

In Portsmouth, however, where many fishermen work with the Cooperative Research Branch, they felt like the use of networks was appropriate, and that the Cooperative Research Branch was working well with them. In Gloucester, a number of participants were given an opportunity to talk about the work they have done with the Cooperative Research Branch. Several participants expressed favorable views of the Cooperative Research Branch and the staff. Several participants at every meeting had been or are actively involved in cooperative research.

Suggested areas for future research included further investigating bariatric trauma mitigation devices. Also, the issue of declining weight-at-age in cod was raised, along with the hypothesis that this was related to larger parasite loads caused by longer period of warmer water temperatures during recent years.

21.3 Assessment Oversight Panel summary

July 24, 2017 Woods Hole, Massachusetts

As part of the Operational Assessment process for the 20 Groundfish stock assessments, the Assessment Oversight Panel (AOP) met in Woods Hole to review the assessment plans for each stock. The meeting was also broadcast as a Webinar.

The AOP consisted of:

Jason McNamee, Chair NEFMC Scientific and Statistical Committee, RI Division of Environmental Management

John Boreman, Chair MAMFC Scientific and Statistical Committee, North Carolina State University

Russell W. Brown, Northeast Fisheries Science Center, Woods Hole

Meeting Participants:

The participants in Woods Hole included: Tom Nies (NEFMC), Jamie Courname (NEFMC), Jim Weinberg (NEFSC), Michael Simpkins (NEFSC), Sheena Steiner (NEFSC), Mark Terceiro (NEFSC), Chris Legault (NEFSC), Gary Shepherd (NEFSC), Larry Jacobson (NEFSC), Liz Brooks (NEFSC), Tony Wood (NEFSC), Toni Chute (NEFSC), Tim Miller (NEFSC), Kathy Sosebee (NEFSC), Lisa Hendrickson (NEFSC), Larry Alade (NEFSC), Chuck Adams (NEFSC), Susan Wiley (NEFSC), Brian Linton (NEFSC), Richard McBride (NEFSC), Geret Depiper (NEFSC)

Remote participants via webinar included: Patrick Sullivan (Cornell University), Patrick Lynch (NOAA Fisheries, Science & Technology), Jim Berkson (NOAA Fisheries, Science & Technology), Gary Nelson (Massachusetts Division of Marine Fisheries), Chris Kellogg (NEFMC) and Rachel Feeney (NEFMC).

The meeting began at 10:00 am. The lead scientist for each stock gave a presentation on the data to be used, model specifications, evaluation of model performance, the process for updating the biological reference points, the basis for catch projections, and an alternate assessment approach if their analytic assessment was rejected by the peer review panel. In some cases the stock was already being assessed using an “index-based” or “empirical” approach. In these cases there was no

second approach proposed for review. Presentations ranged from 10 to 25 minutes and we were able to address 19 of 20 stocks before 4:30pm (Atlantic halibut did not have a scheduled presentation and will be reviewed via a separate process by the NEFMC SSC).

Three background documents were provided to the Panel: (1) an updated prospectus for each stock; (2) an overview summary all the salient data and model information for each stock; and (3) the NRCC Guidance memo on the Operational Assessments. The NRCC guidance memo was recognized as particularly relevant during the deliberations of the AOP.

The meeting served as a valuable forum for standardizing methods across assessments and resolving potentially contentious issues. The overarching issues addressed include:

- To clarify communication regarding assessments, the term “current assessment approach” refers to the last assessment method accepted at either the 2015 Groundfish Operational Assessments workshop or benchmark assessments conducted since then (e.g., 2016 benchmark assessment for Witch Flounder). These assessment approaches cover a range of assessment approaches, including analytic assessments (e.g., Gulf of Maine Cod, Georges Bank Haddock, American Plaice), index-based assessments (e.g., Ocean Pout), and empirical approaches (e.g., Georges Bank Cod and Witch Flounder).
- A 90% confidence interval for fishing mortality and spawning stock biomass will be used as an objective criteria for knowing when to apply a retrospective adjustment to terminal year stock size estimates. When the Mohns rho adjusted F and SSB lie outside the joint 90% confidence interval of the terminal year estimates, the terminal year abundance estimates will be adjusted by the SSB rho estimate for stock status determination and catch advice projections.
- New or revised estimates of survey catchability were derived for some flatfish species (Yellow-tail Flounder, Winter Flounder, Witch Flounder, American Plaice, and Windowpane Flounder). These new estimates will not be incorporated in cases where analytic models are used, but will be presented for comparison purposes in the operational assessment document. This comparison is not straight forward as the new estimates are calculated relative to the experimental chain sweep gear, but NEFSC analysts will offer the information in a way that will be informative as to the estimates being produced by the analytical model. For stocks where new information is available and that utilized an index based or empirical approach, updated catchability (q) estimates will be used.
- New, objective and repeatable methods for filling in incomplete age length keys have been developed by the Population Dynamics Branch. Utilization of the Branchs approach is expected to result in minor changes to age-based catch estimates. The AOP endorsed the use of this approach as an acceptable change to ensure consistency relative to the use of age keys.
- Exploitation rate should be estimated in a consistent and scientifically defensible manner for stocks using empirical approaches. Assessments with empirical approaches should present a range of estimates and a scientific rationale for the preferred method.
- Projections for stock size and catches will be based on the F_{msy} proxy and 75% F_{msy} (or $F_{7ebuild}$ if this rate is already in effect as the default for management).
- Estimates of catch in 2017 will be provided by the GARFO and will be used in all projections.

- Values of all assessment reference points will be updated and based on updated growth and maturation values for reference point determination. Biological information will be averaged over the same time period (e.g., 3 or 5 years) as in the last assessment. However, there will be no adjustments to the basis for biological reference points (e.g., changing from $F_{40\%}$ to $F_{30\%}$ will not be allowed).
- The SSC will determine the most appropriate method for determining the OFL and ABC.
- No alternative analytic models will be applied in the event that the operational model for a given stock that was approved in the most recent benchmark assessment does not pass the upcoming peer review. Development and application of an alternative model for assessment generally requires a benchmark assessment, requiring a greater scope for review and participation than an Operational Assessment.
- In cases where an analytical model is not accepted for management use during the peer review, the alternate approach that was developed and presented at the AOP meeting will be reviewed and proposed as the preferred approach to develop catch advice.
- Recommendations for benchmark assessments should be expected for assessments that reveal either the need for a revised status determination or poor agreement between data and model fits (i.e., lack of fit or strong retrospective patterns). Decisions on benchmarks and their scheduling will be made by the Northeast Regional Coordinating Council.

In general, the AOP approved the plans presented, but highlighted a number of clarifications that are summarized below:

Stock	Lead	Major Recommendations
Overview of the Process	Russell Brown	Terms of Reference in the overview presentation will be used.
Gulf of Maine Cod	Michael Palmer	The Massachusetts industry-based bottom trawl survey results will not be included in the analytical model because its inclusion would represent a new data source which is outside the focus of an operational stock assessment. A working paper will be made available to the peer reviewers as auxiliary information.
Georges Bank Cod	Chris Legault	The current method, based on smoothed survey trends, and no Plan B approach were accepted by the AOP.
Gulf of Maine Haddock	Michael Palmer	New recreational discard estimates will be applied beginning in 2014 when MRFSS size composition data are available because they are size and season-specific.
Georges Bank Haddock	Liz Brooks	This stock has a unique issue in that catches have been small ($\sim 10\%$) of allowable catch, so a Plan B approach would probably underestimate the potential catch and lead to potentially large reductions in catches that are already small. Stock biomass is at historically record high levels, although declines are expected soon due to the ageing of recent year classes that may complicate use of some Plan B approaches. Information about the trend in stock biomass should be made available to the SSC. Use of recent average catch as a Plan B does not provide any information about the stock. A constrained LOESS smoothing approach, as is employed for Georges Bank Cod, is recommended.
White Hake	Kathy Sosebee	If the current assessment is rejected, the proposed alternative is the AIM model. AOP suggested using AIM as Plan B and with a LOESS smoothing approach (as is currently used for Georges Bank Cod) as an alternative.
Pollock	Brian Linton	If the current assessment is rejected, the alternate plan is the LOESS smoothing approach (as is currently used for Georges Bank Cod).
Cape Cod/Gulf of Maine Yellowtail Flounder	Larry Alade	Make the time period for exploitation rate calculations consistent that used for Winter Flounder and other flatfish stocks. This assessment should utilize new catchability estimates from recently reviewed research.
Georges Bank Yellowtail Flounder	Chris Legault	This assessment was updated as part of the TRAC. No further revisions will be done in the Operational Assessment process.

Stock	Lead	Major Recommendations
Southern New England Yellowtail Flounder	Larry Alade	Make the time period for exploitation rate calculations consistent with that used for Winter Flounder and other flatfish stocks. This assessment should utilize new catchability estimates from recently reviewed research.
Gulf of Maine Winter Flounder	Paul Nitschke	The current approach for this stock is using a swept-area biomass estimate with an assumed q for non-overlapping surveys that cover the stock range. It may be necessary to make different adjustments to the q values for the three surveys based on the recent research and review that suggests wing spread is a better measurement of effective area swept than door spread for the R/V Bigelow. Make the time period for exploitation rate calculations consistent that used for Winter Flounder and other flatfish stocks.
Georges Bank Winter Flounder	Lisa Hendrickson	In the event that the VPA assessment is rejected, the alternate approach will be AIM or the survey swept area approach. The catchability study has limited sample size for Winter Flounder, but recommend still comparing the VPA-fit q to the tow study q, noting that this comparison is not necessarily straight forward. Make the time period for exploitation rate calculations consistent that used for Winter Flounder and other flatfish stocks.
Southern New England Winter Flounder	Tony Wood	In the event that the assessment is rejected, the alternate approach will be AIM or the survey swept area approach. The catchability study has limited sample size for Winter Flounder, but recommend still comparing VPA-fit q to the tow study q. Make the time period for exploitation rate calculations consistent that used for Winter Flounder and other flatfish stocks.
American Plaice	Mark Terceiro	If the current assessment approach is rejected, the alternate approach will be the survey swept area approach. Make the time period for exploitation rate calculations consistent that used for Winter Flounder and other flatfish stocks. This assessment should utilize new catchability estimates from recently reviewed research.
Gulf of Maine / Georges Bank Windowpane Flounder	Toni Chute	If the current AIM model is rejected the alternate approach will be a survey swept area approach using recently estimate catchability. The AOP reiterated concerns expressed by the catchability research review panel about the limited amount of data available to estimate survey q; however, there may be enough information available for use.

Stock	Lead	Major Recommendations
Southern New England / Mid-Atlantic Windowpane Flounder	Toni Chute	If the current AIM model is rejected the alternate approach will be a survey swept area approach using recently estimate catchability. The AOP expressed concerns about the limited amount of data available to estimate survey q.
Witch Flounder	Susan Wigley	The current empirical approach (biomass estimated from survey results and survey catchability estimates) should be utilized. The most current estimates of catchability should be used.
Redfish	Brian Linton	If the current assessment is rejected the proposed alternative is a LOESS smoothing approach (as is used for Georges Bank Cod).
Wolffish	Chuck Adams	The AOP accepted the model run that uses knife-edge 50cm maturity. If the current assessment is rejected, the alternate plan is AIM and then the LOESS smoothing approach (as is used for Georges Bank Cod).
Ocean Pout	Susan Wigley	Index based assessment, current survey analyses will be made available to the reviewers.

The meeting concluded at 4:30 pm. Draft assessment reports will be made available on Friday, September 1, 2017. The peer review panel will meet from September 11-15, 2017 to complete their review. In addition to the short summary reports, all of the model inputs and outputs, and supporting tables, figures, and graphs will be made available via a web-based tool.