



# SSC Report to NEFMC



September 29, 2020

Jason McNamee, SSC Chair

# Topics

- Atl. Herring OFLs & ABCs 2021-2023



# Terms of Reference

- Review information provided by the Council's Herring Plan Development Team (PDT), the results of the recent Atlantic herring management track assessment, and using the acceptable biological catch (ABC) control rule selected by the Council in Amendment 8, recommend the overfishing level (OFL) and the ABCs for Atlantic herring for 2021-2023



# Atl Herring: Background

- The SSC received an overview of the management track assessment for Atl herring as well as a report on PDT analyses, including the herring PDT recommendations for OFL and ABC for 2021-2023
- Results of the assessment indicated that the stock was overfished but overfishing was not occurring
- Short-term projections were carried out assuming that age 1 recruitment was derived from the estimated recruitments for 1965 – 2017 for FY2021-2023 and the last five years for initial conditions in 2020 (2015-2019)

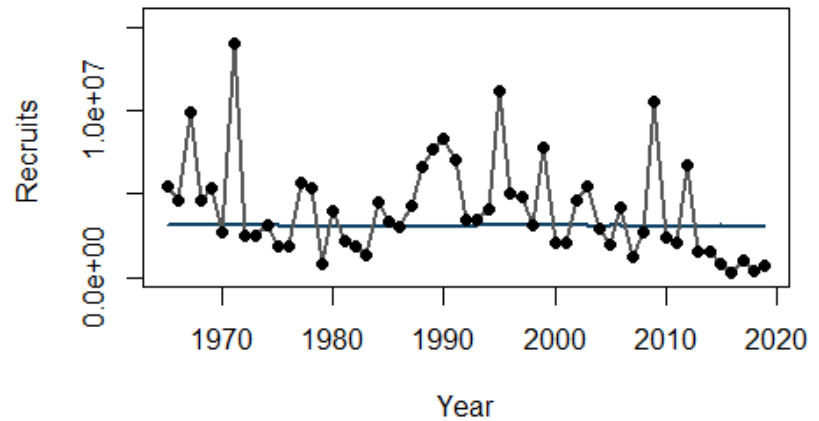
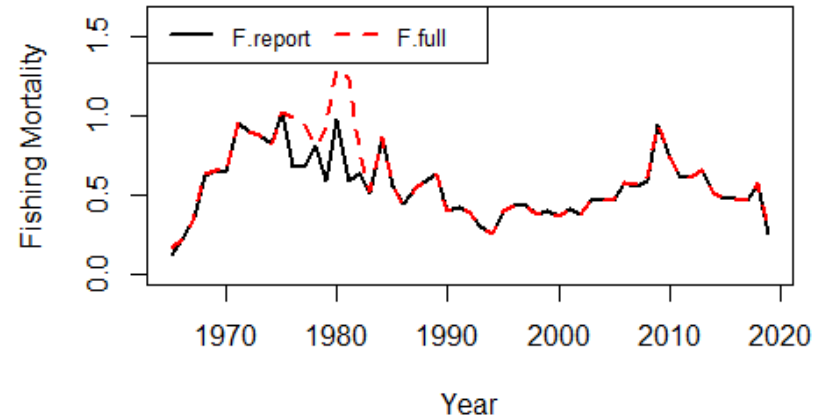
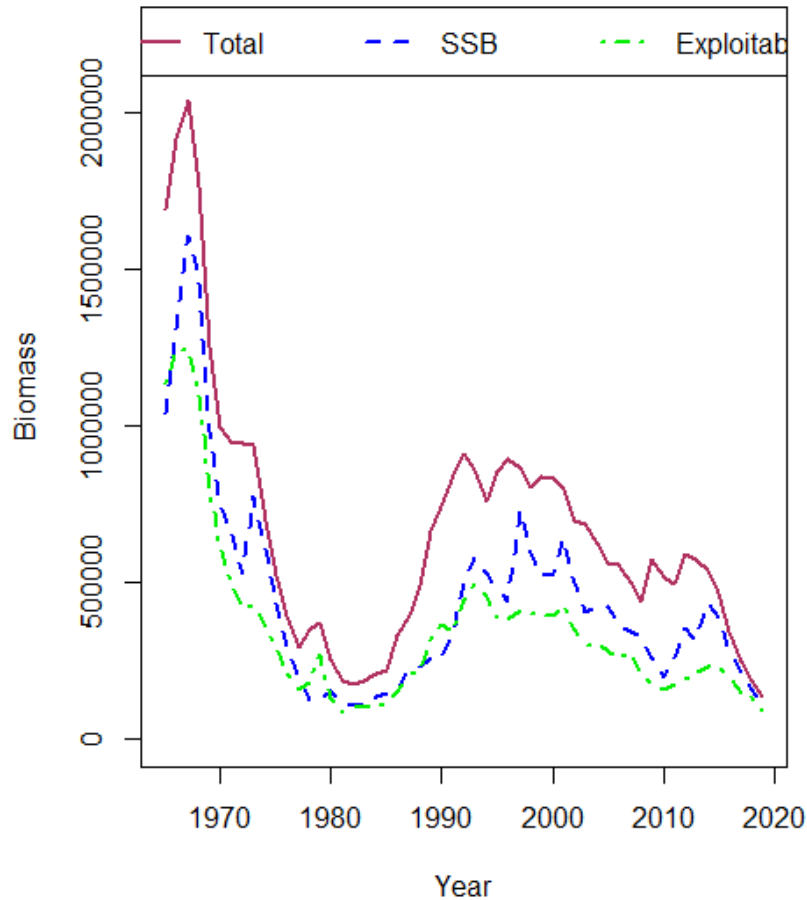


# Atl Herring: Background

- ABC recommendations made by the PDT were based on the Council-selected ABC control rule which was informed by the MSE process
  - Control rule is biomass based, with a maximum fishing mortality of 80%  $F_{msy}$  proxy when biomass is greater than 50%  $SSB/SSB_{msy}$
  - When biomass falls below 50%  $SSB/SSB_{msy}$ ,  $F$  declines linearly until 10%  $SSB/SSB_{msy}$ , when fishing mortality is set to zero
  - Control rule was applied to projected biomass estimates for 2021-2023



# Atl Herring : Biomass, F, Recr estimates



# Atl Herring : SSC Comments

- The SSC had reservations about the projections for Atlantic herring and were concerned about the assumptions regarding future recruitment
- Age 1 recruitment (2021-2023) was drawn from 1965-2015 and the resulting projected biomass showed a substantial increase in the third year of the projection relative to the earlier years of the projection
- The SSC considered that the projected increase in biomass in 2023 was uncertain and were concerned about setting ABC based on this value



# Atl Herring : SSC Comments

- The SSC resolved to make ABC recommendations for 2021 and 2022 based on the ABC control rule and projections, but recommended keeping ABC in 2023 the same as 2022 due to the uncertainty in recruitment assumptions underlying the projections
- The SSC recommended that the OFL be set to follow the projections for all three years of the advice
- The use of the reduced ABC in 2023 is consistent with the SSC's role in accounting for scientific uncertainty by acknowledging that the projections are sensitive to the assumptions around recruitment





# Atl Herring : SSC Comments

- The Gulf of Maine and Georges Bank is considerably warmer than during most of the 1965-2015 period and there may be other environmental factors that could be controlling herring recruitment
- In 2018 projections were rerun using a more conservative recruitment assumption and applying the harvest control rule to the final year of that projection led to an ABC that was similar to carrying the second year value forward
  - suggests the rationale of adding an additional uncertainty buffer on the third year by holding it static is an appropriate way to handle scientific uncertainty for the herring stock



# Atl Herring : OFL and ABC Summary

- OFL and ABC values (expressed in metric tons)

Year	OFL	ABC
2021	23,423	9,483
2022	26,292	8,767
2023	44,600	8,767



# Atl Herring : Additional Comments

- The SSC recommends a management track stock assessment for Atlantic herring in 2022 based on the recent benchmark assessment
- The SSC recommends further investigation into understanding the recent low recruitment of Atlantic herring and possible drivers
- The SSC recommends investing in an acoustic survey for this species to better understand abundance trends



# Atl Herring : Additional Comments

- The SSC recommends continued build out of the social science information (social, cultural, economic) to better contextualize its role in the larger social-ecological system
  - Include focus on inter-species interactions, including species not managed by NEFMC (i.e. striped bass and tuna)
- The peer-review panel recommended modifying the approach for estimating reference points by explicitly including fishing mortality rate for the fixed-gear fleet; the SSC supports this recommendation



Questions?

