

Review of Length and Biomass Augmented Catch-MSY Assessment Methods

Project Description

A large number of fish and invertebrate species listed in fisheries management plans have insufficient data to conduct routine stock

Nearly all of the assessment methods for data-poor stocks rely solely on catch data, or one source of data for directly estimating population density. A modified integrated assessment model has been developed, focusing on developing extensions for the Catch-MSY method, or stock reduction analysis proposed by Martell and Froese (2012) and Taggart and Kimura (1982) and modified by Sabater & Kleiber (2014), by incorporating data other than catch times series that directly inform total mortality rates (e.g. changes in mean size), relative and absolute abundance estimates, and other life history information. This modified model is being applied to data-poor coral reef fish stocks throughout the Pacific Islands Region, including Hawaii, American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands. However these scientific analyses have not previously been applied for management purposes in the Pacific Islands Region, so there is a need to conduct an independent peer review of the analyses to improve the scientific basis for management.

Terms of Reference

1. Review the assessment methods used: determine if they are reliable, properly applied, and are adequate and appropriate for the species, fisheries, and available data considering that the data have been accepted for management purposes.
2. Evaluate the implementation of the assessment methods: determine if data are properly used, if choice of input parameters seems reasonable, if models are appropriately specified and configured, if assumptions are reasonable and reasonably satisfied, and if primary sources of uncertainty accounted for.
3. Comment on the scientific soundness of the estimated population benchmarks and management parameters (e.g. stock status estimates, MSY-based reference points or their proxies) and their potential efficacy in addressing the management goals stated in the relevant FEP or other documents provided to the review panel.
4. Determine whether the results (such as MSY proxies, stock status) in their current form from the assessment methods can be used for management purposes without further analyses or changes considering that the data have been accepted for management purposes.
5. Suggest research priorities to improve our understanding of essential population and fishery dynamics necessary to formulate best management practices. Comment on alternative data sources and modeling.

Format and Contents of CIE Independent Peer Review Report

1. The CIE independent report shall be prefaced with an Executive Summary providing a concise summary of the findings and recommendations following Annex 2 Terms of Reference.
2. The main body of the reviewer report shall consist of a Background, Description of the Individual Reviewer's Role in the Review Activities, Summary of Findings for each ToR in which the weaknesses and strengths are described, and Conclusions and Recommendations in accordance with the ToRs.
 - a. Reviewers should describe in their own words the review activities completed during the panel review meeting, including providing a brief summary of findings, of the science, conclusions, and recommendations.
 - b. Reviewers should discuss their independent views on each ToR even if these were consistent with those of other panelists, and especially where there were divergent views.
 - c. Reviewers shall provide a critique of the NMFS review process, including suggestions for improvements of both process and products.
 - d. The CIE independent report shall be a stand-alone document for others to understand the weaknesses and strengths of the science reviewed. The CIE independent report shall be an independent peer review of each ToRs.
3. The reviewer report shall include the following appendices:
 - Appendix 1: Bibliography of materials provided for review
 - Appendix 2: A copy of the CIE Statement of Work
 - Appendix 3: Panel Membership or other pertinent information from the panel review meeting.