



New England Fishery Management Council

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Eric Reid, Chairman | Cate O'Keefe, PhD, Executive Director

MEMORANDUM

DATE: September 15, 2023

TO: Cate O'Keefe, Executive Director

FROM: Scientific and Statistical Committee

SUBJECT: Terms of Reference – Overfishing Limits and Acceptable Biological Catches for Georges Bank Yellowtail Flounder and White Hake for FY2024 and FY2025

The SSC met on September 8, 2023 via webinar to address terms of reference (TORs) for Georges Bank yellowtail flounder and white hake.

SSC members in attendance: Adrian Jordaan, Anna Birkenbach, Kevin Friedland, Yong Chen, John Wiedenmann, Jason McNamee, Richard Merrick, Jeremy Collie, Michael Carrol, Lisa Kerr, Conor McManus, Fred Serchuk, Lindsey Williams

Terms of Reference: Georges Bank Yellowtail Flounder

- 1. Review information provided by the Council's Groundfish Plan Development Team (PDT) and the results of the 2023 Transboundary Resources Assessment Committee (TRAC) stock assessment of Georges Bank yellowtail flounder.*
- 2. Recommend overfishing limits (OFLs) and acceptable biological catches (ABCs) for GB yellowtail flounder for fishing years (FY) 2024 and 2025 that will prevent overfishing, meet the management objective to rebuild, are consistent with the Council's ABC control rules and rebuilding plan, and in consideration of the Council's Risk Policy Statement.*
- 3. The Council requests that the Scientific and Statistical Committee (SSC) forward a "Summary of Recommendations" report by the end of the SSC meeting on September 8, 2023, so that it can be considered in developing recommendations for the US/Canada Transboundary Management Guidance Committee (TMGC) meeting.*

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

1. PDT Presentation, Council Staff
2. GB Yellowtail Flounder 2023 TRAC Stock Assessment, Presentation
3. 2023 TRAC Status Report for GB Yellowtail Flounder
4. GF PDT memo to SSC re GB yellowtail flounder OFLs and ABCs for FY2024 and FY2025 with Scallop PDT memo
5. Risk Policy Matrix GB Yellowtail Flounder
6. SSC memo to Nies re Overfishing Limits and Acceptable Biological Catches for Southern New England/Mid-Atlantic Winter Flounder, Georges Bank Yellowtail Flounder and Georges Bank Cod, Sept. 13, 2022

TOR FINDINGS

The SSC received presentations from Northeast Fisheries Science Center (NEFSC) staff and the Groundfish Plan Development Team (PDT) on the recent TRAC assessment for Georges Bank (GB) yellowtail flounder, and possible ABC and OFL options. GB yellowtail flounder does not currently have an analytical stock assessment and therefore there are no estimates of reference points or criteria to define the status of the stock. Based on the 2022 assessment, NOAA Fisheries determined GB yellowtail flounder is overfished but overfishing status is unknown and stock status is unchanged in 2023. GB yellowtail flounder is in a 26-year rebuilding plan, with a target rebuild date of 2032.

The SSC recommends that the OFL for the GB yellowtail flounder stock remains unknown, and recommends an ABC of 168 mt for FY 2024-2025 based on the results of the 2023 TRAC assessment.

RATIONALE INCLUDING SIGNIFICANT SOURCES OF UNCERTAINTY

The SSC is using Option D from the Council's groundfish ABC control rule in deriving its catch advice. Option D states: *Interim ABCs should be determined for stocks with unknown status according to case-by-case recommendations from the SSC.*

The SSC recommendation for the GB yellowtail flounder ABC is consistent with the GB Yellowtail Limiter Approach developed in 2021, which sets constant catch advice if survey biomass estimates fall within upper and lower biomass boundaries informed by science and management. If biomass is below the lower bound, a linear decrease in fishing mortality rate is used to determine catch advice. The average survey biomass for 2023 using the Miller et al (2021) method was 917 mt. The biomass estimate is below the bounds of the Limiter approach (lower bound: 1,000 mt; upper bound 7,300-8,500 mt). Applying the Limiter approach to the 2023 biomass estimate produced catch advice of 168 mt which is a decrease from FY 2022 - 2023 ABC (200 mT).

Missing survey data is a key source of uncertainty when using the Limiter approach. The Limiter approach was designed to have three independent surveys as the basis for deriving average biomass for a year. Since 2020, only two of the three surveys have been available each year for this estimation. The SSC has previously accepted the use of the Limiter approach despite recognized uncertainty introduced from having only two of the three surveys to inform the method. The SSC notes that the Yellowtail Flounder Research Track Stock Assessment, which is ongoing, is evaluating alternative assessment approaches for GB yellowtail flounder to replace or improve upon the Limiter Approach.

The SSC discussed the lack of rebuilding of this stock despite reductions in catch to historical low amounts and whether fishing mortality is constraining the stock's ability to increase. The SSC noted, as in the prior reports, that fishing does not appear to be a major driver of stock status currently. However, it was noted that for a stock that has experienced overfishing historically, causal mechanisms for lack of rebuilding are difficult to know with certainty, and therefore caution should be used when managing a stock such as GB yellowtail flounder.

ADDITIONAL COMMENTS AND RESEARCH RECOMMENDATIONS

There was an extensive discussion among the SSC regarding the impact of this recommended decrease in ABC. The generally low to moderate utilization rates suggest this moderate decrease in ABC will not have outsized economic impacts on the fisheries that catch this species mainly as bycatch. However, concerns were raised about the economic impact that this decrease in ABC would have on the scallop fishery sub-ACL, particularly in light of recent changes in the US-Canada allocation. The SSC was briefed on the recent changes on the US-Canadian allocations and US sub-ACL system, and the SSC was reminded that apportionment of the ABC is a management decision outside the scope of SSC deliberation

on the recommended ABC. The SSC does support recommendations made during the meeting to consider the domestic allocation system to best meet both groundfish and scallop bycatch concerns.

SUMMARY OF RECOMMENDATIONS

1. The SSC recommends that the OFL for the GB yellowtail flounder stock remain unknown.
2. The SSC recommends an ABC of 168 mt for FY 2024-2025 based on the results of the 2023 TRAC assessment.
3. The SSC recommends: (1) investigation of the environmental drivers affecting this species at both the juvenile and adult stages and (2) development of analytical approaches that address missing survey information and evaluation of alternative assessment approaches to replace or improve upon the Limiter Approach through the ongoing Yellowtail Flounder Research Track assessment process.

| Fishing Year | OFL (mt) | ABC (mt) |
|--------------|----------|----------|
| 2024 | unknown | 168 |
| 2025 | unknown | 168 |

Terms of Reference: White Hake

1. *Review information provided by the PDT, the results of the 2022 management track stock assessment for white hake, and recent Council funded contractor work on white hake recruitment assumptions.*
2. *Evaluate a modification to the white hake rebuilding plan that uses 75% of FMSY in FY2024 and FY2025 and weigh the risks to rebuilding progress along with possible social and economic impacts in the multispecies fishery. If warranted, propose revised FY2024 and FY2025 OFLs and ABCs for white hake.*

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

1. PDT Presentation, Council Staff
2. GF PDT memo to SSC re White Hake OFLs and ABCs for FY2024 and FY2025
3. Risk Policy Matrix for White Hake
4. White Hake Management Track Stock Assessment, 2022
5. Peer Review Report, Fall Management Track Stock Assessments, 2022
6. White Hake Recruitment Assumptions Summary Report, S. Cadrin
7. White Hake Recruitment Assumptions Summary Report, J. Collie
8. SSC to O’Keefe re review of white hake recruitment assumptions
9. SSC to Nies re Terms of Reference – Overfishing Limits and Acceptable Biological Catches for Groundfish Stocks, Nov. 9 2022
10. The Council’s Risk Policy Road Map (2016), that includes the Risk Policy Statement and Implementation Plan, see pp. 4-5 and 10-12

TOR FINDINGS

The SSC discussed the 2022 Management Track stock assessment for white hake at its October 2022 meeting (November 23, 2022 memo to Executive Director Nies), and reviewed Council-funded contractor work at its August 2023 meeting (August 31, 2023 memo to Executive Director O'Keefe). These reviews and the analyses recently conducted by the Groundfish PDT, provided support to this meeting's deliberations and recommendations.

The SSC was asked to evaluate whether 75%Fmsy could be used to provide catch advice for FY2024 and FY2025 rather than 70%Fmsy as recommended by the SSC in its November 2022 meeting. Informed by the report and presentation provided by the Groundfish PDT, the SSC evaluated the status quo recommendation for catch advice against alternatives incorporating some combination of: 1) the use of 75%Fmsy, 2) addition of two bridge years (FY2022 and FY2023) of catch data, and 3) use of autocorrelated long-term recruitment for short-term projections rather than the recent recruitment time series 1995-2019 (status quo approach).

Based on the presentations from the PDT, advice from Council and GARFO staff, and discussion within the SSC, it is recommended that the catch advice for FY2024 and FY2025 be based on projections using the two bridge years, autocorrelated long-term recruitment for the short-term projections, and 75%Fmsy. This produces OFL/ABCs for the 2024 and 2025 fishing years of 2,598/1,984 mt, and 2,583/1,972 mt, respectively. The SSC concurred that these changes would produce a more realistic set of short term projections, would not increase the risk of not meeting the rebuilding timeline relative to 70%Fmsy, and would slightly increase the economic and social benefits to the fishery in the short term with a low likelihood of negative consequences in the long term.

RATIONALE INCLUDING SIGNIFICANT SOURCES OF UNCERTAINTY

The white hake stock is neither overfished nor experiencing overfishing, and is making progress on rebuilding. The SSC approved a modification to the white hake rebuilding plan that uses 75%Fmsy in FY2024 and FY2025 based on evaluation of the risks to rebuilding progress along with possible social and economic impacts in the multispecies fishery. Importantly, the PDT report showed that the year in which rebuilding is projected to be achieved (see Figures on page 2 of Attachment 2 in 9/1/23 PDT memo to the SSC) is the same under 70%Fmsy and 75%Fmsy. Utilization of this stock is high and white hake can be a constraining stock to the multispecies groundfish fishery.

The choice of recruitment assumptions, however, does have a significant effect on the modeled time to rebuilding. Use of the autocorrelated long-term recruitment suggests the stock cannot be rebuilt by 2031. The time to rebuild may be delayed by as much as 6 years relative to a Frebuild strategy (Note: both 70%Fmsy and 75%Fmsy strategies predict the target SSB will be achieved in the same year). Rebuilding projections carried out under this recruitment assumption suggest that reaching the target SSB by 2031 would require a considerably lower F, and a reduction in catches by as much as 66%. This shift in perception is a result of a mismatch between the recruitment assumptions that inform the stock's rebuilding plan reference points (i.e., long term recruitment) and the SSC recommendation that inform short-term projections (i.e., autocorrelated long-term recruitment).

Even though the SSC felt that using the autocorrelated recruitment was a more realistic basis for short-term predictions, the SSC did not recommend that the autocorrelation be assumed for long term projections. This is an issue that should be considered in the scheduled 2025 Management Track assessment for white hake where both sets of consultant analyses should be considered for biological reference point development as well as for projections.

ADDITIONAL COMMENTS AND RESEARCH RECOMMENDATIONS

The SSC continues to be very concerned about the lack of recent white hake recruitment. There was considerable discussion during the meeting concerning the lack of recruitment despite low harvest, and whether this was signaling a longer-term change for stock productivity. This contrasts with rebuilding projections which are based on the assumption that recruitment will return to the long term mean.

The SSC felt that the autocorrelated approach to estimating recruitment for short term projections was useful because it provided an outcome that was more indicative of recent recruitments and therefore not overly optimistic given that some of the consultant work indicated that there are no definable long-term and short-term stanzas to inform recruitment expectations (i.e. through change-point analysis).

The SSC recommends the question of how recruitment is specified in white hake short-term projections and biological reference points be a major component for the 2025 White Hake Management Track Stock Assessment. Revision of the white hake reference points would likely require a higher level of review for this management track. The SSC again notes that the dynamic stock-recruit and associated risk analysis provided to the SSC in August 2023 by Drs. Jeremy and Samuel Collie provided important insight on white hake status, and recommends that these analyses be explored further in the 2025 stock assessment.

Finally, any change to recruitment assumptions informing white hake short-term projections and biological reference points through the 2025 research track assessment will likely have a significant effect on the Council's rebuilding plan for the stock.

SUMMARY OF RECOMMENDATIONS

1. The SSC recommends OFLs of 2,598 mt for FY2024, and 2,583 mt for FY2025.
2. The SSC recommends ABCs of 1,984 mt for FY2024 and 1,972 mt for FY2025
3. The SSC recommends that the question of how recruitment is specified in white hake short-term projections and reference points be evaluated in the 2025 Management Track Stock Assessment for white hake.

| Fishing Year | OFL | ABC |
|---------------------|------------|------------|
| 2024 | 2,598 | 1,984 |
| 2025 | 2,583 | 1,972 |