SSC Reports to NEFMC Groundfish

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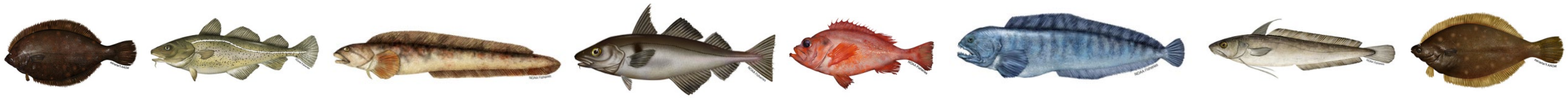
NEFMC Meeting

December 3, 2025



Groundfish Stocks Considered

SSC mtg	Stock
October 8	Atlantic wolffish
	Ocean pout
October 21-22	Acadian redfish
	White hake
	Winter flounder 1) Georges Bank 2) Gulf of Maine 3) Southern New England/Mid-Atlantic
	Yellowtail flounder 1) Cape Cod/Gulf of Maine 2) Southern New England/Mid-Atlantic
	U.S./Canada transboundary stocks 1) GB cod 2) GB haddock 3) GB yellowtail flounder

Overarching Comments

- Recommended OFLs and ABCs that aim to prevent overfishing, are consistent with the Council's ABC control rules and rebuilding plans, and consider the Council's Risk Policy Statement.
- SSC asked to provide longer (5-year) catch advice - inherently less certain
  - Out years of projected stock and catch increasingly composed of "paper fish" - cohorts based on yet unobserved recruitments. Depends on life history–less of an issue for redfish and white hake, more for flounders.
  - A challenge to credibly expect to prevent overfishing without being systematically conservative.
  - The Projections Research Track Working Group should resume as soon as possible.

SSC general approach

- Control Rule (CR) for all 5 years as default.
- Deviation from CR if…
  - Substantial uncertainty (e.g., “paper fish”) in out years,
  - Substantial concern CR would risk overfishing, or
  - Concern CR would risk substantial socioeconomic hardship **and** deviating from it would not increase overfishing risk.

- Most common deviation to hold out years constant.

October 8: Atlantic Wolffish & Ocean Pout

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.

Wolffish

- **Assessment:** 2025 data update in lieu of an assessment, catch and survey indices of abundance; does not allow for updating reference points.
- **Stock Status:** overfished, overfishing is not occurring (as of 2021).
- **Notes:** Managed since 2010 as a non-allocated, discard-only stock; 20 years of low catch has not improved recruitment. Stock in a rebuilding plan with undefined end date.
- **Recommendation:** The following OFLs and ABCs, unchanged from prior levels.

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

Wolffish

RATIONALE

- FY 2023-2025 catch set with ABC control rule Option A: ABC is the catch with F at 75% of F_{MSY}. Lower probabilities of overfishing were considered, but low catch ensured little chance of overfishing.
- SSC recommended status quo ABC: challenging to offer an alternative given:
  - Data update (stock projections precluded)
  - Catch and survey information stable though at low abundance.

UNCERTAINTIES (ongoing)

- Use of the ocean pout survey catch calibration coefficient to standardize the time series between *R/V Albatross* and *R/V Bigelow* surveys.
- Not rebuilding despite low catch. Unaccounted for environmental effects on stock?
- Is the lack of recruitment signal since 2005 real or a sampling artifact (increased mesh size of survey)?
- Is the stock below the survey detection level or outside the survey's range?

Wolffish

ADDITIONAL COMMENTS

- The SSC set specifications for 5 years as requested, but recommending revisiting sooner.
- Conduct a management track assessment as soon as possible (preferably in the next two years), and/or explore new modeling techniques in a research track.
- Consider managing as an ecosystem component species: biomass is low, but not responding to restrictive management.

RESEARCH RECOMMENDATIONS

- Consider treating *R/V Albatross* and *R/V Bigelow* as separate surveys.
- Consider what degree of change in fishery catch and survey data warrant reconsideration.
- Several needs for studies on growth, stock structure, movement, habitat preferences, discard mortality, etc.
- Investigate the potential to replace zeros in the survey with ½ the minimum catch and to use the Bottom Longline Survey as an abundance index.
- Consider analytic approaches–either more complex state space approaches or simpler data-poor approaches.

Ocean Pout

- **Assessment:** 2025 data update in lieu of an assessment, catch and survey indices of abundance; does not allow for updating reference points.
- **Stock Status:** overfished, overfishing is not occurring (as of 2021).
- **Notes:** Last assessment used an exploitation ratio index-based method; stock in a rebuilding plan with 2029 end date.
- **Recommendation:** The following OFLs and ABCs, unchanged from prior levels.

Fishing Year	OFL (mt)	ABC (mt)
2026 - 2030	125	87

Ocean Pout

RATIONALE

- Recommended status quo; no notable changes in abundance.
- Considered using ABC control rule Option B: ABC is the catch with $F_{rebuild}$ - using exploitation ratio (1977-1985) and survey data update; would have increased OFL and ABC slightly.
- Despite 20 years into a rebuilding plan, the stock is declining and near historic lows, despite low fishing mortality.

UNCERTAINTIES

- Concern about the appropriateness of the assessment method and resulting reference points merit caution.
  - 1977-1985 was a period of very high abundance and productivity.
  - $F_{MSY\ proxy}$ is very high for this long-lived stock.
  - Lobster fishery discards not included in assessment and reference points, yet larger than current OFL.

Ocean Pout

ADDITIONAL COMMENTS

- Consider managing as an ecosystem component species: biomass is low and not responding to restrictive management.
- 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.

RESEARCH RECOMMENDATIONS

- Reiterate recommendations from 2020 and 2022: evaluate the assessment method and basis for F_{MSY} reference points and catch advice, ideally prior to 2030.
- Consider simpler assessment models in context of altered NOAA capacity.

October 21-22: Groundfish (non-transboundary)

TERMS OF REFERENCE

A. Consider the results of the most recent stock assessments for groundfish stocks and information provided by the Council's Groundfish Development Team (PDT).
B. Recommend overfishing limits (OFL) and acceptable biological catches (ABC) for the following groundfish stocks for FY 2026-2030 that will prevent overfishing, be consistent with the Council's groundfish ABC control rule and rebuilding plans and consider the Council's Risk Policy Statement and Concept.
    a. Acadian redfish
    b. Winter flounder: Georges Bank, Gulf of Maine, Southern New England/Mid-Atlantic
    c. White hake
    d. Yellowtail flounder: Cape Cod/Gulf of Maine and Southern New England/Mid-Atlantic




Acadian Redfish

- **Assessment:** 2025 management track with WHAM model
- **Stock Status:** not overfished, overfishing not occurring
- **Notes:** First use of WHAM for redfish
- **Recommendation:** The following OFLs and ABCs, decreased from prior levels

Fishing Year	OFL (mt)	ABC (mt)
2026	7,519	5,665
2027	7,203	5,427
2028	6,999	5,273
2029	6,723	5,065
2030	6,513	4,907

Acadian Redfish

RATIONALE

- Consistent with ABC control rule Option A: ABC is the catch with 75% of F_{MSY}.
- Considered rho-adjusted projections, but did not recommend.
- Projections have relatively low uncertainty (low proportion “paper fish”).
- No indication Option A would risk overfishing or be constraining.
- Overall, relatively low uncertainty and good stock status.

UNCERTAINTIES

- Lack of fit in terminal year of assessment to the survey data.
- Additional age data may further improve assessment.
- Large variation in catch and apparent productivity over time; monitor effects of most consistent catch if this occurs.

Acadian Redfish

ADDITIONAL COMMENTS

- Utilization currently low; could increase due to markets or management, SSC believed out years still appropriate if this occurs.

RESEARCH RECOMMENDATIONS

- Use available features of WHAM that could improve diagnostic issues.
- Explore possible environmental effects on recruitment, alternate selectivity blocks, effects of sexually dimorphic growth and weight-at-age.
- Investigate Gulf of Maine-Scotian shelf migration patterns.
- Complete aging of archived redfish to bolster age information.
- Use length-frequency modeling and state survey data in WHAM.

White Hake

- **Assessment:** 2025 management track using ASAP model
- **Stock Status:** not overfished, overfishing not occurring
- **Notes:** In a rebuilding plan, some progress towards rebuilding, though low recruitment recently
- **Recommendation:** The following OFLs and ABCs, decreased from prior levels:

Fishing Year	OFL (mt)	ABC (mt)
2026	1,943	1,393
2027	1,760	1,261
2028	1,640	1,174
2029	1,618	1,157
2030	1,698	1,215

White Hake

RATIONALE

- Used ABC control rule Option B: ABC is the catch with $F_{rebuild}$ (70% of F_{MSY}).
- Rebuilding appears “stalled”, with recent low recruitment.
- Moderate uncertainty in out-years (“paper fish”).
- Concern that deviating from control rule would increase risk of overfishing.

UNCERTAINTIES

- Utilization by fishery is high; it can be a constraining stock. Assessment inconsistent with industry perceptions of stock health.
- Catch-at-age not well characterized prior to 1989; used pooled and survey age-length keys to age commercial catch.
- Moderate projection uncertainty from life history and apparent change in productivity; different recruitment assumptions for long-term (rebuilding) than short-term (catch advice projections).
- Possible seasonal movement of stock out of defined stock area.

White Hake

ADDITIONAL COMMENTS

- Agreed with the peer review panel that standard projections should be used until best practices for projections established (e.g., considering autocorrelated recruitment).
- Concern about lack of recruitment despite low catch. Does this signal a change in productivity?

RESEARCH RECOMMENDATIONS

- Continue evaluating how recruitment is specified in short-term projections and reference points (i.e., in next assessment) using the strength and weakness analysis offered by the 2025 assessment peer review panel.
- Move from ASAP to a WHAM model to explore recruitment and environmental drivers.

Winter Flounder

	Assessment	Overfished?	Overfishing?
Georges Bank	Analytical: WHAM	No	No
Gulf of Maine	Empirical: Swept-Area	Unknown	No
S. New England/Mid-Atl.	Analytical: ASAP	No	No

OVERARCHING COMMENTS

- Resume the work of the Winter Flounder Research Track Assessment to improve holistic, consistent understanding of species drivers (e.g., environmental).
- Transition to: 1) assessing winter flounder stocks together in multi-stock assessment using WHAM, or 2) other solutions to considering environmental influences on stock dynamics.
- Large proportions of fish in 3-5 years have yet to recruit, which makes projections (GB & SNE/MA stocks) highly uncertain (i.e., "paper fish"

Georges Bank Winter Flounder

- **Notes:** First use of WHAM for this stock. Stock in a rebuilding plan; assessment concluded that stock is rebuilt.
- **Recommendation:** The following OFLs and ABCs, increased from prior levels.

Fishing Year	OFL (mt)	ABC (mt)
2026	2,279	1,785
2027	2,148	1,681
2028	2,079	1,627
2029	2,061	1,613
2030	2,060	1,612

Georges Bank Winter Flounder

RATIONALE and UNCERTAINTIES

- Used ABC control rule Option A: ABC is the catch with 75% of F_{MSY}.
- Considered holding ABC constant for final two years, but decided against:
  - Stock is > SSB_{MSY} and Option A will provide sufficient precaution against overfishing.
  - Recent catch << Option A values, so ABC won't be constraining.
  - Only small differences in ABC options.

RESEARCH RECOMMENDATIONS

- Natural mortality is assumed to be fixed across ages; explore updating.

Gulf of Maine Winter Flounder

- **Notes:** Lack of recruitment data inhibits projections; stock underutilized and appears stable but not responding to low catches; some recent increases in survey.
- **Recommendation:** The following OFLs and ABCs, decreased from prior levels:

Fishing Year	OFL (mt)	ABC (mt)
2026 - 2030	1,064	798

Gulf of Maine Winter Flounder

RATIONALE and UNCERTAINTIES

- Used ABC control rule Option A: ABC is the catch with 75% of F_{MSY}.
- Constant catch for FY 2026-2023 well-justified: empirical approach, “paper fish” uncertainty issue, and consistency with past recommendations.

ADDITIONAL COMMENTS and RESEARCH RECOMMENDATIONS

- SSC uncomfortable with assigning overfishing status using empirical methods. Restarting work to transition to WHAM would resolve this.
- Coordinate across data collection efforts to elucidate questions about stock structure and survey catchability.
  - State surveys need better catchability estimates.
  - Understanding movements would elucidate survey patterns.

Southern New England/Mid-Atlantic Winter Flounder

- **Notes:** Rebuilt as of 2022; recruitment and natural mortality are sensitive to environmental conditions, which can't be explored via ASAP
- **Recommendation:**
  - The following OFLs and ABCs, decreased from prior levels.
  - The PDT recalculate the OFL for FY 2030 to achieve the constant ABC at 50% F_{MSY}; the SSC will accept the updated OFL value.

Fishing Year	OFL (mt)	ABC (mt)
2026	961	507
2027	1,009	532
2028	1,055	556
2029	1,101	556
2030	1,101*	556

* Recalculate OFL if possible.

Southern New England/Mid-Atlantic Winter Flounder

RATIONALE and UNCERTAINTIES

- Considered ABC control rule Option A (75% F_{MSY}) but used 50% F_{MSY} with holding year 3 ABC constant for years 4 and 5.
- Substantial uncertainty in out-years' projections, reference points, and poor indicators of stock health, continued need to use 50% F_{MSY}.
- Recent recruitment has been low; projections assume recruitment improvements that have not been observed.
- Retaining F40% as the F_{MSY} proxy may no longer be appropriate under lower productivity assumptions, as discussed by the AOP and peer review panels.
- SSB declining, currently at the second lowest point in time series.
- Allowing OFLs to increase for FY 2029 and 2030 even as ABCs are held constant, reflect increases in projections; consistent with past SSC recommendations.

Southern New England/Mid-Atlantic Winter Flounder

RESEARCH RECOMMENDATIONS

- Explore fitting a stock recruitment model to test whether F40% remains an appropriate proxy for F_{MSY}.
- Explore use of a spatial-temporal model (e.g., a vector autoregressive spatial-temporal (VAST) model) that can integrate multiple surveys to estimate a comprehensive index of abundance.
- Conduct modeling that can incorporate data from multiple surveys to estimate a comprehensive index of abundance.

Yellowtail Flounder

	Assessment	Overfished?	Overfishing?
Cape Cod/Gulf of Maine	Analytical: WHAM	Yes	No
S. New England/Mid-Atl.	Analytical: WHAM	Yes	No
Georges Bank	Analytical: WHAM	Yes	No

OVERARCHING COMMENTS

- First use of WHAM following 2025 research track.
- Transition to assessing yellowtail flounder stocks together in multi-stock assessment using WHAM: movement between stock areas could explain some variance and reduce errors.
- Large proportions of fish in 3-5 years have yet to recruit make projections highly uncertain (i.e., “paper fish” issue).

Cape Cod/Gulf of Maine Yellowtail Flounder

- **Notes:** Assessment produced a large increase in scale but revised stock status to overfished.
- **Recommendation:**
  - The following OFLs and ABCs, increased from prior levels.
  - The PDT recalculate the OFL for FY 2030 to allow an increase while ABC remains constant.

Fishing Year	OFL (mt)	ABC (mt)
2026	2,224	1,736
2027	2,638	2,062
2028	2,984	2,335
2029	3,225	2,335
2030	3,225*	2,335

* Recalculate OFL if possible.

Cape Cod/Gulf of Maine Yellowtail Flounder

RATIONALE and UNCERTAINTIES

- Used ABC control rule Option A: ABC is the catch with 75% of F_{MSY}, but holding ABCs constant in FY 2028-2030.
- Projections in 2028 and onward composed mostly of “paper fish.”
- Weak, declining recruitment for almost 10 years.
- Changes in reference points and abrupt shifts in biomass seem concerning.
- High recruitment variability leads to uncertain projected SSB.
- Allowing OFLs to increase for FY 2029 and 2030 even as ABCs are held constant, reflect increases in projections; consistent with past SSC recommendations.

Cape Cod/Gulf of Maine Yellowtail Flounder

ADDITIONAL COMMENTS and RESEARCH RECOMMENDATIONS

- Some assessments may improve model diagnostics at the cost of biological realism. More work needed to disentangle relative influence of natural and fishery processes to ensure biological realism.
- Continue work to include environmental variables in modeling.
- Understand any correlations with cod movements to inform interconnectedness of the species.

Southern New England/Mid-Atlantic Yellowtail Flounder

- **Notes:** Assessment included the Gulf Stream Index to inform recruitment; stock at historic lows; in rebuilding plan.
- **Recommendation:**
  - The following OFLs and ABCs, decrease in FY 2026, then increased from prior levels.
  - The PDT recalculate the OFL for FY 2028-2030 to allow an increase while ABC remains constant.

Fishing Year	OFL (mt)	ABC (mt)
2026	46	33
2027	56	33
2028	56*	33
2029	56*	33
2030	56*	33

* Recalculate OFL if possible.

Southern New England/Mid-Atlantic Yellowtail Flounder

RATIONALE and UNCERTAINTIES

- Considered three options: 1) ABC control rule Option B: ABC is the catch with $F_{rebuild}$ (70% of F_{MSY}); 2) Option B holding OFL and ABC constant for FY 2028-2030; 3) ABC control rule Option C: catch is based on incidental bycatch only: holding ABC constant for FY 2026-2030.
- Recommended:
  - Hold ABC constant for FY 2026-2030 - SSB and recruitment remain at historic lows, as do catches.
  - Allow OFLs to increase for FY 2027-2030 - reflect increases in projections.
  - Consistent with past SSC recommendations.
- Strong concerns about assessment and projections: no age data for last 5 years, WHAM treats zero values and missing data the same
- Issues with projecting recruitment based on “paper fish” acute; stock unlikely to meet rebuilding target; SSB is flatlined.

Southern New England/Mid-Atlantic Yellowtail Flounder

ADDITIONAL COMMENTS

- Recommend managing this stock as bycatch only due to continued poor status; there is no catch for a targeted fishery that is appropriate.
- Consider setting ABCs lower than 33 mt, at levels based on bycatch, when data are available.

RESEARCH RECOMMENDATIONS

- Explore methods for using Gulf Stream Index predictions.
- Evaluate treatment of zero values in WHAM, which occur frequently for this stock.
- Investigate if yield per recruit has changed; revisit 40% spawning potential ratio proxy.

October 21-22: Transboundary Groundfish

TERMS OF REFERENCE

A. Review the recommendations from the Transboundary Management Guidance Committee (TMGC) based on results from the most recent U.S. and Canada stock assessments and information provided by Council staff.
B. Confirm TMGC guidance for U.S. equivalent OFLs and ABCs for fishing year (FY) 2026 for the following stocks:
   a. Georges Bank cod
   b. Georges Bank haddock
   c. Georges Bank yellowtail flounder



Georges Bank Haddock

	U.S.	Canada
Assessment	2024: GB haddock management track used WHAM	2025: EGB haddock assessment used WHAM, smaller spatial scale
Stock Status	Not overfished, no overfishing	• Above limit reference point (100% probability) • Above Upper Stock Reference Point (70% prob.) • Stock in "healthy zone"

- TMGC considered both U.S. and Canadian assessments.
- Doesn't align with U.S. ABC control rule (75% F_{MSY}) but overfishing unlikely.
- Apportionment improved, includes all of GB.

Fishing Year	OFL/ABC (mt)	US ABC (mt)
2026	8,177	4,425

4,425 = 21% of TAC + Western GB

Georges Bank Cod

	U.S.	Canada
Assessment	2024: GB cod management track used WHAM	2025: EGB cod assessment used WHAM, smaller spatial scale yet larger SSB than U.S. estimate
Stock Status	Overfished, No overfishing	• 42% of limit reference point • Stock in “critical zone”

- TMGC used Canada assessment: more reflective of fleet structure and practices; low risk of stock decline with F strategy.
- Apportionment assumes 100% of biomass in EGB area.

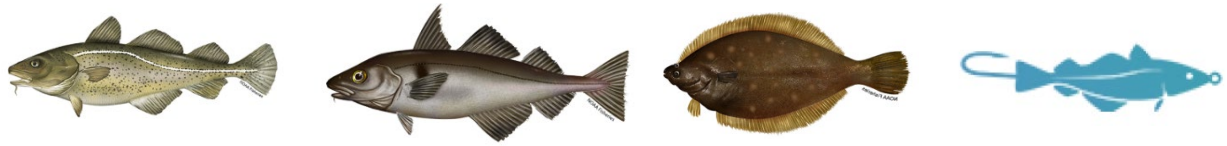
Fishing Year	OFL/ABC (mt)	US ABC (mt)
2026	473	151

Georges Bank Yellowtail Flounder

	U.S.	Canada
Assessment	2025: management track used WHAM	no assessment
Stock Status	Overfished, No overfishing	n/a

- TMGC used U.S. assessment.
- Catch, survey and recruitment very low; cohort tracking difficult.
- Environmental vs fishing effect difficult to tease apart.

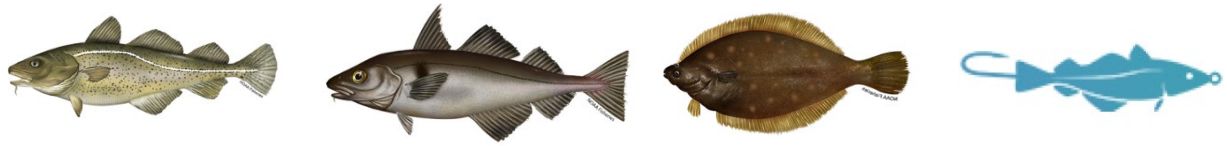
Fishing Year	OFL/ABC (mt)	US ABC (mt)
2026	57	31



Transboundary Groundfish

PROCESS COMMENTS

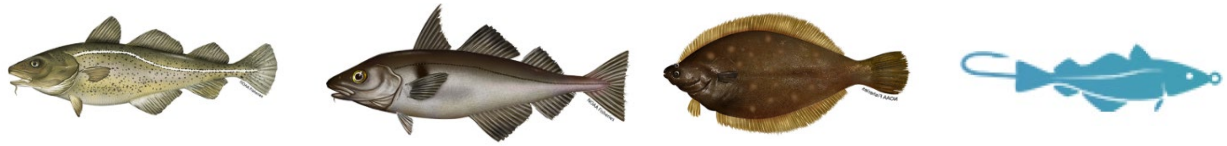
- The TMGC processes are evolving and difficult to follow.
- SSC role in 2025 was limited to accepting TMGC outcomes and recommending improvements.
- The 2025 process included multiple structurally similar assessments of the same stocks at different spatial scales being conducted independently by the two countries.
- Concerning that this effort was resource-intensive and produced models that were not directly comparable, leaving the benefits of this process unclear.
- Concerning that there could have been unintended negative consequences of eliminating:
  - The Transboundary Resources Assessment Committee (TRAC) process of reconciling the U.S. and Canadian scientific information.
  - The involvement of U.S. fishing representatives in this process.
- Concerning that the current process could result in apportionment and allocation advice that is biologically unrealistic and has negative socioeconomic consequences (e.g., allocating 100% of cod to the Eastern Georges Bank area when cod are known to occur in Western GB).



Transboundary Groundfish

OVERARCHING RESEARCH RECOMMENDATIONS

- Consider joint cooperative science initiatives, like TRAC, that might produce more cohesive advice more efficiently.
- Evaluate options to address spatial scale mismatches between assessment approaches.
- Improve incorporation of stakeholder knowledge and feedback.
- Improve apportionment protocols:
  - Consider survey seasonality and reevaluating equal survey weightings when averaging.
  - Evaluate the frequency of no tows in a stratum and the impact of assuming that a stratum with no tows has a mean of zero biomass.
  - Evaluate other time series modeling techniques, acknowledging that use of the loess smoother maintains consistency with the calculation of the US-Canada resource sharing allocation (i.e., a model that provides predictions bound between 0 and 100 with minimized prediction error).
  - Use observer data to evaluate alignment between quota allocation and catch.



Transboundary Groundfish

ADDITIONAL COMMENTS and RESEARCH RECOMMENDATIONS

- **GB Cod:** SSB from Canadian EGB model >> U.S. GB model, despite smaller area footprint. Investigate and resolve mismatch (e.g., M assumptions, handling of data gaps).

- **GB Haddock:** Examine and update density dependent effects on growth and weight at age in WHAM assessment to improve performance.

- **GB Yellowtail Flounder:** Consider managing as a bycatch-only stock; would require coordination with Canada.

Questions?