SEDAR 59 – U.S. Atlantic Greater Amberjack (*Seriola dumerili*)

NOAA FISHERIES

Sustainable Fisheries Branch, Beaufort, NC

SAFMC meeting

June 8th-12th, 2020

Greater Amberjack Assessment History

- SEDAR 15 benchmark assessment
- Terminal year = 2006
- Used the same catch-age model (BAM) as for SEDAR 59
- Stock was not overfished and not undergoing overfishing

  F_{2006}/F_{msy} = 0.53; SSB_{2006}/MSST=1.46

- SEDAR 59 standard assessment
  - Catch-age model (BAM) with data through 2017
  - Stock currently **not overfished or undergoing overfishing**
  - $F_{2015\text{-}17}/F_{msy}$ = 0.40; SSB_{2017}/MSST=2.8
  - Relatively constant landings since last assessment and several years of good recruitment

SEDAR 59 Assessment Process

- Data scoping call (March 2018)
- 6 month delay due to SSC MRIP re-calibration workshop (August 2019)
  - Amberjack was among species evaluated
- Five data and assessment webinars:
  - Dec 2018, Feb 2019, Nov 2019, Dec 2019, and Jan 2020
- SSC review (April 29, 2020)
- 40 total participants:
  - Analytical team (2), Panelists (14; two SSC reps), Appointed observers (2), Appointed Council members (1), Council staff (5), non-panelist data providers (10) Other (6)

Terms of Reference

1. Prepare a standard assessment of South Atlantic Greater Amberjack with data through 2017

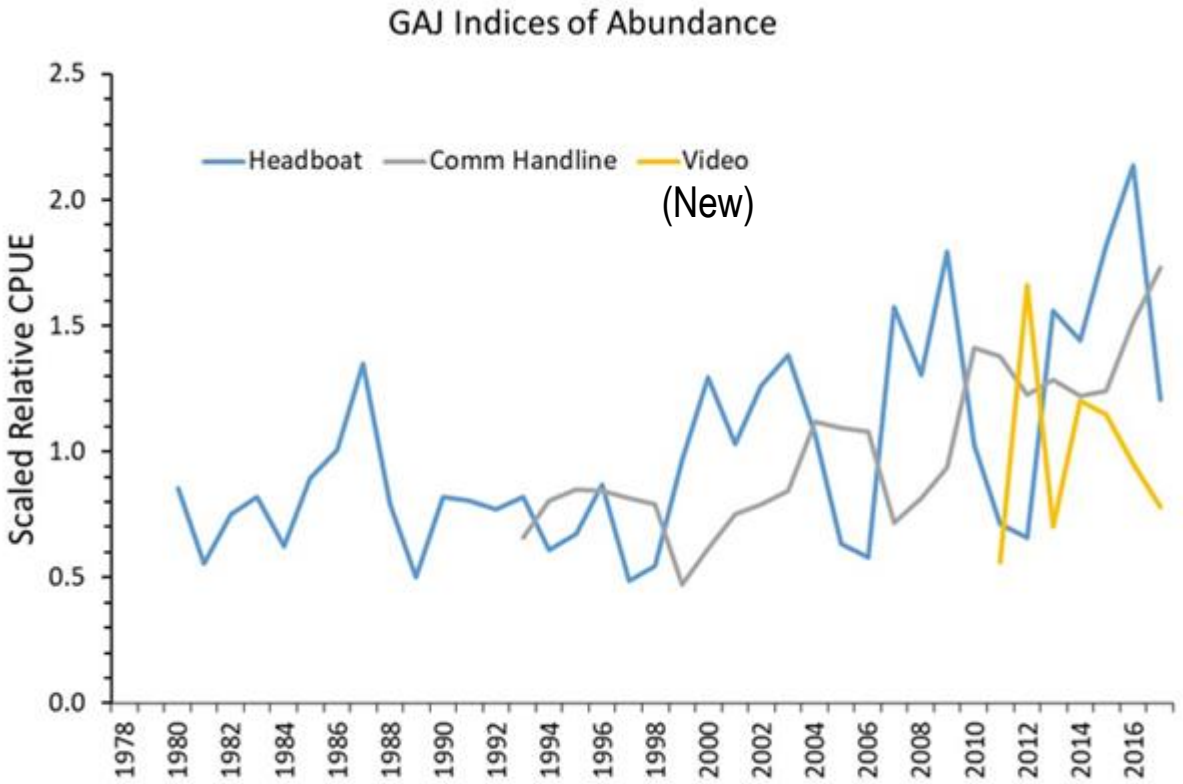
The full documentation can be found here:http://sedarweb.org/sedar-59-stock-assessment-report-south-atlantic-greater-amberjack

2. Evaluate the following specific changes in input data or deviations from the last assessment

- Consider including the SERFS video and HB-at-sea indices of abundance
- Incorporate the latest BAM model configurations and updates to data calculation methodologies, detailing the changes made and the impacts of those changes between the SEDAR 15 model and the proposed SEDAR 59 model
- Re-consider use of age and length composition data

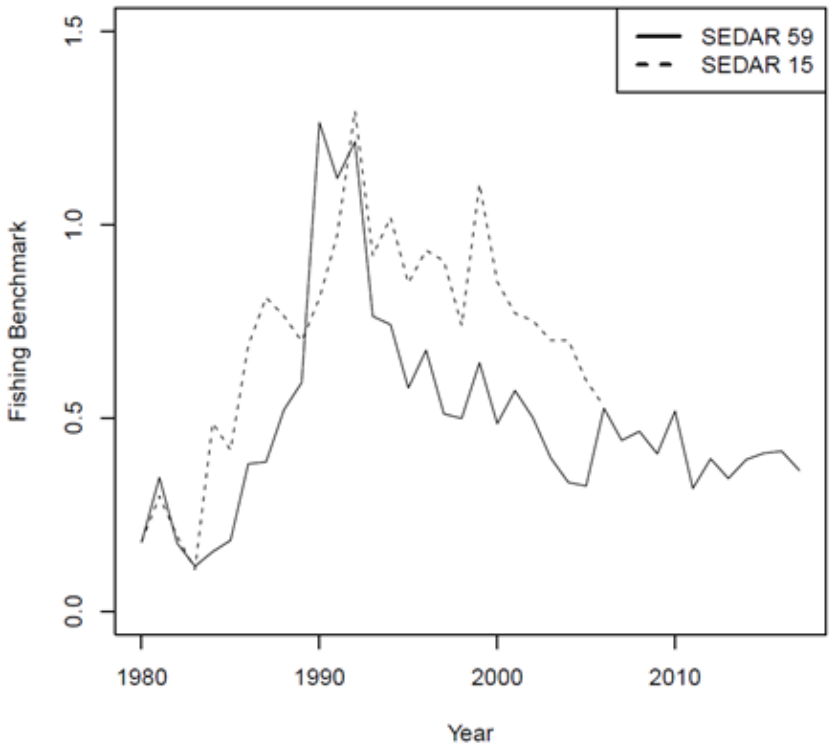
Consider New Indices of Abundance

- Headboat at-sea data considered but excluded by the panel due to low sample sizes
- SERFS video index standardized and included in the base model
- Headboat and commercial handline update with recent data

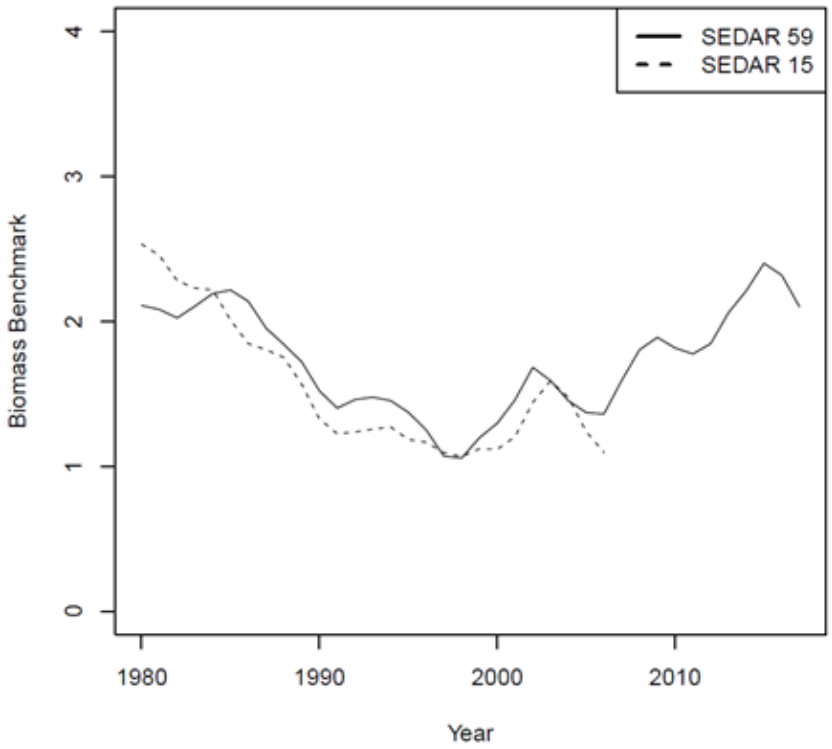


Comparison to SEDAR Benchmarks

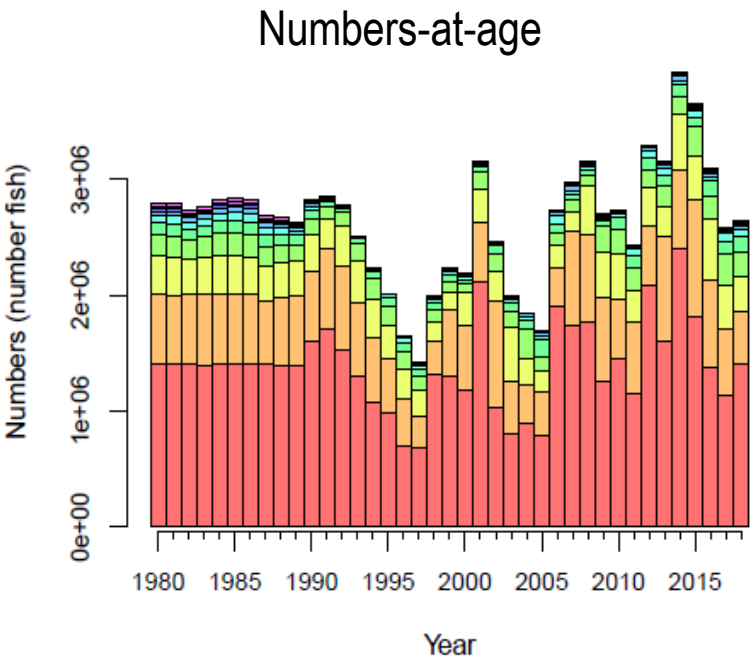
Fishing Status

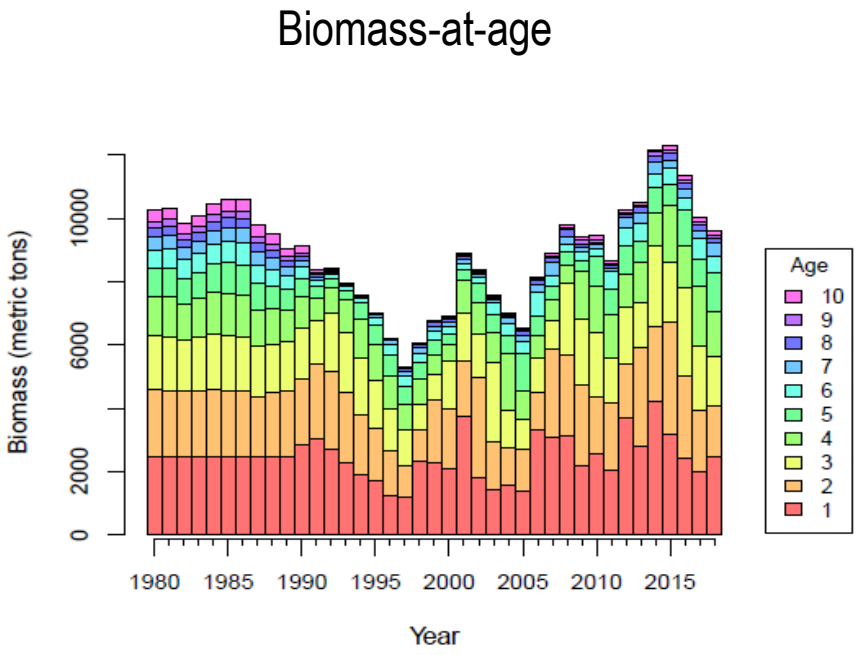


Biomass Status



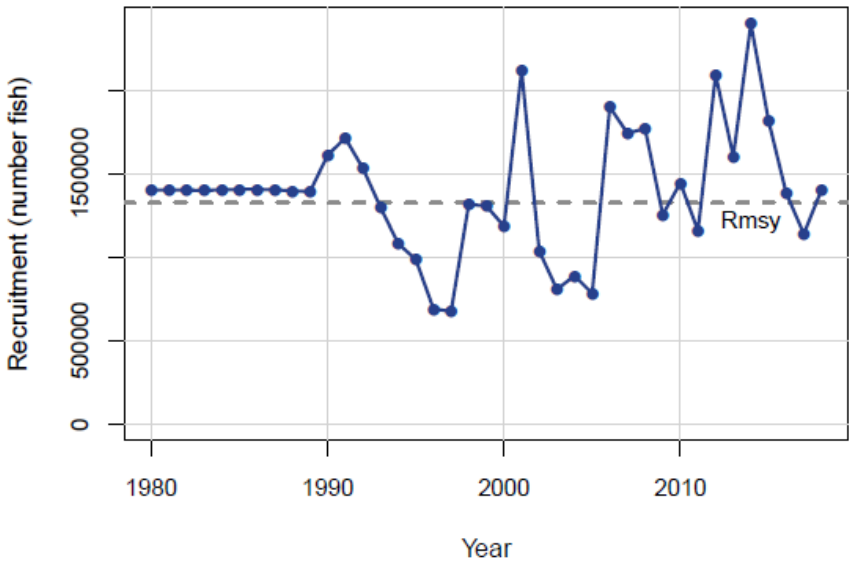
Numbers and Biomass at Age



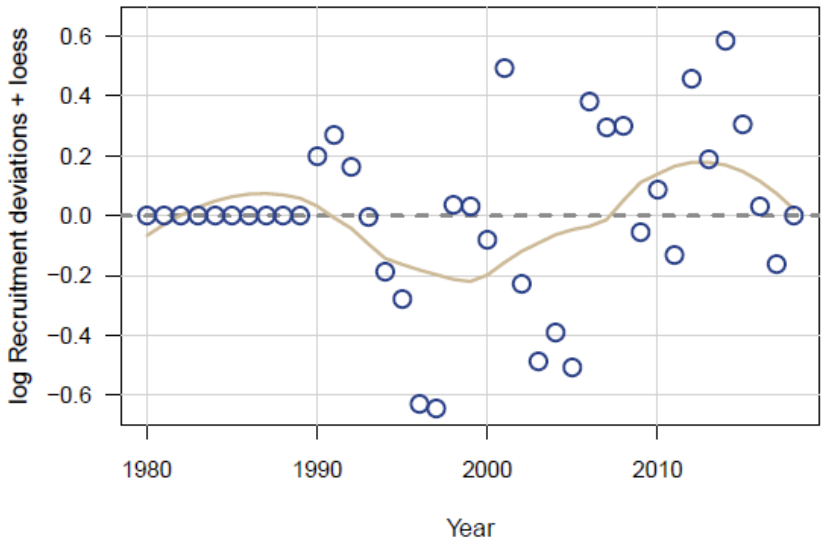


Numbers and Biomass at Age

Recruitment

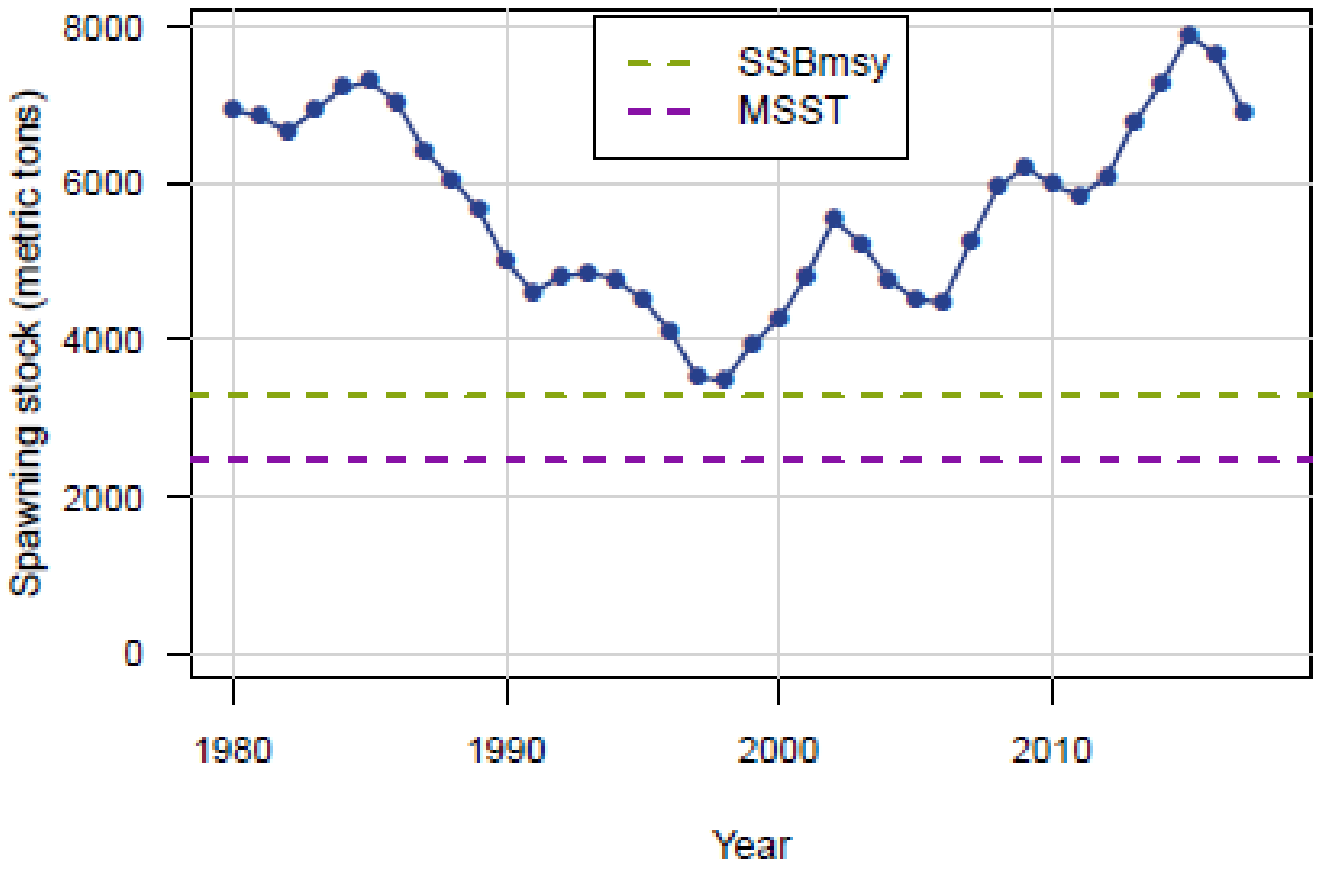


Recruitment Deviations



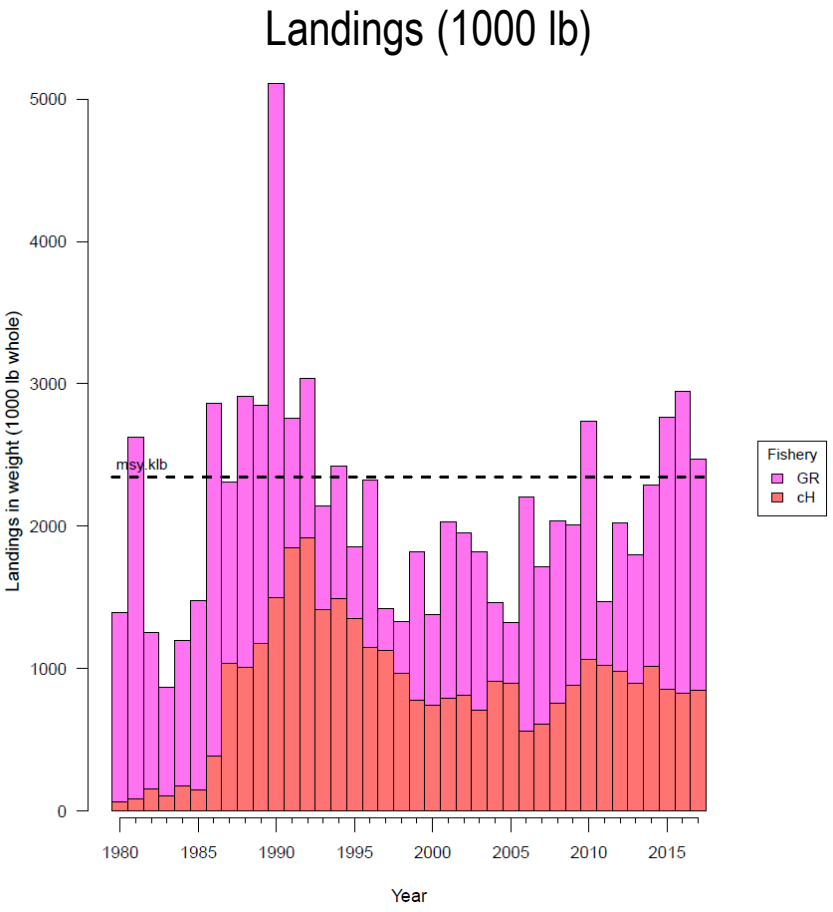
- High Recruitment in 2000s
- Average recruitment in most recent years

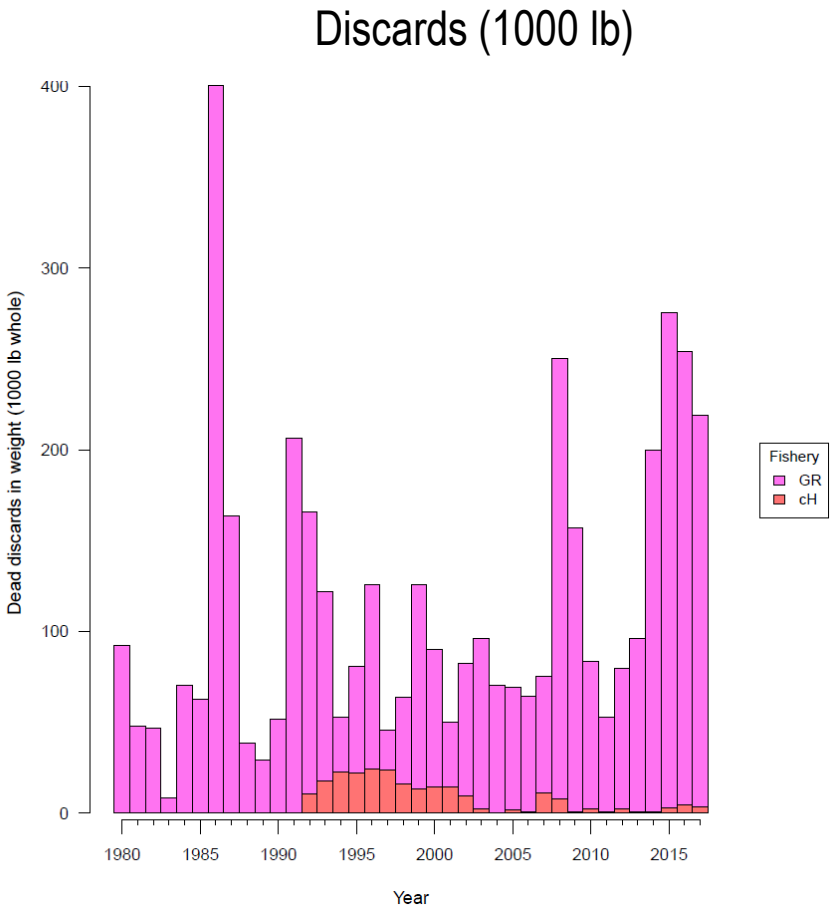
Spawning Biomass



- Biomass increasing since early to mid-2000s
- No indication the stock is overfished

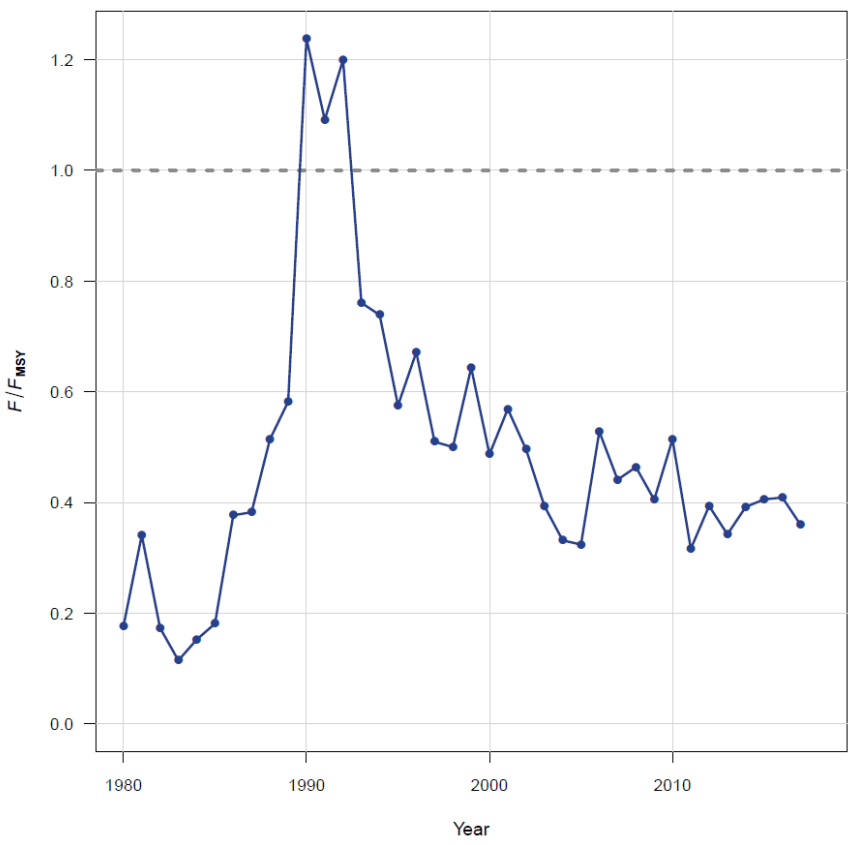
Landings and Discards



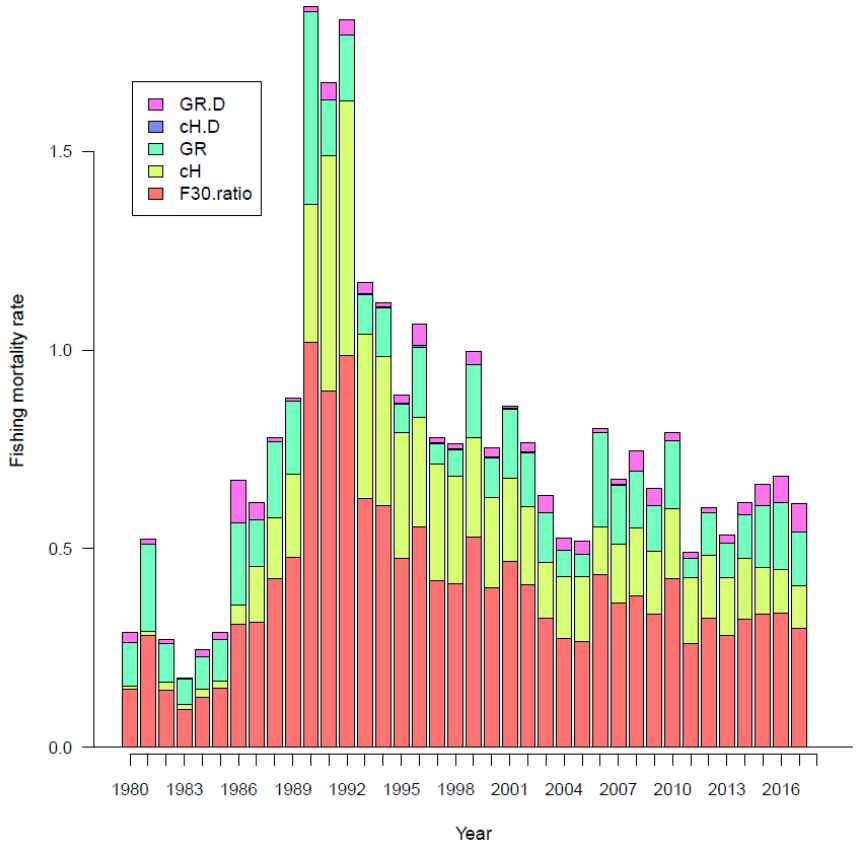


Fishing mortality

Full F

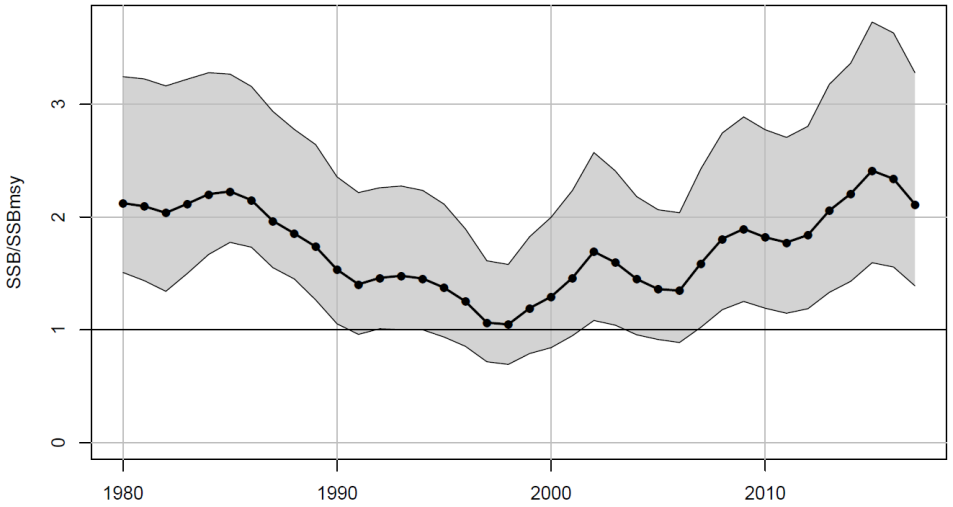


F by fishery

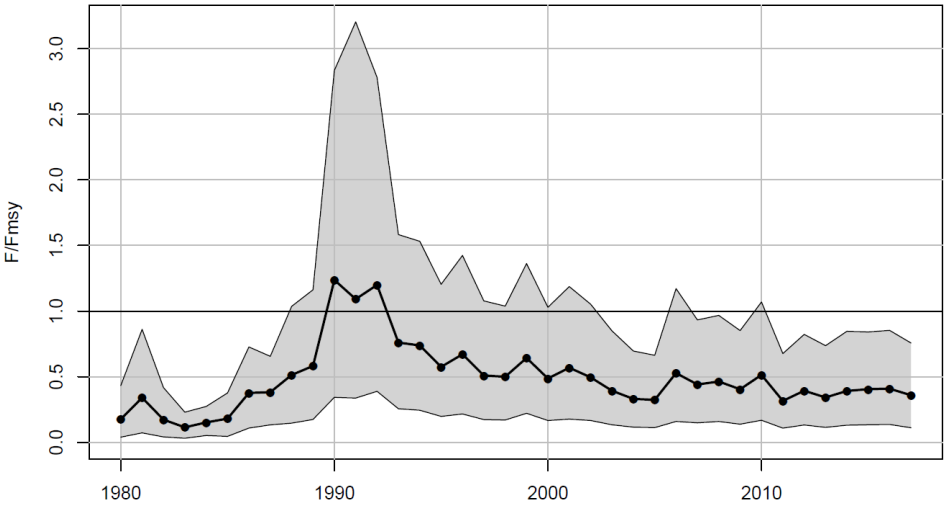


Status Uncertainty

Not overfished

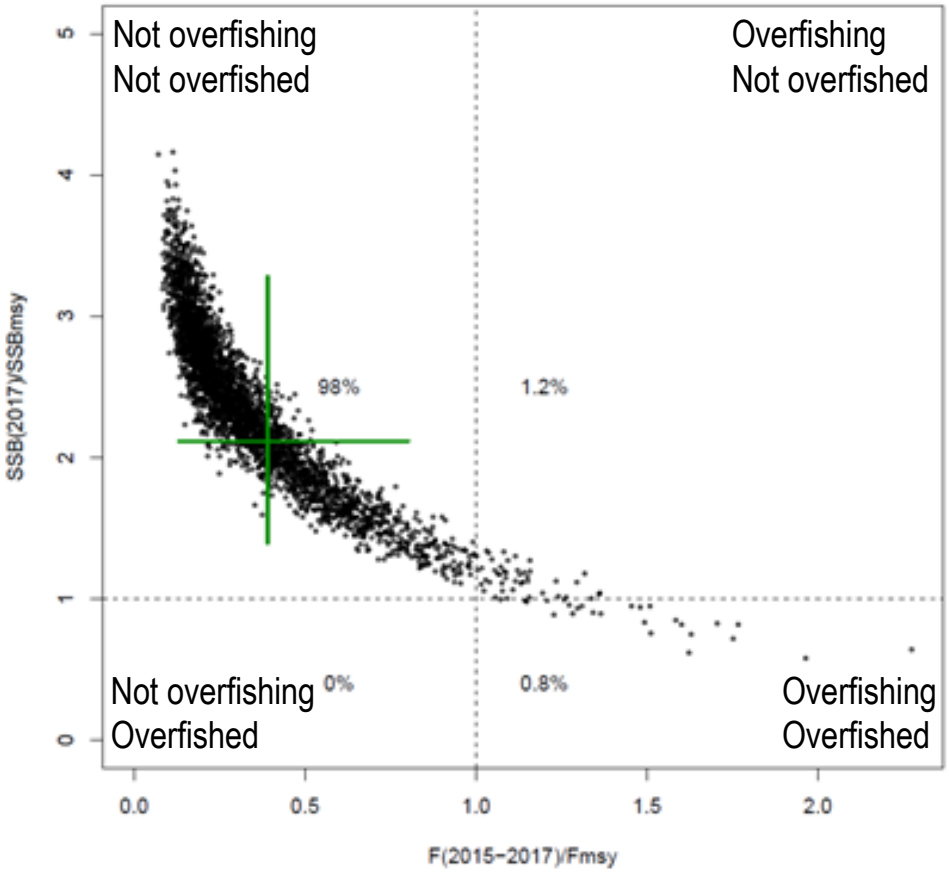


Not undergoing overfishing



- Included uncertainty in the data and model parameters (natural mortality, discard mortality, steepness)
- The stock status is robust to the uncertainty included in the assessment

Status uncertainty



- 99.2% of runs indicate the stock is not overfished
- 98% of runs indicate the stock is not experiencing overfishing

Projections

TOR 5: "Projection results are required through 2023, with projected fishing level changes beginning in late 2019. The panel shall provide guidance on appropriate assumptions to address harvest and mortality levels in the interim years between the assessment terminal year (2017) and the first year of management (2020). Projection criteria:

- To determine OFL: (1) P*=50%; (2) Fmsy
- To determine ABC: (1)P*=40%; (2) 75%Fmsy"

- ***Stock projections are provided through 2024 with 2 interim years (2018-2019)***
- ***Management is assumed to begin in 2020***
- ***The interim harvest is the average harvest of the last three assessment years, 2015-2017***

Projections

Projection table available in SEDAR 59 assessment report (Tables 20-22)
F = F_{MSY} projection show below (Table 21)

*Table 21. Projection results with fishing mortality rate fixed at $F = F_{MSY}$ starting in 2020. R = number of age-1 recruits (in 1000s), F = fishing mortality rate (per year), S = spawning stock (mt), L = landings expressed in numbers (n, in 1000s) or whole weight (w, in 1000*lb*). The extension* b *indicates expected values (deterministic) from the base run; the extension* med *indicates median values from the stochastic projections.*

Year	R.b	R.med	F.b	F.med	S.b(mt)	S.med(mt)	L.b(n)	L.med(n)	L.b(w)	L.med(w)
2018	1139	1078	0.28	0.34	6869	5396	196	185	2733	2683
2019	1425	1087	0.31	0.39	6125	5028	190	191	2733	2683
2020	1425	1081	0.69	1.07	5299	4172	338	403	4681	5234
2021	1425	1078	0.69	1.07	4294	3263	272	300	3470	3439
2022	1425	1086	0.69	1.07	3851	2998	244	270	2924	2890
2023	1425	1081	0.69	1.07	3665	2927	233	263	2682	2744
2024	1425	1084	0.69	1.07	3590	2904	229	260	2584	2704

Questions