New England Fishery Management Council
50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116
Ernest F. Stockwell III, *Chairman* | Thomas A. Nies, *Executive Director*

To: Tom Nies, Executive Director
From: Scientific and Statistical Committee
Date: August 14, 2017

Subject: Overfishing levels (OFLs) and acceptable biological catch (ABC) recommendations for Georges Bank yellowtail flounder for fishing years 2018 and 2019.

The SSC met on August 8, 2017 in Providence, Rhode Island, to address the following terms of reference (TOR):

Taking into account the Council's Risk Policy Statement, provide the OFL and an ABC for each year for fishing years 2018 and 2019 that will prevent overfishing and meet the management objective to rebuild the stock, and is consistent with the Council's ABC control rule for groundfish stocks.

The Council requests that the SSC provide a final report by noon on August 14, 2017 so that it can be considered in developing recommendations for the US/Canada Transboundary Management Guidance Committee meeting.

To address these TORs, the SSC considered the following information:

A.1 The Council's Risk Policy Road Map (2016), that includes the Risk Policy Statement and Implementation Plan, see pp. 4-5 and 10-12.
A.2 Presentation: Overview of the 2017 TRAC assessment of Georges Bank yellowtail flounder (NEFSC staff)
A.3 Presentation: Groundfish Plan Development Team Report (NEFMC staff)
A.4 DRAFT TRAC Stock Assessment Report for GB yellowtail flounder for 2017 (July 2017), *the final version may be distributed if available*
A.5 Transboundary Resources Assessment Committee (TRAC) Status Report for GB yellowtail flounder (August 2017)
A.6 Memo from PDT to SSC re GB yellowtail flounder ABCs, including a memo from the Scallop PDT (August 4, 2017)
A.7 Risk policy matrix for GB yellowtail flounder (August 4, 2017)
A.8 Background: Memo from Groundfish PDT to SSC re GB yellowtail flounder ABCs, including a Memo from the Scallop PDT (August 4, 2016)
A.9 Background: 2017-2018 SSC ABC and OFL recommendations for GB yellowtail flounder (August 22, 2016 Memo from SSC to Tom Nies)
A.10 Report from the SSC Sub-Group on Quantifying Substantial Change in the GB yellowtail flounder empirical assessment (August 4, 2017)
A.11 Research Steering Committee meeting summary, March 23, 2017 (see pp. 8-10)

A.12 Final Project Report: Northeast Multispecies Fishery Flatfish Bycatch and Market Analysis (Cadrin et al., 2016).

Background

Since the 2014 diagnostic benchmark assessment for Georges Bank yellowtail flounder (GB yellowtail), the stock has been assessed using an empirical approach based on the fishery-independent surveys conducted by DFO (winter) and NOAA (spring and fall), rather than an analytical model. This approach precludes formal estimation of reference points and status of the stock. **Therefore, the SSC reaffirms that the OFL for GB yellowtail remains unknown.**

The 2014 assessment recommended that the quota (TAC) for the stock be set based on an exploitation rate ranging from 2% to 16% applied to the mean swept-area biomass estimate from the three surveys. The SSC accepted this recommendation in 2014 for use when developing an ABC, using the upper end of the range of exploitation rates, which resulted in a recommendation that ABC should not exceed 354 mt for Fishing Year (FY) 2015.

In 2015, the SSC recommended that the status quo ABC of 354 mt should remain the upper limit for FY 2016 because the biomass estimate had not changed substantially. Furthermore, despite endorsing the empirical approach as the best basis for developing catch advice, the SSC expressed concerns about the uncertainties inherent in the approach, including high variance and inconsistencies among the three surveys. The SSC concluded in our September 8, 2015 report that, "…annual adjustments to the ABC are not warranted in the absence of evidence of substantial changes in biomass…" However, the SSC did not specify what would constitute a "substantial" change. The SSC recommended additional work on this topic, and recommended no change to the FY 2017 ABC[1] from the ABC set in FY 2016 (354 mt).

A working group comprised of SSC members was convened to investigate what should constitute a "substantial change" in the GB yellowtail fishery, as well as other stocks that currently employ an empirical approach for assessment. The SSC was given a report from the Substantial Change Working Group (hereafter SCWG) on their findings to date. The SCWG did not make a specific recommendation for GB yellowtail but they did offer for further discussion a strawman, which recommended the development of a control rule applicable to stocks using an empirical approach, using terminal year estimates rather than a three year average, setting a minimum threshold for catch advice, setting a constant and appropriate exploitation rate, and suggested that using a static ABC is not a good long term approach.

SSC Discussion

The SSC reviewed the 2017 TRAC assessment. The TRAC revised its review process this year (see 2017 TSR for an overview). One notable change was that in the absence of consensus, the advice from the official scientific group (referred to as the External Reviewers and Science Members) will be provided along with the perspective from all attendees at the TRAC meeting (referred to as the Broader TRAC). Consensus was not achieved for GB yellowtail flounder, and therefore the advice was provided as noted. The TRAC used the empirical approach for GB yellowtail flounder to recommend catch advice. The TRAC External Reviewers and Science Members recommended catch advice from the application of the empirical approach, but that the quota should not exceed a 6%

[1] The TMGC and Council recommended a quota of 300 mt for GB yellowtail flounder for FY 2017. The specifications were implemented for May 1, 2017 in Framework Adjustment 56 to the Northeast Multispecies (Groundfish) Fishery Management Plan. Therefore, the FY 2017 ABC for this stock is 300 mt.

exploitation rate. The Broader TRAC considered the full range of exploitation rates from the 2014 Diagnostic and Empirical Benchmark, 2% to 16%, to still be informative.

The SSC also reviewed a report from the Groundfish PDT. The PDT did not recommend an increase in GB yellowtail flounder quota from the 2017 quota (ABC) of 300 mt. The PDT recommendation on a specific value for the ABC was split with no consensus reached. Some PDT members advised not exceeding the current quota of 300 mt. Other PDT members suggested decreasing the quota to the recent three year (2014-2016) average catch of 107 mt.

Recommendations

Based on the documents provided and the presentations made at the meeting, the SSC offers the following catch advice for GB yellowtail. **The SSC recommends an ABC of up to 300 mt for FY 2018 and FY 2019 (no change from the FY 2017 quota)**. The SSC's reasoning is similar to that given in the past for GB yellowtail. The following were the factors that led the SSC to suggest that the risk of impairing the stock further was low given the status quo ABC level recommended:

- Realized catch for GB yellowtail flounder has been the lowest on record, and well below the ABC, in recent years. While there are indications that the bycatch of GB yellowtail may increase given the rotational management of the scallop fishery as reported to the SSC by the Scallop PDT and reiterated by comments made by the public attending the meeting, the overall risk of achieving or exceeding the ABC remains low given this recent history of catch.

- The setting of the ABC at 300 mt is a 15% decrease from the previous advice of the SSC (354 mt), therefore this decrease in recommended ABC recognizes the continued decline in the abundance indices for this stock.

- It is apparent to the SSC that the current ABC level discourages targeting on this stock, therefore this is another reason why catch should remain at low levels if a status quo ABC level is sustained for 2018 and 2019.

- Relative exploitation rates (catch divided by survey index) associated with recent catches are the lowest on record, suggesting that the fishing mortality rate is also low.

- An exploitation rate of 10% results from an ABC of 300 mt. This resulting exploitation rate is within the range suggested by the Broader TRAC (range recommended for investigation were exploitation levels of 2 – 16%).

- Despite the reduction in catch and low relative exploitation rates, biomass has not shown a positive response, as indicated by the surveys, suggesting that environmental factors are having a strong effect on recovery.

- Because the TRAC assessment of GB yellowtail is conducted annually, with catch specifications also adjusted annually, we expect that our advice that ABC should not exceed 300 mt will be revisited and potentially adjusted for FY 2019.

Given these factors, the SSC felt that remaining at the status quo ABC of 300 mt did no harm to the fishery. What is meant by this is given that this is now a non-targeted fishery, and the limit of 300 mt appears to minimize bycatch while allowing fisheries to operate, namely the scallop fishery,

remaining at status quo added no additional risk to the GB yellowtail fishery or any associated fisheries that were not already in place. This perspective was supported by public comments made during the meeting. Additionally to the point of no harm, numerous sources (i.e. public comment, SSC member comments, and the reports reviewed during the meeting) indicated during the meeting that factors external to fishing appeared to be impacting the stocks ability to recover above and beyond fishing and as a result, remaining at the current historically low ABC seemed to be prudent. As a final note, the SSC observed that based on the survey information, there were periods of stock recovery from low stock levels in the past. These periods of recovery took place when the exploitation of the stock was set at higher levels than those currently recommended by the SSC. This gave the SSC some confidence that the current low ABC level would allow for rebuilding of the stock if the environmental factors affecting the population level were to improve. The SSC recognizes that the stock appears to be in a low productivity stanza given the lack of response to low catch levels, the low levels of recruitment, and the condition factor of the fish as indicated in the 2017 TRAC report, however the low ABC recommended by the SSC for 2018 should allow for recovery if any of these factors were to improve in the near future.

Finally, the SSC discussed developing a comprehensive control rule for the GB yellowtail fishery, but the SSC decided that developing a control rule in the current specification process was premature. The SSC was reluctant to recommend an ABC at an exploitation level that exceeded the advice from the External Reviewers and Science Members from the TRAC, who did not support going above an exploitation rate of 6%, and also setting the ABC in a way that contradicted the recommendation of the SCWG (this group suggested that setting static catch advice was not optimal for this stock). The SSC resolved that it should strongly recommend that the Council allow the SCWG to continue its work, and that this work focus directly on GB yellowtail. The **SSC suggested that the SCWG build upon its strawman control rule proposal**, the main features of which were to set advice relative to the terminal year estimate of abundance, set a threshold minimum level ABC (that accounts for bycatch) to not drop below, and set a constant and appropriate exploitation rate for the stock. In addition to further developing the strawman proposal for a control rule for setting catch advice for GB yellowtail, the **SSC also recommended that the SCWG offer feedback on the most important uncertainties to investigate in a simulation exercise to explore to the extent possible the ramifications of different choices for the control rule**. The example discussed was to simulate what the catch advice would be under the range of exploitation rates that have been examined for GB yellowtail, namely 2 – 16%. The control rule should be developed in the context of the Councils Risk Policy, as the SSC noted that this exercise could be useful in achieving some of the elements in the Councils Risk Policy Road Map.

It was noted that because there is no predictive model for GB yellowtail at this point, there are limitations to what the simulations can offer by way of fishery tradeoff information, but the SSC thought there was still value in conducting some simulation analysis on the proposed control rule. The SSC strongly recommends that this control rule be developed and vetted through the Council in time for specification setting in 2018 for GB yellowtail.

<u>Summary of recommendations</u>

1. **ABC for the Georges Bank yellowtail flounder stock should not exceed 300 mt for FY 2018 and FY 2019, with the expectation that the FY 2019 catch specifications will be**

revisited and possibly adjusted following the 2018 TRAC assessment. OFL for the stock remains unknown.

2. **The SSC SCWG should continue its work to develop a control rule for the GB yellowtail flounder stock. The work should be extended to offer advice on the most important uncertainties to consider for simulation work. The control rule should be developed in the context of the Council's Risk Policy, and should be available for use by the SSC as a method to consider in specification setting in 2018 for FY 2019. The SSC suggests that the Council consider this as a priority in terms of supporting this effort with appropriate resources.**