimation data
6. Public comment (6:30pm)

Tuesday, July 9th

9:00am - 5:00pm ChST

7. Presentation of CPUE data
    a. Discussion / Q&A

6:00pm - 7:00pm ChST

8. End of day summary for CPUE
9. Public comment (6:30pm)

Wednesday, July 10th

9:00am - 5:00pm ChST

10. Presentation of Length composition data
    a. Discussion / Q&A

6:00pm - 8:00pm ChST

11. Recap of Catch Estimation, CPUE, and Length composition
12. Public comment (6:30pm)

Thursday, July 11th

9:00am - 5:00pm ChST

13. Presentation of Life history data
    a. Discussion / Q&A

6:00pm - 7:00pm ChST

14. End of day summary for Life history
15. Public comment (6:30pm)

Friday, July 12th

9:00am - 3:00pm ChST

16. Data Review Panel discussions (closed to the public)

3:00pm - 5:00pm ChST

17. Data review results and recommendations
    a. Questions to reviewers

6:00pm - 7:00pm ChST

18. End of day summary for results and recommendations
19. Public comment (6:30pm)
20. Closing comments and adjourn (7:00pm)