

# A Precautionary Management Framework for North Pacific Albacore: HMSMT Report Overview

Pacific Fishery Management Council Meeting  
Agenda Item D.5.b HMSMT report  
Garden Grove, CA  
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# Management Context

- The 2011 North Pacific albacore assessment: stock was not overfished and overfishing was not occurring
- The North American components of the fishery are considered sustainable
- A less favorable future assessment could require international and domestic management actions
- Management bodies should consider potential measures before a critical management need arises
- The Northern Committee is developing a framework for management that includes choosing reference points and establishing harvest control rules

# Guide to HMSMT Report Sections

1. Introduction / Purpose of report and generic description of a management framework
2. Management Objectives (p. 1)
3. Target and Limit Reference Points (p. 2)
4. Harvest Control Rules (p. 5)
5. Management Measures to Reduce Fishing Mortality (p. 6)

# Elements in Management Framework

The HMSMT chose to align our recommendations with elements for a management framework identified by the WCPFC Science Committee (Berger, et al. 2012), which include:

- defined management objectives
- target and limit reference points
- performance metrics
- consideration of systemic uncertainties
- alternative management options (e.g. types of harvest control measures, data to be used, or stock assessment process)
- candidate harvest control rules

# Management Objectives

From the W. Coast HMS FMP, the HMSMT synthesized the following management goals:

1. Maintain long-term conservation and sustainable use of N. Pac. albacore.
2. Maintain and support long-term benefits for the Nation's albacore fishing industry.
3. Provide a long-term, stable supply of locally caught fish to consumers.
- 4. Establish procedures to help implement future management actions.**
5. Implement measures to account for total mortalities, including discards.
- 6. Implement harvest strategies with respect to scientific and management uncertainty.**

# Target Reference Points

- The ISC Albacore Working Group is expected to recommend reference points to the July 2013 ISC Plenary.
- For a precautionary management framework the target fishing mortality (F) reference point should be set as a percentage reduction from the associated limit reference point to reduce the likelihood that a limit reference point will be breached.
- Similarly, a target B (biomass) reference point should be set as a percentage increase from the associated limit B reference point.

# Potential Target and Limit F Reference Points for Albacore

- Interim reference point used in the North Pacific Albacore is  $F_{SSB-ATHL}$
- For the 2011 assessment, reasonable estimates of MSY were not possible
- Spawning potential ratio (SPR%) reference points (level 2) are considered by many other tuna science advisors as good alternatives when MSY (level 1) cannot be reliably estimated
- The HMSMT believes SPR% reference points may be the next best choice

# Potential Target and Limit B Reference Points for Albacore

- Biomass reference points (B-limit and B-target) are needed to comply with the National Standard 1 Guideline
- To be consistent with the HMS FMP, any selected B-limit reference points should be lower than  $B_{MSY}$  (or  $B_{MSY}$  proxy)
- Absent an assessment-derived MSY, a level 2 reference point could be considered, such as some fraction of unfished B

# Harvest Control Rules (HCR)

- Among HCRs considered by HMSMT, the sliding scale (simple or complex linear) appears to be appropriate for albacore – these conceptual models are intended to generalize the relationship between stock status and control measures such as  $F$  or  $B$  and catch or effort.
- The complex form could help to buffer against uncertainties and natural fluctuation in stock status
- Whatever HCR is selected should balance the biological risks of overfishing or overfished stocks against the costs of lost fishing opportunity or unnecessary management.

# Measures to Reduce Mortality

- Catch-based and effort-based measures are used as proxies for mortality reduction
- Catch-based management measures typically involve establishing a Total Allowable Catch (TAC) with the control rule
- Effort-based measures include time-and-area closures, effort controls (e.g. vessel size, hold capacity or other constraints on fishing power), or limits on numbers of vessels permitted.

# Measures to Reduce Mortality (cont.)

Managing all NP albacore fisheries based on effort has been problematic for a number of reasons including:

- A lack of agreement on a common effort metric (basic format of data, vessels fishing, days fished, etc.)
- Submitted data are not independently verifiable
- These shortcomings are in part the reason the NC work plan seeks to establish a precautionary management framework for NP albacore

# Conclusions

- Given that the effort information submitted to the NC is incomplete and the challenges with managing effort, it may be preferable to develop catch-based measures at the international level.
- The Council could incorporate some of the information in these HMSMT Reports in recommendations to the U.S. delegation for the upcoming NC meeting.