



New England Fishery Management Council

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

Ernest F. Stockwell III, *Acting Chairman* | Thomas A. Nies, *Executive Director*

To: Tom Nies, Executive Director
From: Scientific and Statistical Committee
Date: September 3, 2013

Subject: Overfishing levels (OFLs) and acceptable biological catch (ABC) recommendations for Georges Bank yellowtail flounder.

The SSC met on August 21, 2013 to address the following term of reference (TOR):
Provide an OFL and an ABC for each year for FY 2014-2015 that will meet management objectives and prevent overfishing.

The SSC considered the following documents in its deliberations:

1. Memo from PDT to SSC re ABCs (August 2013)
2. Transboundary Resources Assessment Committee (TRAC) Status Report (June 2013)
3. DRAFT TRAC Stock Assessment Report for 2013 (June 2013)

Developing catch advice for the Georges Bank yellowtail flounder stock has proved to be challenging in recent years due to a persistent retrospective pattern in the assessment outputs. The TRAC review panel approved a VPA model using a split survey series and a rho-adjustment to the terminal year as the best configuration among the approaches considered. The assessment report acknowledges the difficulties in fully describing dynamics of the stock using the model, but affirms a general conclusion that the status of the stock is poor. Of particular concern is that estimated recruitment in recent years is the lowest in the time series.

Catch advice provided in the TRAC report is more pessimistic than that offered in 2012, which was that catch of no more than 500mt would be needed to achieve a high probability of stock growth, and that catch of no more than 200mt would be needed to reduce fishing mortality below the reference point. This advice was amended in the 2013 report, which indicates that:

- Catch of 500mt or less would allow some possibility of stock growth from 2014 to 2015 (21% probability at 500mt).
- Catch of 400mt would achieve a high probability of a stock increase greater than 10%.
- Catch less than 200 mt would reduce fishing mortality below the reference point.

The SSC agreed with the TRAC conclusion that status of the stock is poor, but debated whether a model with such troubling diagnostics should be used as the primary means for directly developing catch advice. That the Groundfish PDT could not reach consensus on a preferred ABC or OFL is indicative of the uncertainties in this assessment. Therefore, as did the TRAC, the SSC discussed conflicting trends in the catch and surveys that could not be resolved by the suite of models considered. These catch and survey trends suggest less concern for the status of the stock than indicated by the model.

Survey trends for the past decade or so have remained relatively stable, albeit much lower than the peak values, and fluctuate around a mean without consistent directionality. Survey trends do show a potential downturn at the very end of the time series, but a downward trend has not been maintained, the recent values are generally within the range of the ten-year average, and the values over the past decade are above the lowest values in the time series observed from the mid-1980s to the mid-1990s. The SSC also considered estimates of relative fishing mortality, calculated as catch biomass divided by survey biomass. This index shows that recent values are the lowest in the time series.

It is important to note that consideration of these data did not change the SSC's agreement with the TRAC conclusion that stock status is poor and concern is warranted. Rather, the data caused the SSC to question the magnitude of depletion and extent of concern warranted relative to that suggested by model outputs.

The status quo ABC for the stock is 500mt, first adopted for the 2013 fishing year. The SSC has adopted status quo ABCs for other stocks that either lacked an approved assessment or had high uncertainty in an approved assessment. The ABC of 500mt represents a reduction of more than 50% from the 2012 ABC of 1150mt, and 75% or more from the ABCs in place between 2008 and 2011. Therefore, the SSC felt that maintaining an ABC of 500mt would afford the stock a better chance to show a response than it has had in some time. This expectation is consistent with the assessment results, which suggest that an ABC of 500mt allows some possibility of stock growth, although the assessment report notes that this outcome is less likely if recruitment expectations are optimistic.

In light of these considerations, the SSC recommends that the FY 2014-2015 ABC for the Georges Bank yellowtail flounder stock not exceed 500mt. The SSC further strongly recommends that catch be reduced as much as practicable in light of concerns about the status of the stock, consistent with the TRAC recommendation that, "Catches well below 500 mt are likely needed to achieve the harvest strategy" (TRAC Summary Report, p. 2).

The SSC recognized the need for an ABC as the basis for development of management measures, and offers an upper limit of 500mt with a strong recommendation to reduce catch as much as practicable as the best advice the available science will allow. However, the SSC reiterates its 2012 conclusion that OFL cannot be reliably estimated, and therefore remains unknown.

In offering this catch advice, the SSC also offers a strong recommendation for a thorough re-examination of the scientific basis for assessment of the stock and methods for development of catch advice, as well as a comprehensive investigation of the factors determining contemporary yellowtail flounder distribution and dynamics. The most robust analytical tools should be sought. However, the possibility that the major constraint on yellowtail productivity and recovery is not fishing pressure but rather some other factor means that the recommended process is not a benchmark assessment, but rather a broader scientific investigation. Management strategy evaluation (MSE) should be part of this process. In the absence of such a comprehensive consideration of alternative analytical tools and ecological processes, the SSC expects that the difficulties and uncertainties in the assessment, and resulting management challenges, will persist. A representative of the sea scallop fleet present at the meeting highlighted the potential for the industry to support needed research through the research set-aside (RSA) program in support of the SSC's recommendation, and sought guidance on the most important avenues to pursue. The SSC did not have time to develop a thorough response to this request, but highlights the opportunity to the Council and urges that a suitable response be provided as soon as possible.

Summary of recommendations

1. **Acceptable biological catch (ABC) for Georges Bank yellowtail flounder for FY 2014-2015 should not exceed 500mt, and catch should be reduced as much as practicable.**
2. **The overfishing limit (OFL) for Georges Bank yellowtail flounder remains unknown.**
3. **A more thorough scientific examination of the processes determining productivity of the Georges Bank yellowtail flounder stock and most robust analytical tools for determining its status and developing management measures is needed.**