

NOAA
FISHERIES

**Northeast Fisheries
Science Center**

2021 Atlantic mackerel MT assessment: Rebuilding projections

Kiersten Curti
NEFSC, Stock assessment lead
Sept 2021

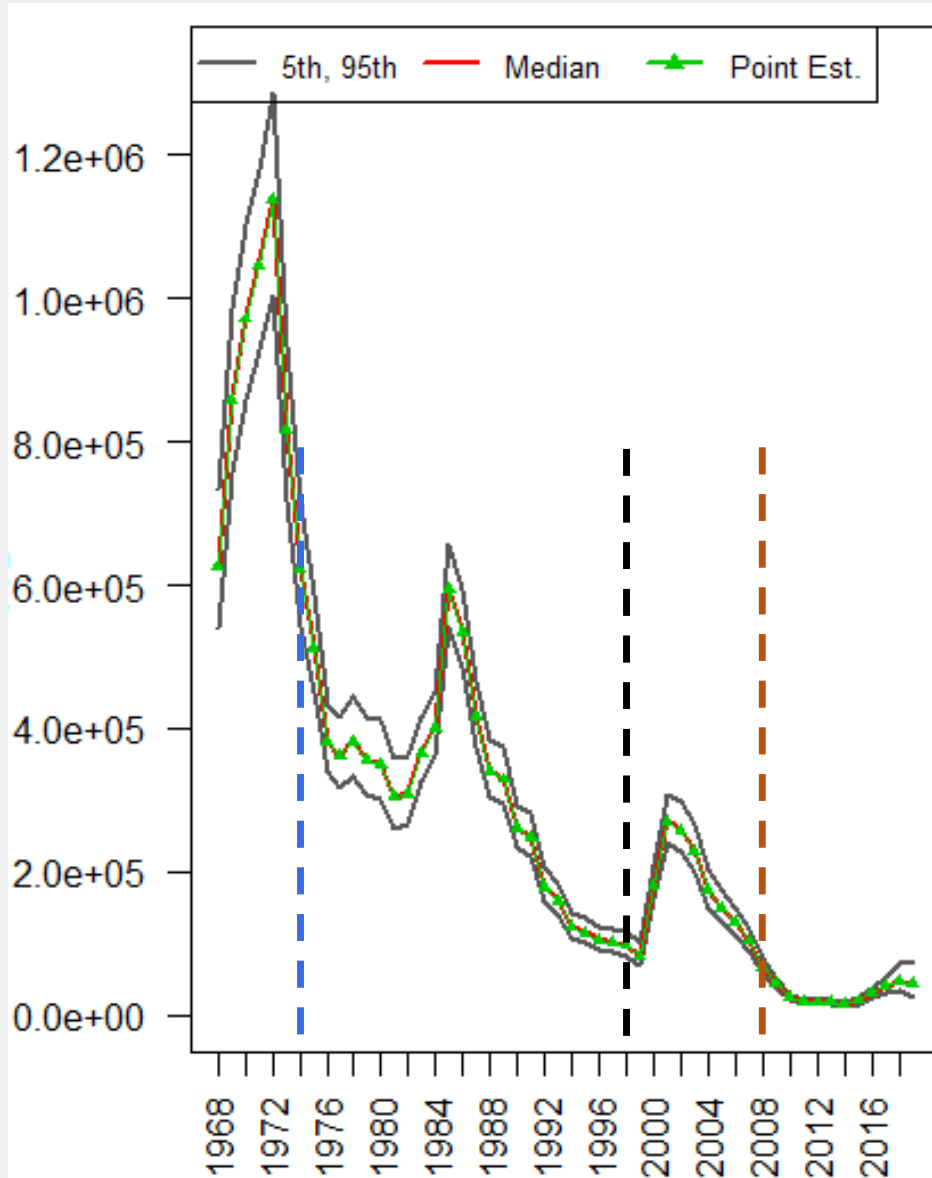


Key Assumptions

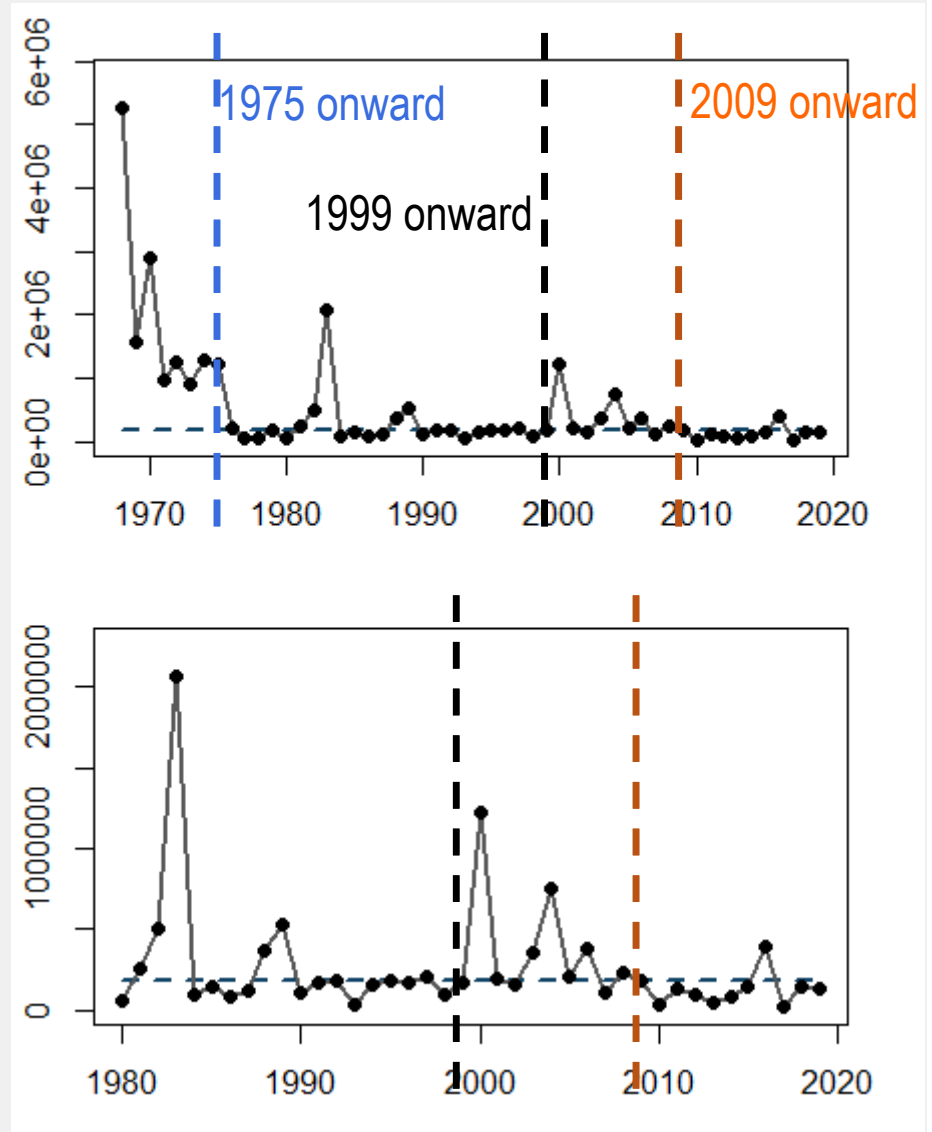
- Interim year catches
 - 2020: 18,038 mt
 - 2021 and 2022: 15,512 mt
- Recruitment - Empirical CDFs derived based on recruitment estimates from:
 - 1975 onward
 - 1999 onward (results similar to 1975)
 - 2009 onward
 - Two stanza:
 - If SSB is less than $\frac{1}{2}$ SSB MSY (90,545 mt): 2009 onward
 - Otherwise: 1975 onward
 - Odds Ratio (Thanks to Paul Rago) = 9.167, X^2 prob = 0.998)

ASAP estimates:

Spawning stock biomass (mt)

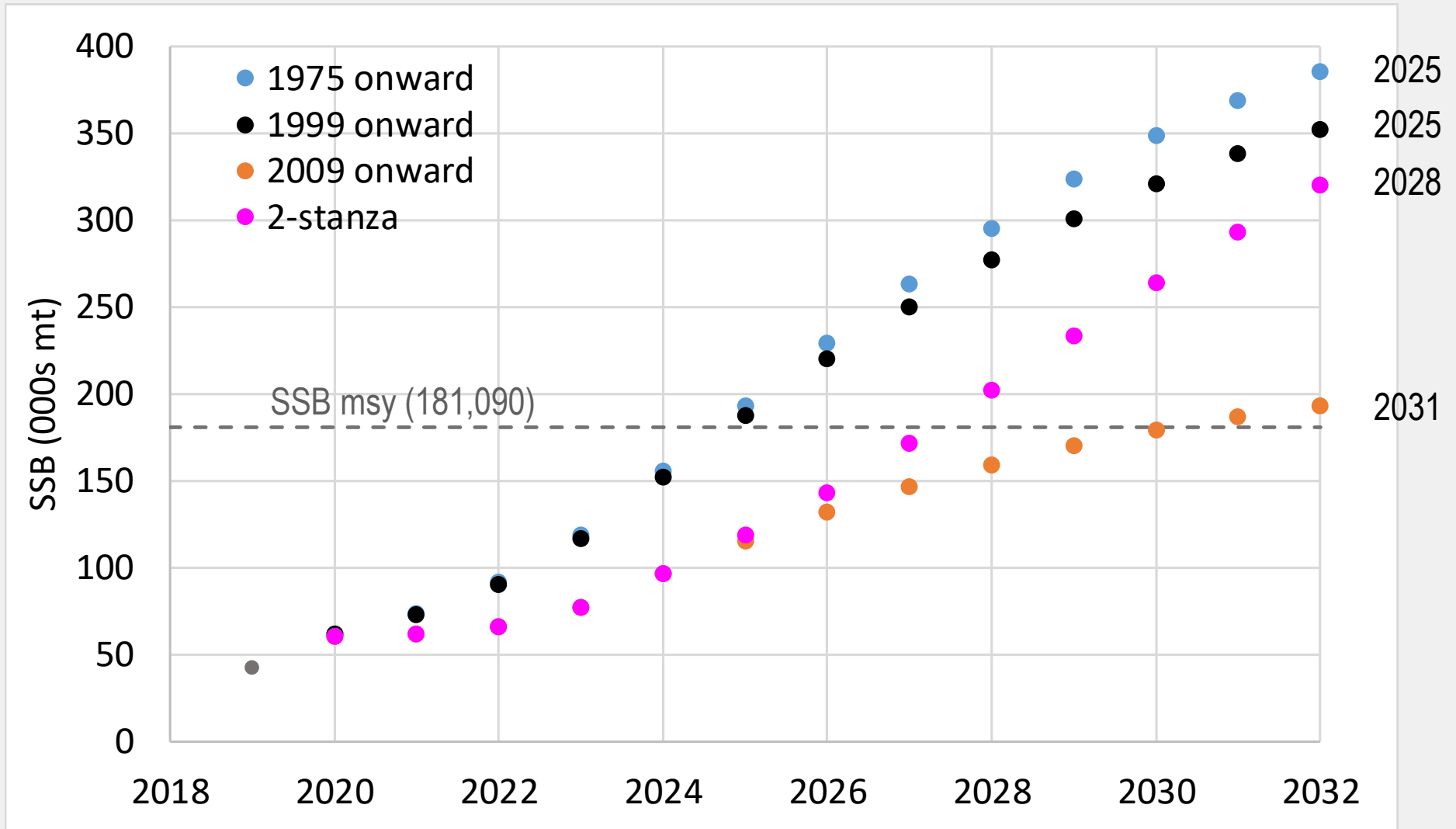


Recruitment (000s)



F = 0

Rebuilding
year



Rebuilding projections ($F_{msy} = 0.22$, $SSB_{msy} = 181,090$)

- Recruitment: 1975 onward
 - P^* at F_{msy} with 100%CV
 - P^* at F_{msy} with 150% CV
 - 10-year rebuilding with 50% probability ($F_{rebuild} = 0.21$)
 - 10-year rebuilding with 75% probability ($F_{rebuild} = 0.13$)
 - P^* at $F_{rebuild} = 0.21$ with 100% CV (through 2024)
 - P^* at $F_{rebuild} = 0.21$ with 150% CV (through 2024)
- Recruitment: 2-stanza
 - 10-year rebuilding with 50% probability ($F_{rebuild} = 0.14$)
 - 10-year rebuilding with 75% probability ($F_{rebuild} = 0.07$)
 - P^* at $F_{rebuild} = 0.14$ with 100% CV (through 2024)
 - P^* at $F_{rebuild} = 0.14$ with 150% CV (through 2024)

Rebuilding

