New England Fishery Management Council
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Daniel Salerno, *Chair* | Cate O'Keefe, PhD, *Executive Director*

MEMORANDUM

DATE: October 28, 2025

TO: Cate O'Keefe, Ph.D., Executive Director

FROM: Scientific and Statistical Committee

SUBJECT: Response to Terms of Reference - Overfishing Limits and Acceptable Biological Catches for Atlantic wolffish and ocean pout for FY 2026 to FY 2030

The Scientific and Statistical Committee (SSC) met in person and via webinar on October 8, 2025, to address Terms of Reference (TOR) for Atlantic wolffish and ocean pout.

SSC members in attendance: Dr. Edward Camp (Vice-Chair), Dr. Anna Birkenbach, Dr. Lisa Kerr, Dr. Gareth Lawson, Dr. Kai Lorenzen, Dr. Jason McNamee, Dr. Richard Merrick, and Dr. Hiro Uchida. A quorum of the SSC was not in attendance during the discussion. However, enough other SSC members reviewed this report to constitute a quorum.

TERMS OF REFERENCE

A. Consider the results of the Northeast Fisheries Science Center's (NEFSC) 2025 data updates for ocean pout and Atlantic wolffish and information provided by the Council's Groundfish Plan Development Team (PDT).

B. Recommend an overfishing limit (OFL) and acceptable biological catch (ABC) for ocean pout and Atlantic wolffish for FY 2026 – 2030 that will prevent overfishing, be consistent with the Council's groundfish ABC control rule and rebuilding plan for ocean pout and Atlantic wolffish, and consider the Council's Risk Policy Statement and Concept.

ATLANTIC WOLFFISH

The SSC received a presentation from Council staff on the recent 2025 data update by the NEFSC for Atlantic wolffish and the Groundfish PDT's development of possible OFLs and ABCs for FY 2026-2030. Due to the impact of recent reductions in force on the NEFSC's stock assessment capacity, the Center provided a data update in lieu of an assessment. The 2025 data

update brings up to date the commercial fishery catch data and the research survey indices of abundance through 2024 (spring survey goes to 2025).

Based on the information from the last management track assessment (2022), the Atlantic wolffish stock is overfished but overfishing is not occurring. The data update does not allow for updating of reference points, but little has changed in the information provided since 2022. Since 2010, wolffish has been managed as a non-allocated, discard-only stock. The updated research vessel surveys show no sign that the low levels of catch that have occurred during the past 20 years have improved recruitment. Wolffish is in a rebuilding plan with an undefined end date.

TERMS OF REFERENCE FINDINGS

The SSC recommends an OFL of 124 mt for FY 2026-2030 and an ABC of 93 mt for FY 2026-2030 for the Atlantic wolffish stock. The recommended OFLs and ABCs aim to prevent overfishing, are consistent with the Council's ABC control rules, and consider the Council's Risk Policy Statement.

Rationale Including Significant Sources of Uncertainty

The SSC previously applied Option 1 of the ABC control rule for wolffish. Given that there was only a data update done for this SSC review, and that the catch and survey information for wolffish was generally stable (albeit at apparent low abundance levels), it was challenging to offer an alternative to the previous recommended levels.

The primary sources of uncertainty in the wolffish assessment are the use of the ocean pout research vessel survey catch calibration coefficient to standardize *R/V Albatross* and *R/V Bigelow* survey catches (i.e., wolffish calibration coefficients are unknown) and the apparent lack of impact from the restrictive management indicating likely unaccounted for environmental effects on the population dynamics for this species. It is also unclear whether the lack of a recruitment index signal since 2005 is due to an actual decrease in recruitment or a change in survey catchability resulting from the increase in liner mesh size associated with the switch to the *R/V Bigelow* as the survey vessel. At the next available management track assessment, the *R/V Albatross* and *R/V Bigelow* surveys could be split and treated as two separate surveys rather than trying to calibrate and combine them to remove this particular uncertainty. Additionally, the surveys may have reached the limit of wolffish detectability due to the decline in stock abundance, or the ineffectiveness of the stratified random sampling design to sample current wolffish habitats–especially if wolffish exhibit range-collapsing behavior that could translate to density-dependent catchability or detectability with respect to survey gear. Given the life history characteristics of wolffish, there may also be non-linear effects in the trawl survey information.

Due to only having a data update available by which to set specifications, stock projections were not conducted. Wolffish catches have been limited almost exclusively to discards since 2010 when the no possession rule was implemented with an assumed 8% discard mortality rate. The SSC believes that the recommended ABC is unlikely to result in overfishing for this stock given this restrictive management program, and no information was offered to the SSC that this management program would change in the coming years.

Additional Comments and Research Recommendations

The SSC noted that if there are substantial changes in the fishery, for instance large increases or decreases in discards, or large changes in the survey information, the stock should be evaluated and brought back before the SSC and PDT. In 2017, an SSC sub-group called the Substantial Change Working Group (SCWG) evaluated how to determine what magnitude of change could be considered substantial and warrant action; the report from this group could be reviewed to see if it could be applied to the case of wolffish.

The SSC reiterated several previous research recommendations including further studies on wolffish growth parameters, tagging research to provide information on stock structure, movements, and habitat preferences, an evaluation of discard mortality rate, and studies on post-capture nest site fidelity. The SSC had previously identified additional research recommendations including assessing the utility of wolffish bycatch in the lobster fishery as an index of wolffish abundance. This recommendation appears to have been investigated, and it was determined that the information was sparse and therefore not useful for this application. There had been a previous recommendation to evaluate the effect of replacing zero values in the research surveys with ½ the minimum value seen in the survey catches, and assessing the utility of the Bottom Longline Survey as a potential index of abundance, as major wolffish habitats may be on untrawlable bottom, and these remain relevant recommendations to carry forward.

It is also possible that despite the low removals of wolffish, the stock may be driven primarily by environmental factors. While annual ABCs have ranged between 70 and 93 mt during 2010-2024, catches of wolffish have only been between 1 and 6 mt in these years. Studies on the effects and impacts of environmental factors on wolffish survival and reproduction would be extremely informative.

Moving wolffish from the SCALE model to a new modeling platform that can accommodate explorations of things like non-linear effects in survey information, environmental effects on recruitment, random effects, and can convert between length and age internally in the model would be good recommendations for a research track for wolffish.

Finally, if there is a decision that there are not resources available to move wolffish into a research track process due to limited resources, wolffish may be a good candidate to move into managing as an Ecosystem Component Species (ECS). Because its biomass is at low levels but does not appear to be responding to restrictive management, a classification as an ECS would provide for monitoring for ecosystem management objectives but would not necessarily require a stock assessment or specific management measures like catch limits. This species is not targeted by fisheries, and is likely not currently subject to overfishing, so reclassifying wolffish as an ECS would allow for a more efficient and ecosystem-based approach to management by prioritizing resources on other groundfish species that require direct management while still monitoring the health of the broader ecosystem, including wolffish.

Summary of Recommendations

1. **The SSC recommends an OFL of 124 mt and an ABC of 93 mt for Atlantic wolffish, held constant for FY 2026-2030.**

2. **The SSC recommends a management track assessment as soon as possible (preferably in the next two years), incorporating some of the research recommendations mentioned in the text above.**

3. **The SSC set specifications for 5 years as requested in the TORs, but the SSC did not support going that long without additional evaluation of the stock.**

4. **The SSC recommends exploration of new modeling techniques for wolffish in a research track (i.e., state space approaches, methods that can convert between length and age internally, and methods that can incorporate environmental effects on dynamics).**

5. **If there is a decision that wolffish does not warrant a research track, wolffish could be considered as a candidate for managing as an Ecosystem Component Species.**

Fishing Year	OFL (mt)	ABC (mt)
2026 - 2030	124	93

OCEAN POUT

The SSC received a presentation from Council staff on the recent 2025 data update by the NEFSC for ocean pout and the Groundfish PDT's development of possible OFLs and ABCs for FY 2026-2030. Like wolffish, a data update was provided in lieu of an assessment. The data update was from a prior management track stock assessment in 2022 that used an exploitation ratio index-based method. Based on that assessment, as of 2021, ocean pout was overfished and overfishing was not occurring. Ocean pout is in a rebuilding plan with an end date of 2029. The Groundfish PDT provided potential catch based on the spring 2024 and 2025 survey indices and status quo catch for consideration.

TERMS OF REFERENCE FINDINGS

The SSC recommends an OFL of 125 mt for FY 2026-2030 and an ABC of 87 mt be held constant for FY 2026-2030 for ocean pout. The recommended OFLs and ABCs aim to prevent overfishing, are consistent with the Council's ABC control rules, and consider the Council's Risk Policy Statement.

Rationale Including Significant Sources of Uncertainty

The SSC was provided by the PDT with two catch advice alternatives for consideration: (1) status quo (OFL and ABC of 125 mt and 87 mt respectively) and (2) exploitation ratio from the assessment update (OFL and ABC of 131 mt and 91 mt respectively). The SSC opted to advise following the status quo, which would extend the current OFL and ABC (125 mt and 87 mt respectively) for five years to 2030. This was done for continuity and considered justified on the grounds that (i) no major changes in abundance were evident since the last assessment and catch recommendations issued in 2022, and (ii) uncertainty and concerns that suggested a cautious approach was warranted. The uncertainty was related to incomplete recent survey coverage (2023 index was missing) as well as concerns about the appropriateness of the assessment method and resultant reference points (described below). Therefore, the SSC considered that an increase in OFL and ABC, however small, was unlikely to be justified and opted for continuity and recommended revisiting the assessment and the catch level recommendations in the near future.

The following concerns were noted with respect to assessment methodology for ocean pout. First, the stock has shown no signs of being rebuilt. Ocean pout is in a rebuilding plan with a rebuilding target of 2029, but despite 20 years with realized fishing mortality rates below the FMSY proxy, ocean pout biomass has continued to decline and remains near historic lows in the time series.

Second, there is substantial uncertainty in the reference points. Although various quantitative assessment methods were applied to ocean pout in the 1990s and 2000s, none produced acceptable results. The Overfishing Definition Panel (Applegate et al. 1998) therefore resolved to visually inspect the landings and survey trends and choose values for MSY and B_{MSY} that appeared to be sustainable. The approach was re-examined and reference points updated during the 3rd Groundfish Assessment Review Meeting (NEFSC 2008): "The median NEFSC 3yr average spring biomass index (4.94 kg/tow) and the median exploitation ratio (0.76) during 1977-1985 are used as B_{MSY} and F_{MSY} proxies, respectively. The 1977-1985 time period corresponds to the time when the replacement ratio was above 1 and biomass increased. Based on these proxies, MSY is estimated to be 3,754 mt (4.94 * 0.76 * 1000)". The SSC noted that this approach was essentially ad hoc, and that the estimated reference points refer to a period of very high abundance and apparent productivity. The SSC further noted that the F_{MSY} proxy, an annual exploitation rate of 76% of total biomass, is very high in the context of ocean pout life history (maximum age 18 years, growth parameters $L\infty$ = 122cm, k = 0.1 $year^{-1}$, FishBase, Froese & Pauly 2025). There is concern, therefore, that catch advice based on this proxy may be too high and that fishing may have played a greater role in the historical decline of the stock than previously thought. The SSC therefore recommended a re-evaluation of the assessment approach and biological reference points for this stock. It should be noted that a similar re-evaluation has been recommended repeatedly in previous SSC discussions on this stock.

Third and finally, the SSC described concern that not all sources of catch are sufficiently and consistently accounted for. The current assessment/data update methodology does not consider discards from the lobster fishery, and historically this information was not consistently available. Recent total catch data do include the lobster fishery bycatch, which resulted in 2024 ocean pout catch (561 mt) being greater than the current OFL (125 mt). The SSC and PDT discussed that this is not necessarily indicative of overfishing occurring, since the OFL reference points were derived from an approach that did not consider lobster fishery bycatch. Rather, this incongruity adds to the concern regarding the uncertainty of the reference points and suggests caution is warranted.

The SSC considers that, in the absence of a re-evaluation, continuity in catch advice is intended to avoid abrupt shifts in fisheries management to the extent possible. In the case of ocean pout, there is no strong scientific justification for changing OFL and ABC at this point. The SSC's recommended ABC is unlikely to result in overfishing with respect to the current reference points and limits for this stock but noted the concerns about methods for setting the F_{MSY} proxy used to establish these limits and the fact that recent catches are near or above the OFL.

Additional Comments and Research Recommendations

The SSC highlighted that the F_{MSY} reference point may not be appropriate for the stock. The SSC reiterated its recommendations made in 2020 and 2022 to evaluate the assessment method and basis for biological reference points. The SSC noted that ocean pout is similar in status to other stocks that exhibit a potential change in productivity, either associated with climate or, in this case, possibly depensatory mechanisms. The SSC recommends that clarifying the appropriate assessment and management approaches for this and other similar stocks is critical.

Ocean pout may be another good candidate to move into managing as an Ecosystem Component Species (ECS). Its biomass remains at a low level and the stock does not appear to be responding to restrictive management, and as an ECS it could be monitored for ecosystem management objectives but would not necessarily require a stock assessment or specific management measures like catch limits. Classification as an ECS would allow for a more efficient and ecosystem-based approach to management by prioritizing resources on other groundfish species that require direct management while still monitoring the health of the broader ecosystem.

Summary of Recommendations

1. **The SSC recommends an OFL of 125 mt and an ABC of 97 mt for ocean pout, held constant for FY 2026-2030.**

2. **The SSC recommends ABCs of 97 mt for FY 2026-2030 of ocean pout to be held constant for FY 2026-2030.**

3. **The SSC recommends re-evaluation of the assessment, F_{MSY} reference point, and catch advice in the near future (ideally prior to 2030).**

4. **The SSC recommends considering ocean pout as a candidate for managing as an Ecosystem Component Species.**

Fishing Year	OFL (mt)	ABC (mt)
2026 - 2030	125 mt	97 mt

DOCUMENTS

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

1. NEFSC Data Update Reports
    a. *2025 Data Update: Unit Stock of Ocean Pout, Zoarces americanus*, September 24, 2025
    b. *2025 Data Update: Unit Stock of Atlantic Wolffish, Anarhichas lupus*, August 27, 2025
2. Groundfish Plan Development Team
    a. Presentation by Council staff
    b. Groundfish PDT memo to SSC re FY 2026 – 2030 OFLs and ABCs for ocean pout and Atlantic wolffish, October 1, 2025
    c. Risk Policy Matrix cover sheet for groundfish stocks
    d. Risk Policy Matrix for ocean pout
    e. Risk Policy Matrix for Atlantic wolffish
3. *Framework Adjustment 69*, Affected Environment Human Communities (Section 5.7), March 11, 2025
4. Previous SSC recommendations regarding ocean pout and Atlantic wolffish
    a. Meeting materials, October 12, 2022
    b. SSC report, November 23, 2022

Background Documents

1. The Council's Risk Policy Statement and Concept, implemented January, 2025
2. NOAA/NEFSC 2025 State of the Ecosystem Reports for the Northeast U.S. Shelf

REFERENCES

Applegate A, Cadrin SX, Hoenig J, Moore C, Murawski S, Pikitch E. 1998. Evaluation of existing overfishing definitions and recommendations for new overfishing definitions to comply with the Sustainable Fisheries Act. New England Fishery Management Council Report.

Froese, R. and D. Pauly. Editors. 2025. FishBase. World Wide Web electronic publication. www.fishbase.org, version (04/2025).

NEFSC 2008. Assessment of 19 Northeast Groundfish Stocks through 2007: Report of the 3rd Groundfish Assessment Review Meeting (GARM III), Northeast Fisheries Science Center, Woods Hole, Massachusetts, August 4-8, 2008. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 08-15; 884 p + xvii.