

Framework Adjustment 51

To the

Northeast Multispecies FMP

Appendix I

**SSC Recommendations for Northeast Multispecies ABCs
FY 2014 – FY 2016**



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.**



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 white hake.

The SSC met on August 20, 2013 to address the following terms of reference (TORs):

Review the assessment and work of the Groundfish Plan Development Team (PDT) and provide an OFL and an ABC for each year for FY 2014-2016 that will prevent overfishing and is consistent with the default control rule.

The SSC considered the following documents in its deliberations:

1. Memo from PDT to SSC re ABCs (August 2013)
2. SARC 56 Assessment Summary for white hake (August 2013)
3. 56th Northeast Regional Stock Assessment Workshop (56th SAW) Assessment Report (use this link to download - <http://nefsc.noaa.gov/publications/crd/crd1310/>)
4. SAW SARC 56 Panelist Reports (<http://www.nefsc.noaa.gov/saw/saw56/index.html>)

A new benchmark assessment for white hake conducted earlier this year concluded that the stock is not overfished and overfishing is not occurring. The Groundfish PDT provided a range of ABC alternatives to the SSC, including one based on the default control rule, two that adopt constant catch strategies, and two based on sustainable harvest levels estimated from long-term projections. The four alternative approaches to the default control rule developed by the PDT were in response to two SSC concerns during deliberations on other groundfish stocks.

The first SSC concern is the poor performance often observed in projections when later evaluated against actual biomass trajectories estimated in later stock assessments. Often, the projections proved in hindsight to be optimistic, with the magnitude of the deviation generally increasing further from the terminal year of the assessment. This has led to riskier catch levels than intended. A constant catch strategy is one means of increasing the ABC buffer as the magnitude of uncertainty increases in later years of the projection, as was the approach adopted by the SSC earlier this year for Gulf of Maine cod.

The second SSC concern is that some stocks may have entered a low productivity regime (e.g., driven by changes in the marine ecosystem), and therefore that recruitments trends observed over the assessment time series might not be maintained going forward. Projections that assume lower recruitment scenarios can safeguard against this possibility. The SSC adopted an approach along these lines earlier this year for South New England/Mid-Atlantic winter flounder.

The SSC expressed gratitude for the PDT's consideration of these lessons learned from other stocks, and supports the PDT's initiative and forethought in offering a range of ABC alternatives in response. However, the SSC chose to adopt the PDT's first ABC alternative based on the default control rule as the basis for advice. This results in ABCs of 4,642mt for 2014, 4,713mt for 2015, and 4,645mt for 2016. Associated OFLs are 6,082mt for 2014, 6,237 for 2015, and 6,314 for 2016.

This decision was made not because the concerns discussed above have diminished, but rather because, unlike GOM cod and SNE/MA winter flounder, that status of white hake is good. Therefore, the consequences of either concern are less in the near-term. The Council should not lose sight of these issues, however, and might choose to adopt catch strategies that are more risk-averse than the default control rule for white hake should its status change. The process to develop more explicit risk policies as a means for re-evaluating ABC control rules should inform those decisions.

Summary of recommendations

- 1. Acceptable biological catches (ABCs) for white hake are 4,642mt for 2014, 4,713mt for 2015, and 4,645mt for 2016.**
- 2. Overfishing limits (OFLs) are 6,082mt for 2014, 6,237 for 2015, and 6,314 for 2016.**



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: **American Plaice and Gulf of Maine Cod Rebuilding Strategies**

The SSC met on May 16, 2013 to address the following terms of reference (TORs):

Review the 2012 assessments of American plaice and GOM cod and comment on the rebuilding strategies developed by the PDT based on the recent assessments and the rebuilding alternatives under development. The SSC is requested to advise on the technical basis for the range of alternatives that has been developed by the PDT.

The SSC considered the following documents in its deliberations:

1. Memo from PDT to SSC re ABCs (August 2013)
2. 2012 Groundfish Assessment Update Summary Report for American plaice (2012)
3. 55th SAW Assessment Summary for Gulf of Maine Cod (January 2013)
4. 55th SAW Assessment Report for Gulf of Maine Cod (June 2013)

The Groundfish PDT presented possible methods for determining rebuilding strategies for Gulf of Maine cod and American plaice, to be implemented in five years after the current ABCs that have been established by the SSC have passed. There is concern about the need to address uncertainty in the projections under rebuilding plans, but the mechanism for articulating that uncertainty is unclear.

The procedures outlined by the PDT seem reasonable. The SSC noted that it might be necessary to make clear the consequences to yield and biomass associated with the assumptions implicit in the projections (e.g. assumptions about M or recruitment). There does not seem to be a large difference in the consequences associated with different timelines (e.g., 8 years vs. 10 years), so it may be prudent to focus on 10 year time lines and explore the consequences of assumptions on the probability of recovery within what remains of the 10 year period.

Constant vs. time varying F strategies might also be considered, approaches similar to those PDTs have developed in the past with some success. Scenarios where the change in catch is bounded in order to constrain ecological and economic disruptions to the fishery might also be considered.

In analyzing rebuilding options, attention should be paid to metrics beyond solely biomass relative to B_{MSY} . For example, stock structure, especially age composition, is an important attribute. For some stocks, reconsideration of the reference points might be warranted. It might also be important to consider rebuilding in the mixed stock context. For example, the Council might not wish to speed up the rebuilding of cod, say, at the expense of limiting catch of haddock or pollock.

Finally, as the PDT has recognized, plans that focus on F , rather than B , appear to be more robust. However, legally, the 10-year rebuilding target remains an important constraint on options.