



## New England Fishery Management Council

50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116

John Pappalardo, *Chairman* | Paul J. Howard, *Executive Director*

**To:** Paul J. Howard, Executive Director  
**From:** Steve Cadrin, Chairman, Scientific and Statistical Committee  
**Date:** November 16, 2010

**Subject: Acceptable Biological Catch (ABC) Recommendations for Gulf of Maine Winter Flounder and Georges Bank Yellowtail Flounder**

The Scientific and Statistical Committee (SSC) was asked to:

1. Review GOM winter flounder catches for 2009 and additional survey information collected since GARM III and evaluate whether this information affects the current ABC recommendation. If so, provide an updated ABC recommendation for FY 2010 – 2012; and
2. Review the 2010 assessment of Georges Bank yellowtail flounder from the 2010 Transboundary Resources Assessment Committee (TRAC) and recommend 2011 and 2012 ABCs for the fishing mortality that is consistent with the following additional rebuilding strategy under Council consideration: Rebuild by 2019 with a 60 percent probability of success.

On November 2, 2010 the SSC reviewed the following information and associated presentations developed by the Groundfish Plan Development Team (PDT) and the 2010 TRAC:

1. TOR memorandum to the SSC from Paul Howard
2. Cadrin memo dated September 20, 2010: ABC recommendations for Pollock, Georges Bank Yellowtail Flounder, Southern Windowpane Flounder, Northern Windowpane Flounder, Ocean Pout, and Gulf of Maine Winter Flounder
3. Groundfish PDT memo dated October 28, 2010
4. Groundfish PDT document for Gulf of Maine winter flounder (undated attachment from the Groundfish PDT memo dated August 6, 2010)
5. GOM winter flounder powerpoint presented at the August, 2010 SSC meeting
6. Groundfish PDT memo dated November 2, 2010
7. Groundfish PDT document for G B yellowtail flounder (undated attachment from the Groundfish PDT memo dated August 6, 2010)
8. Assessment of GB Yellowtail Flounder for 2010. TRAC Ref. Doc. 2010/06. Available at: [http://www2.mar.dfo-mpo.gc.ca/science/trac/documents/TRD\\_2010\\_06\\_E.pdf](http://www2.mar.dfo-mpo.gc.ca/science/trac/documents/TRD_2010_06_E.pdf)

### Gulf of Maine Winter Flounder

In 2008, GARM III attempted to assess Gulf of Maine winter flounder but none of the alternative assessment models was accepted by the review panel. Panelists concluded that “...it is highly likely that biomass is below  $B_{MSY}$ , and that there is a substantial probability that it is below  $\frac{1}{2} B_{MSY}$ .” In 2009, the SSC recommended ABC based on 75% of the most recent three-year average catch (238 mt). In June 2010, the Council approved a motion to ask the SSC to examine any recent fisheries independent and fisheries dependent data collected since GARM III for Gulf of Maine winter flounder and to evaluate whether this new information would affect their current ABC recommendation for Gulf of Maine winter flounder.

In August 2010, the PDT presented updated information to the SSC. Conflicting signals persisted in the updated information and the conflicts continue to confound attempts to assess the Gulf of Maine winter flounder stock. The PDT developed an alternative approach to deriving ABC that is consistent with the ABC control rule for groundfish and which is based on survey data that have been used to assess Gulf of Maine winter flounder. Area-swept survey estimates of exploitable biomass suggest that the current ABC (238 mt) represents a more conservative exploitation rate than  $75\%F_{MSY}$ . The SSC concluded that an area-swept survey approach to deriving ABC may provide a better scientific basis for ABC than the current approach, which is based on recent average catch, and is appropriate for the uncertainties in the data and the possibility that the stock is overfished. The SSC requested an evaluation by the PDT of candidate ABCs for 2011 based on area-swept survey biomass estimates, including a  $75\%F_{MSY}$  option and further exploration of survey data properties (e.g., confidence intervals, geographic distributions, inter-annual variability, trawl mensuration) to be considered by the SSC in November 2010.

In response to the SSC's request and the Council's approval, the PDT provided further analysis of area-swept biomass and its uncertainty as well as alternative catches associated with a range of exploitation rates. Results suggest that catches of 350 to 450 tons are unlikely to exceed the overfishing threshold and appear to have been sustainable in the past. However, it is not possible to evaluate the effect of such catches on stock size trends or status with respect to the minimum stock size threshold, and concerns remain that SSB may be substantially lower than  $SSB_{MSY}$ . Therefore, increases in catch could compromise stock status or rebuilding. Without information to evaluate the risks of jeopardizing stock status, the SSC cannot recommend a revised ABC at this time.

A benchmark assessment is scheduled for spring 2011 to evaluate stock status and provide a basis for revised recommendations on ABC. The SSC provided technical feedback to the Northeast Fisheries Science Center suggesting that area-swept biomass estimates be considered as a term of reference for the benchmark assessment.

**1. The SSC recommends that the ABC of Gulf of Maine winter flounder remain at 238 mt until information from the new benchmark assessment is available.**

Georges Bank Yellowtail Flounder

Georges Bank yellowtail flounder was assessed by the TRAC in July 2010. In September 2010, the SSC provided ABC recommendations based on the TRAC assessment and the rebuilding alternatives under consideration by the Council. The Council is now considering an additional rebuilding strategy and requested an associated ABC recommendation. Previous recommendations and rationale are relevant to the additional recommendation and are repeated here.

The 2010 TRAC assessment has a retrospective inconsistency in which recent estimates of stock size were revised downward approximately 40% when the analysis was updated with new data. Despite considerable uncertainties in the assessment and the systematic overestimation of stock size, the SSC endorses the 2010 TRAC estimates as the basis for ABC recommendations. The accepted assessment method for Georges Bank yellowtail flounder does not adjust for retrospective inconsistency. The inconsistency in estimates of recent stock size primarily results from over-estimating the abundance of the 2005 yearclass. The catches associated with rebuilding options have low probability of overfishing, even if recent overestimation of abundance continues. However, the expected

rebuilding under these catch options may not be realized if overestimation continues. Similarly, if future recruitment is less than that assumed in the projections, the expected rebuilding will not be realized. Estimates of recruitment for the last 30 years have been less than the median recruitment assumed in projections and the  $B_{MSY}$  estimate. Although there are uncertainties in the stock assessment and stock projections, the SSC concludes the uncertainties are not enough to modify catch advice based on rebuilding scenarios. Although recent retrospective inconsistency is substantial, it may not continue if it was indeed associated with the 2005 year class. Concerns about recent recruitment affect both the short-term projections and the rebuilding target ( $B_{MSY}$ ), so alternative assumptions of future recruitment would require re-estimation of  $B_{MSY}$ . Therefore the SSC recommends consideration of a revised estimate of  $B_{MSY}$  at the next benchmark assessment that accounts for lower recruitment in the last 30 years.

The Transboundary Management Guidance Committee (TMGC) concluded that the most appropriate Total Allowable Catch for the combined Canadian and USA fishery for Georges Bank yellowtail for the 2011 fishing year is 1,900 mt. This catch is expected to allow rebuilding in the short-term (10% increase in 2011), and result in a low risk of overfishing, even if the retrospective inconsistency persists. Using the 2010 TRAC assessment and projection methods, the SSC recommended several ABCs associated with alternative rebuilding strategies (recommendations 2a-2d repeated below). An additional projection indicates that the stock can rebuild by 2019 with a 60% probability of success if 2010 ABC is 2,584 mt and 2011 ABC is 2,784.

**2. The SSC recommends that Acceptable Biological Catch for Georges Bank yellowtail in 2011 depends on the Council's desired rebuilding objectives:**

- a. The current rebuilding strategy (rebuild by 2014 with a 75% probability of) requires that  $ABC=0$  mt;
- b. rebuilding by 2016 with a 50% probability of success requires that  $ABC=1,998$  mt;
- c. rebuilding by 2016 with a 60% probability of success requires that  $ABC=1,486$  mt;
- d. rebuilding by 2016 with a 75% probability of success requires that  $ABC=590$ mt; and
- e. **rebuilding by 2019 with a 60% probability of success (the additional rebuilding strategy) requires that  $ABC=2,584$  mt in 2011 and  $ABC=2,784$  in 2012.**
- f. The rebuilding target,  $B_{MSY}$ , should be reconsidered by the next benchmark assessment to account for lower recruitment in the last 30 years.