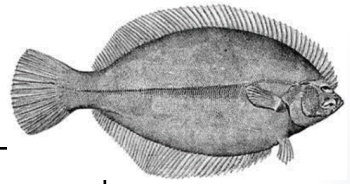
Management Track Assessment (Level 2)
Gulf of Maine Winter Flounder

Lead Scientist: Paul Nitschke
Last Assessed: 2020 Management Track Assessment
30+ cm Survey Area-Swept
September 19th, 2022

Gulf of Maine Winter Flounder



MODEL	30+ Area-swept (Level 2), Paul Nitschke
STOCK STATUS	Unknown Overfished & Overfishing is not occurring
REBUILDING	Not in a rebuilding plan and never was declared overfished.
RETROSPECTIVE ADJUSTMENT	NA
UNCERTAINTIES	Missing 2020 surveys, Survey Q Uncertainty especially with State surveys, Rejected analytical model retrospective issues, Lack of biomass response to low exploitation.
REVIEWER COMMENTS	The Peer Review Panel suggests that the catch advice should be based on 75% of $E_{40\%}$ using the average of 2021 Fall, 2021 Spring and 2022 Spring Surveys (since the 2020 estimates do not exist).

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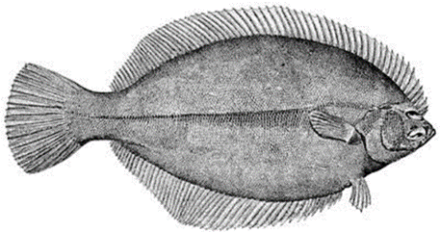
Gulf of Maine Winter Flounder

Changes	Revised the catchability estimate, changed from 0.71 to 0.81 in the fall and 0.62 to 0.70 in the spring, using updated surveys averages, modeling work (Miller et al., 2020).



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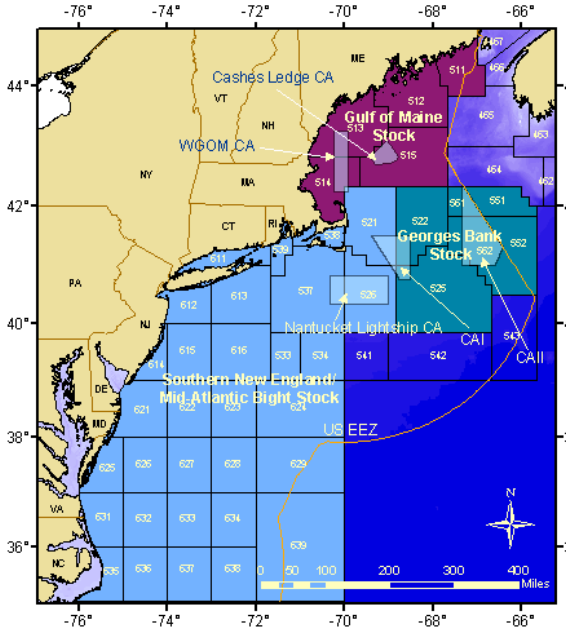
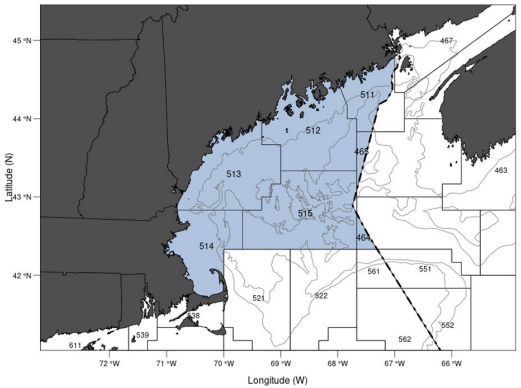
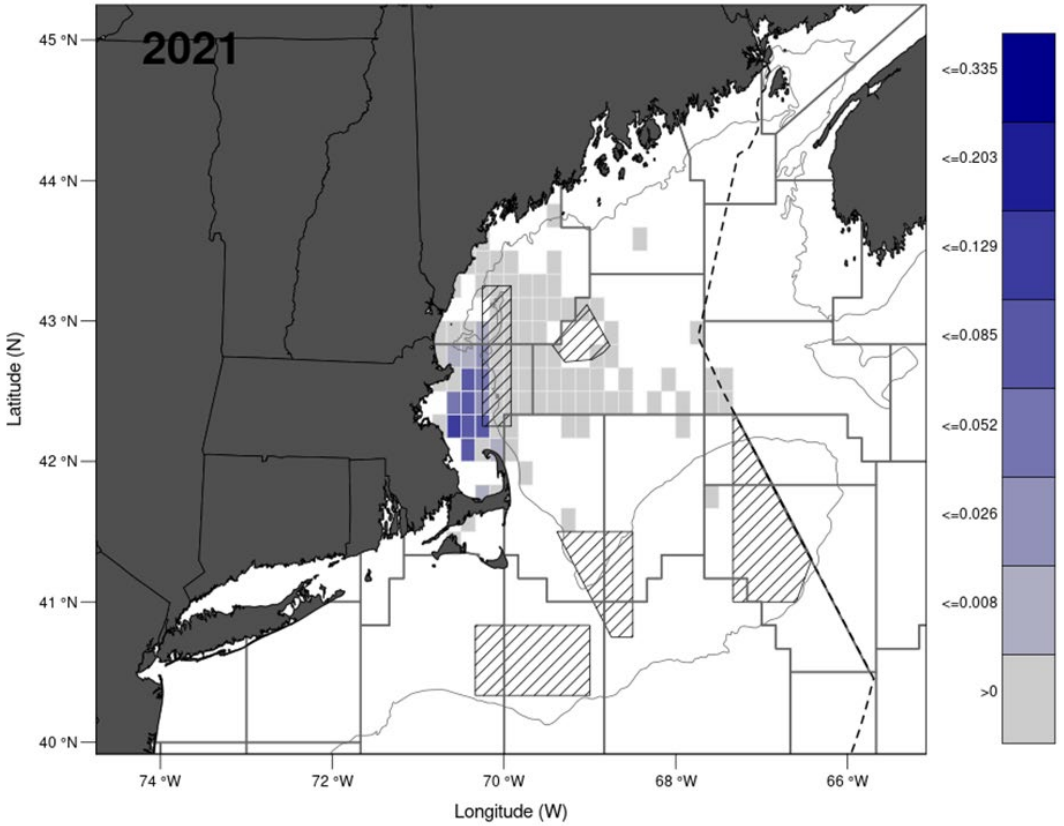


Figure





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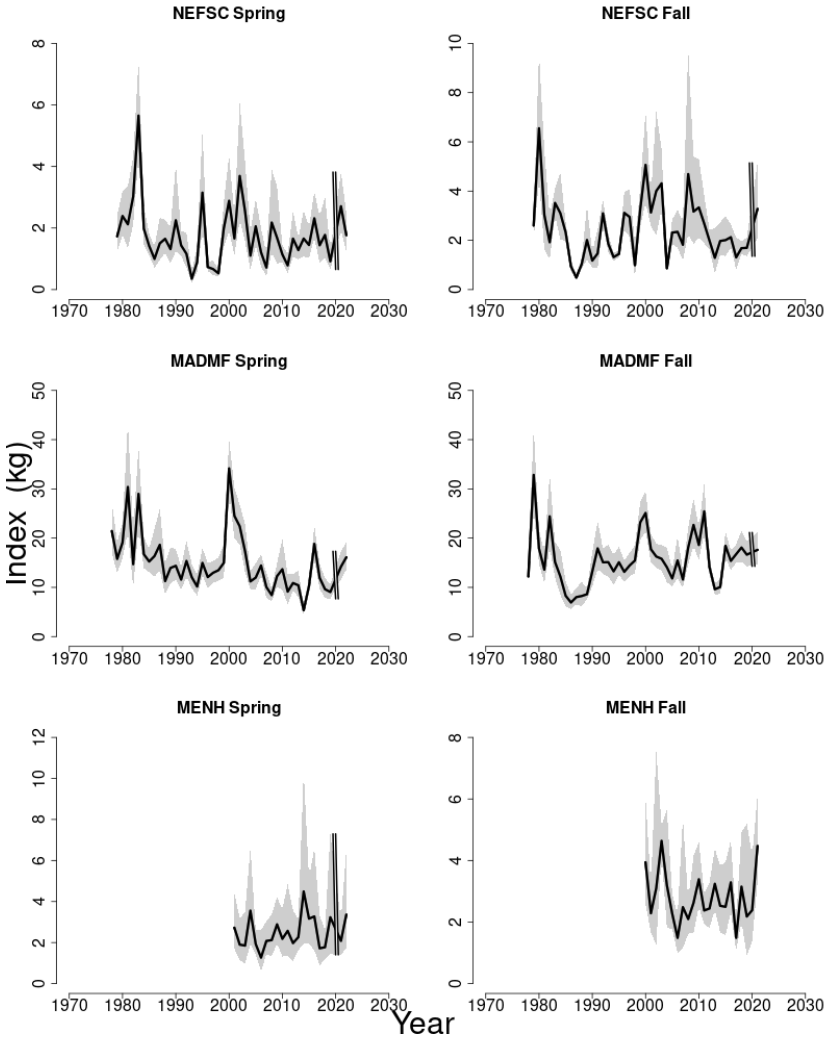
Assessment History

- Analytical model died at GARM III (2008) & again at the SARC 52 Benchmark (2011) due to concerns with a large retrospective pattern. Models (VPA, SCALE, ASAP) have difficulty with the apparent lack of a relationship between a large decrease in the catch with little change in the indices and age and/or size structure over time.
- Assessment is now based on 30+ cm area-swept biomass estimated directly from the surveys.

Surveys



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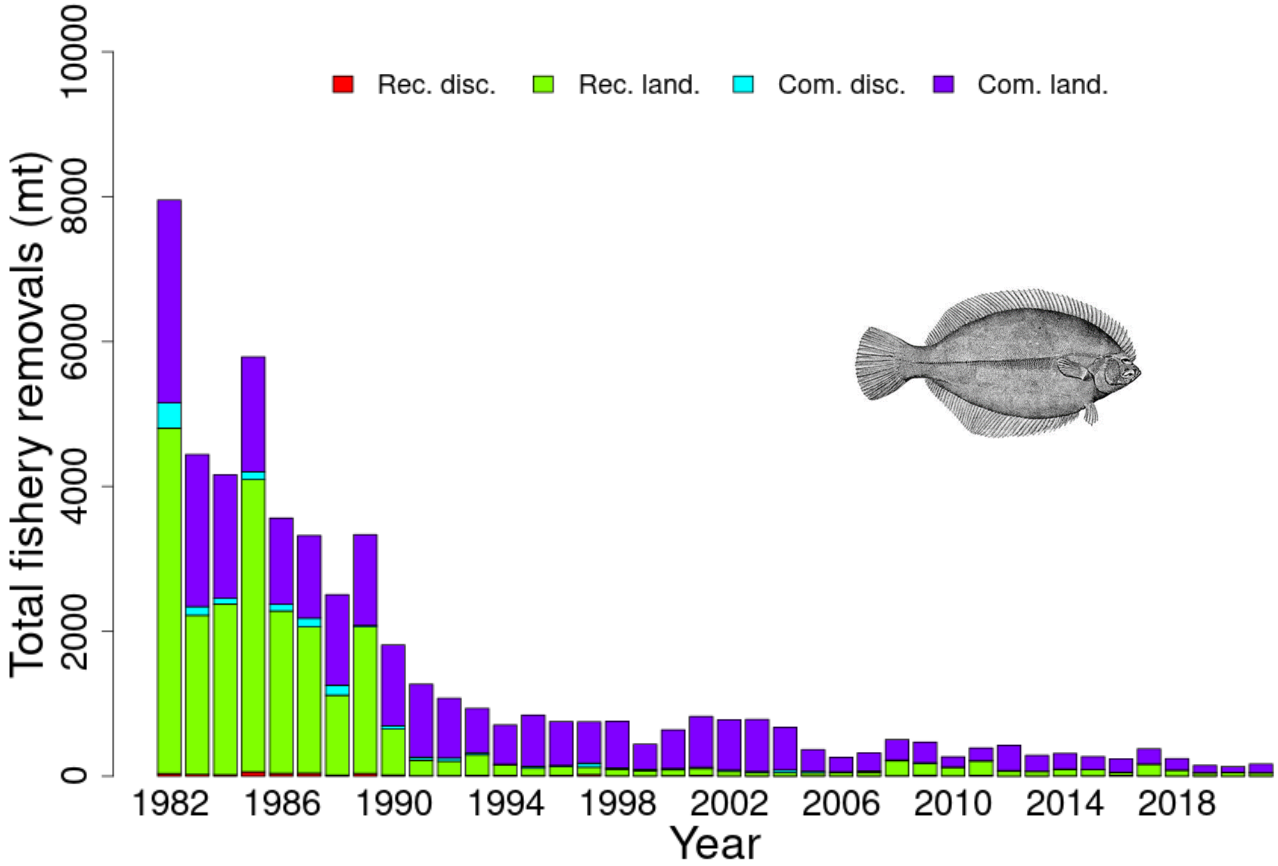
Gulf of Maine Winter Flounder



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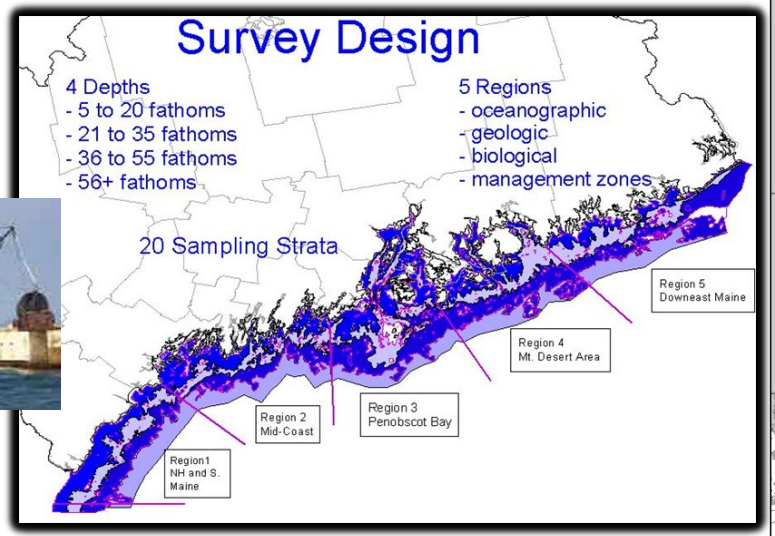
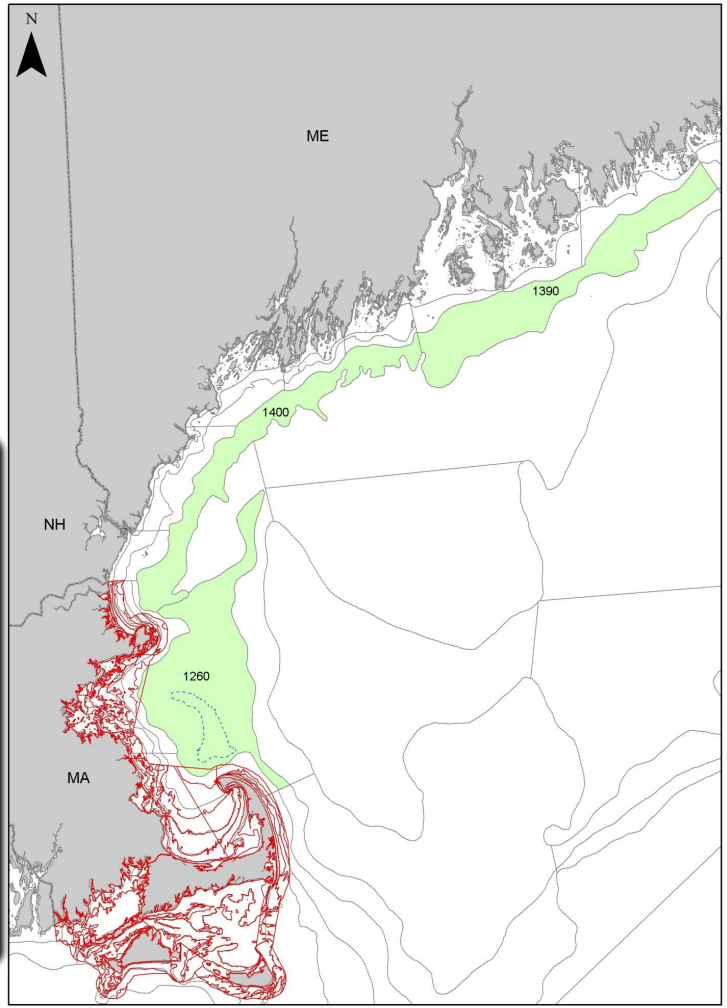
Combined Surveys 30+ cm Biomass Estimate

2009-2021 fall

2009-2022 spr

30+ cm biomass from the NEFSC, MDMF and MENH surveys.

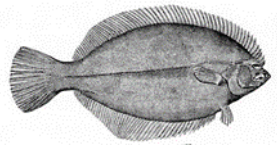




Gulf of Maine Winter Flounder Assessment

30+ cm Survey Area Swept Biomass Estimate.

- Exploitable Biomass = 30+ cm biomass index per tow x total survey area / tow footprint x q
- Exploitation rate = catch / 30+ cm biomass
- Overfishing BRPs are based on $F_{40\%}$ from length based YPR with 30 cm knife edge selectivity.



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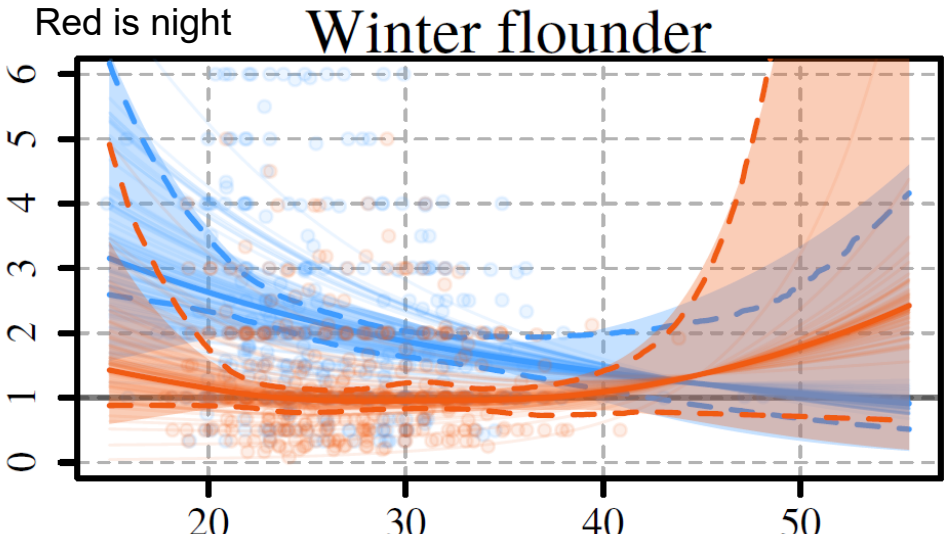
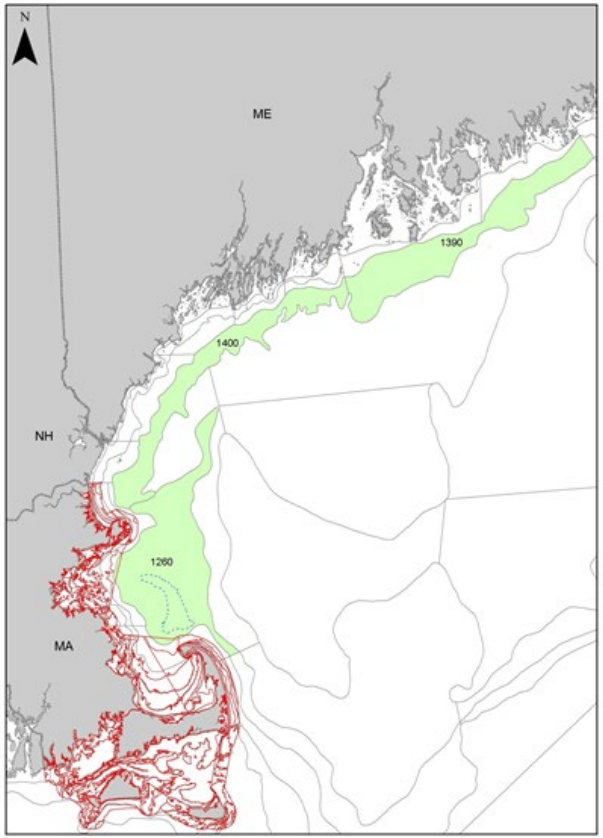
Blue is day
Red is night

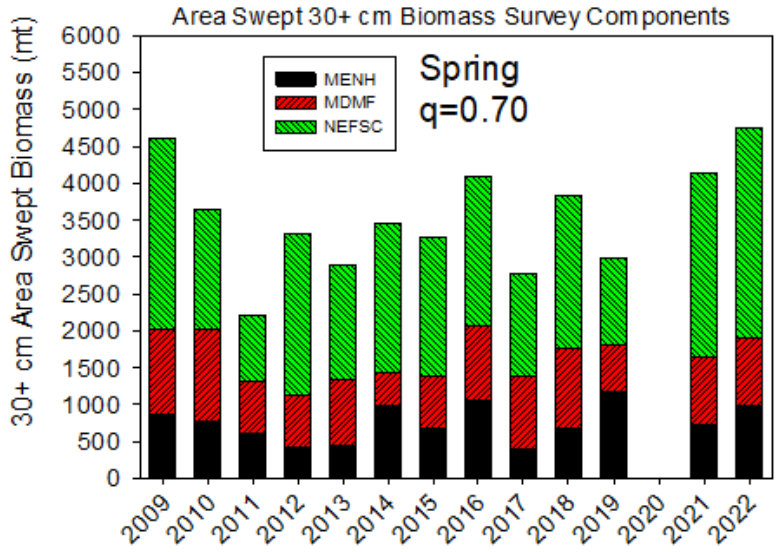


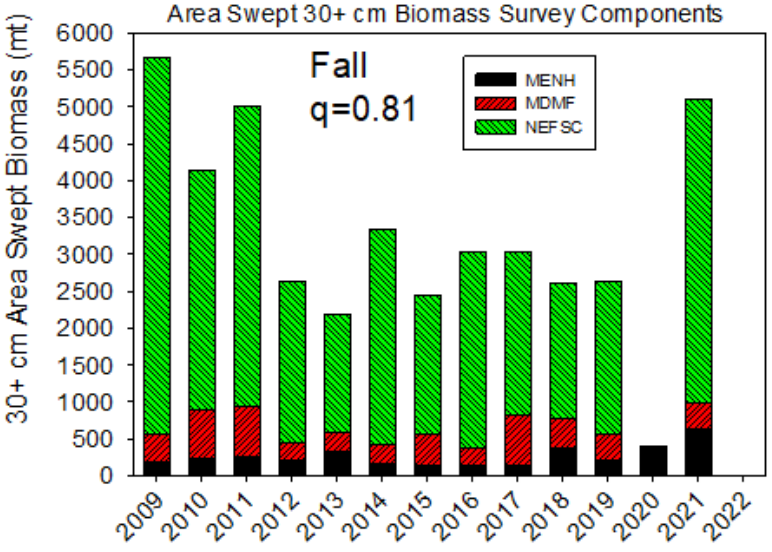
Species	Paired Tows			Captured	Both Gears Measured			Chainsweep Measured			Rockhopper Measured		
	Total	Day	Night	Total	Total	Day	Night	Total	Day	Night	Total	Day	Night
Summer flounder	141	75	66	4,154	4,154	1,770	2,384	2,616	1,195	1,421	1,538	575	963
American plaice	134	84	50	31,983	19,245	13,619	5,626	10,982	7,775	3,207	8,263	5,844	2,419
Windowpane	195	100	95	15,310	13,014	6,221	6,793	9,854	5,443	4,411	3,160	778	2,382
Winter flounder	171	97	74	6,586	6,449	3,605	2,844	3,805	2,385	1,420	2,644	1,220	1,424
Yellowtail flounder	192	101	91	18,545	14,134	6,849	7,285	10,065	5,297	4,768	4,069	1,552	2,517
Witch flounder	132	83	49	57,133	23,927	13,899	10,028	14,899	9,271	5,628	9,028	4,628	4,400
Red hake	73	40	33	47,275	12,585	6,614	5,971	8,587	4,908	3,679	3,998	1,706	2,292
Goosefish	302	165	137	8,798	8,541	3,985	4,556	6,409	3,053	3,356	2,132	932	1,200
Barndoor skate	62	33	29	502	502	219	283	397	198	199	105	21	84
Thorny skate	90	56	34	907	907	399	508	648	311	337	259	88	171

Gulf of Maine Winter Flounder Stock Biomass

30+ cm biomass from the NEFSC, MDMF and MENH surveys.







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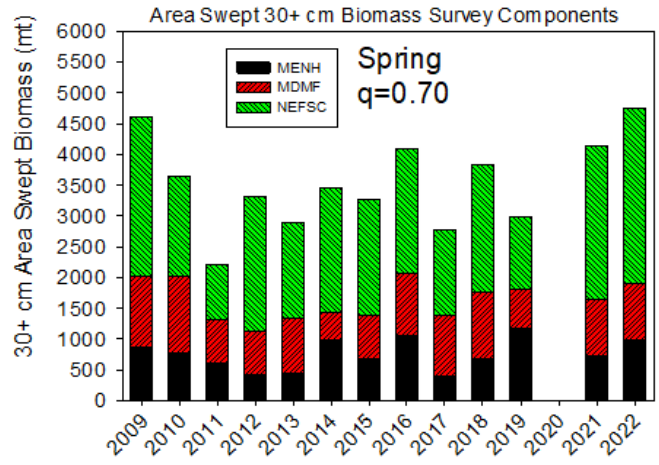
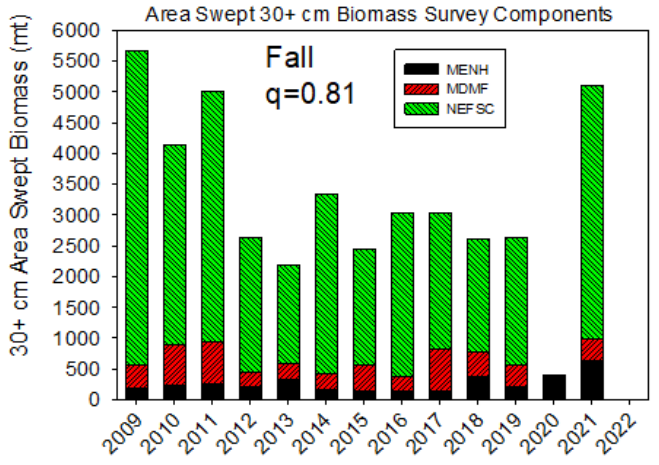
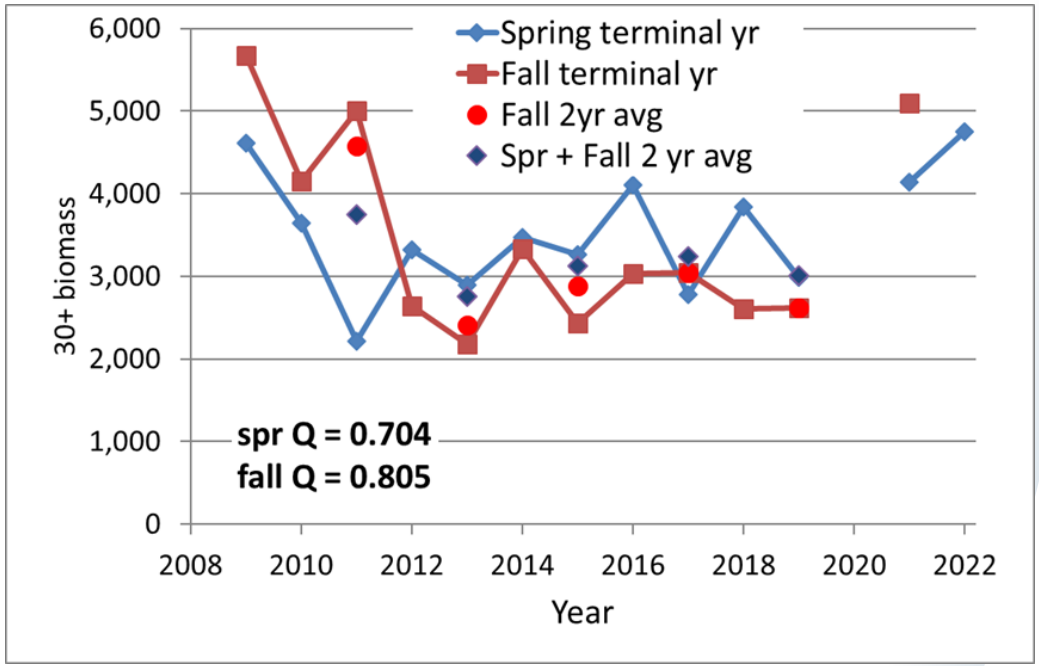




Comparison 30+ cm biomass year specific estimates to two year average estimates.



30+ cm biomass average using the spring 2021 & 2022 and fall 2021 is 4,660 mt.

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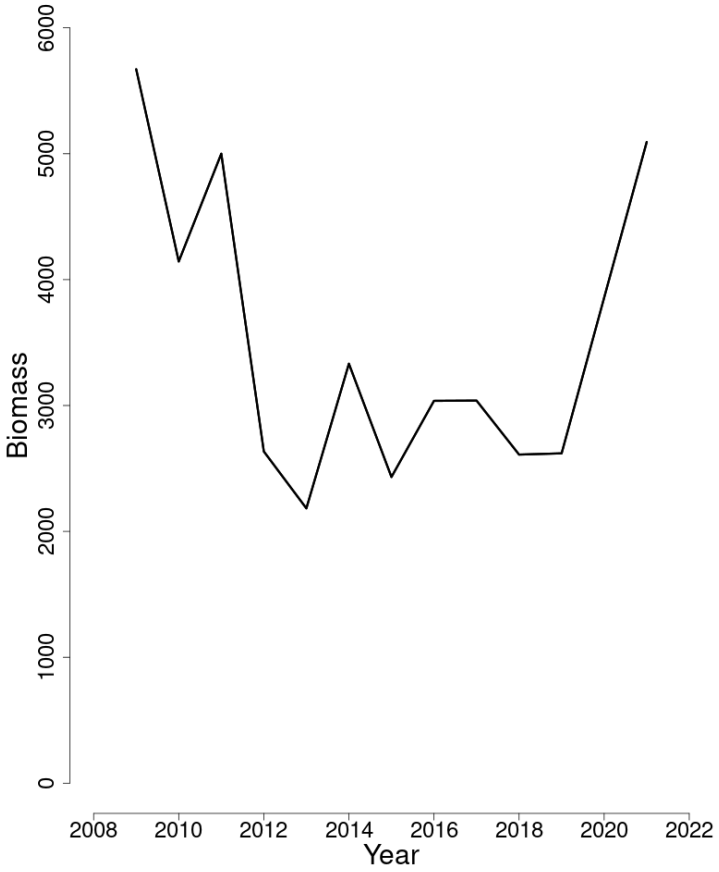
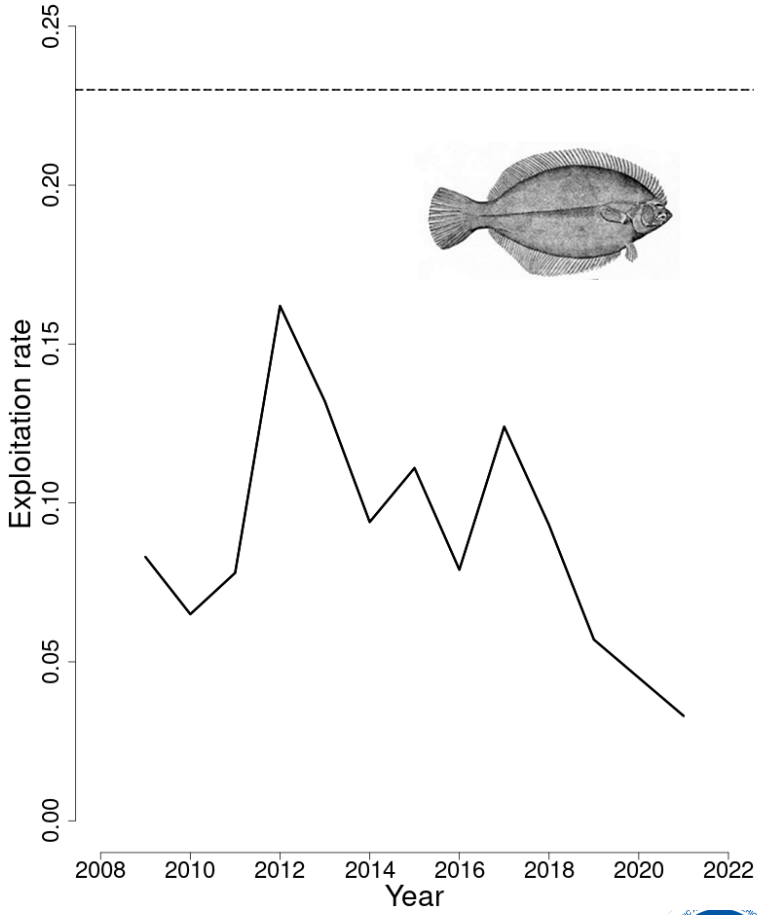
Gulf of Maine Winter Flounder





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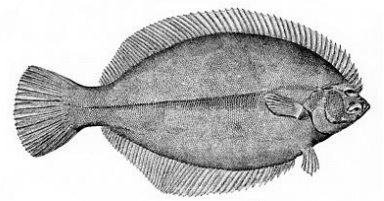
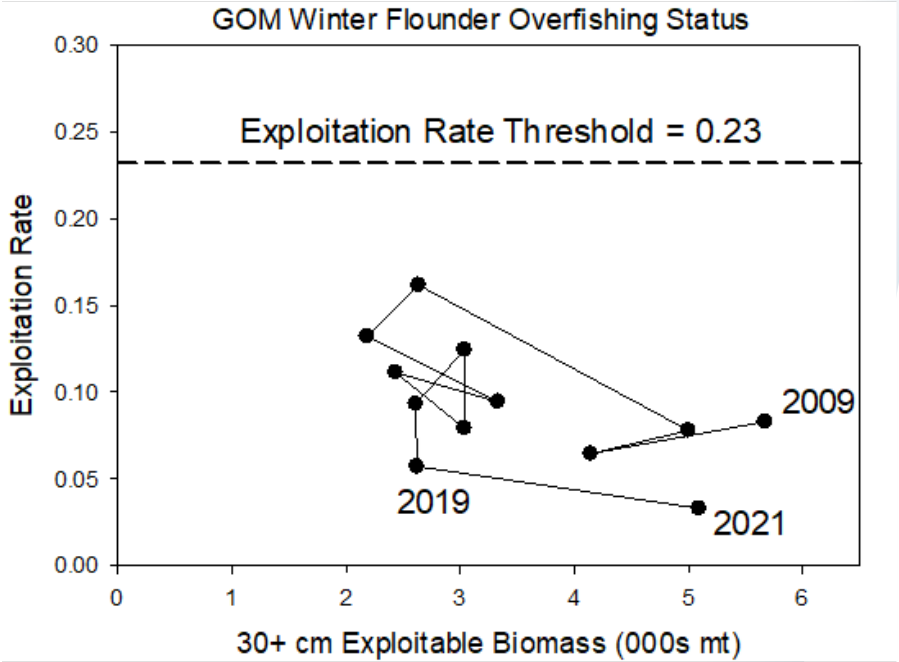
Gulf of Maine Winter Flounder

Stock Status

- Overfished status is Unknown
- Overfishing is not occurring

Not in a rebuilding plan since Gulf of Maine winter flounder was never declared overfished.





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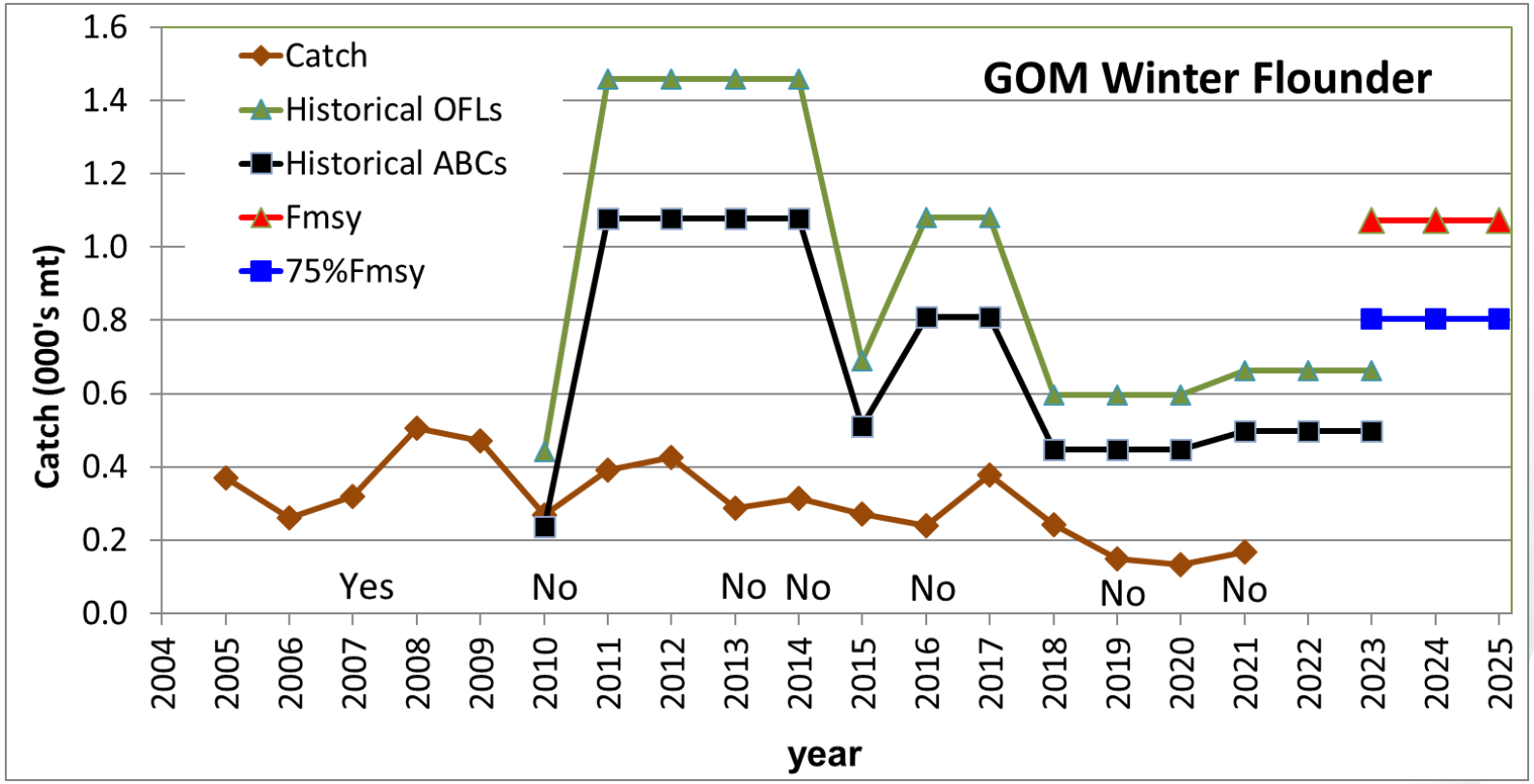
Gulf of Maine Winter Flounder



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Questions?

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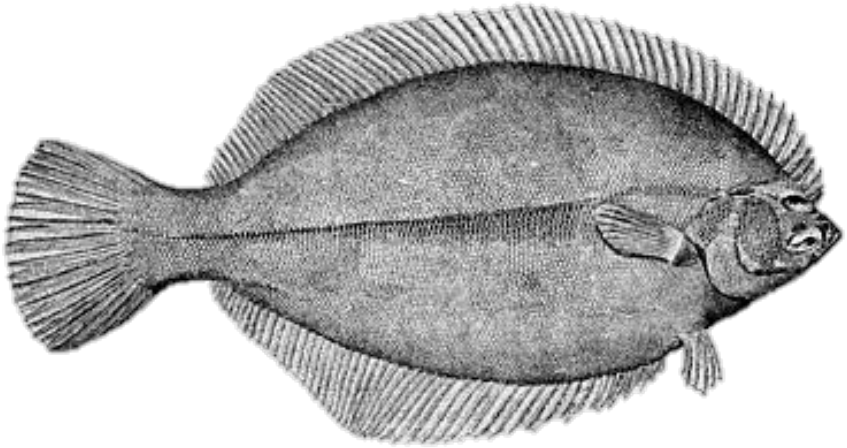
NEFSC

ASMFC Winter Meeting
Winter Flounder Board

SNEMA Winter Flounder Assessment 2022

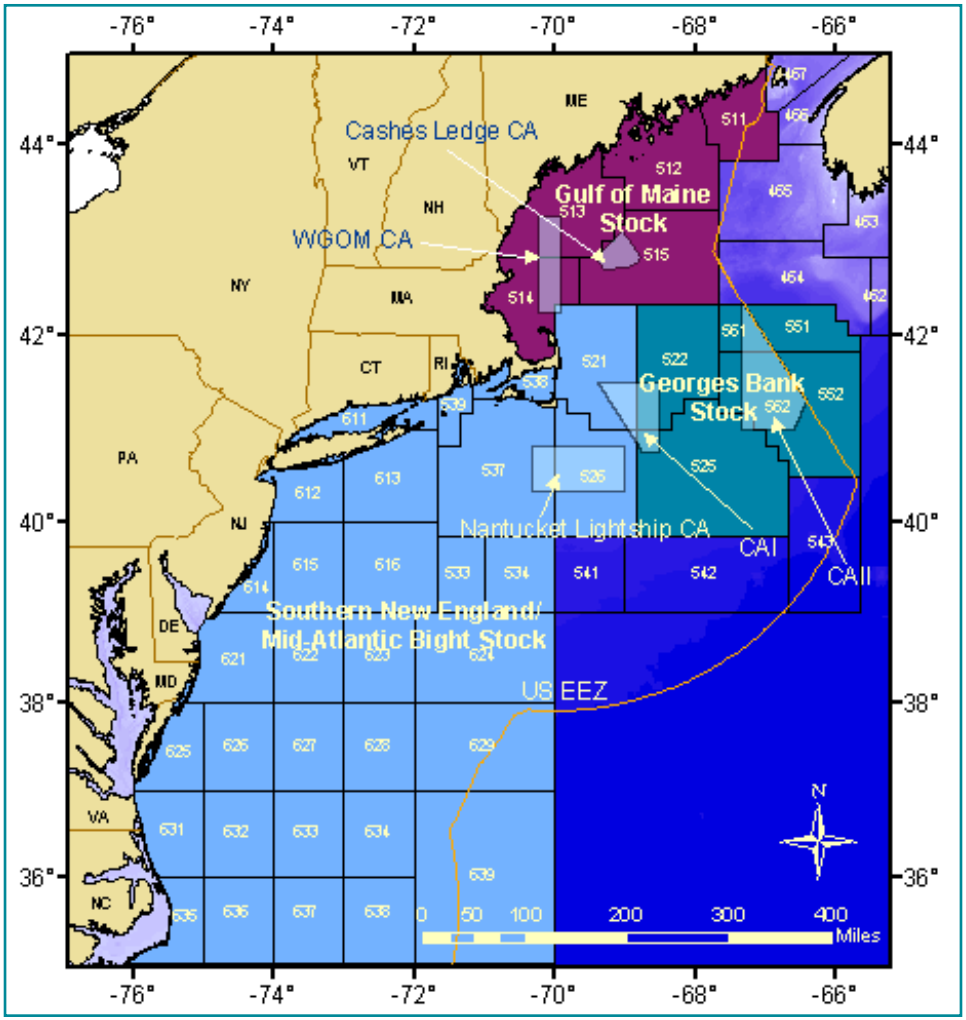
Pseudopleuronectes americanus



January 31st 2023

Southern New England Winter Flounder

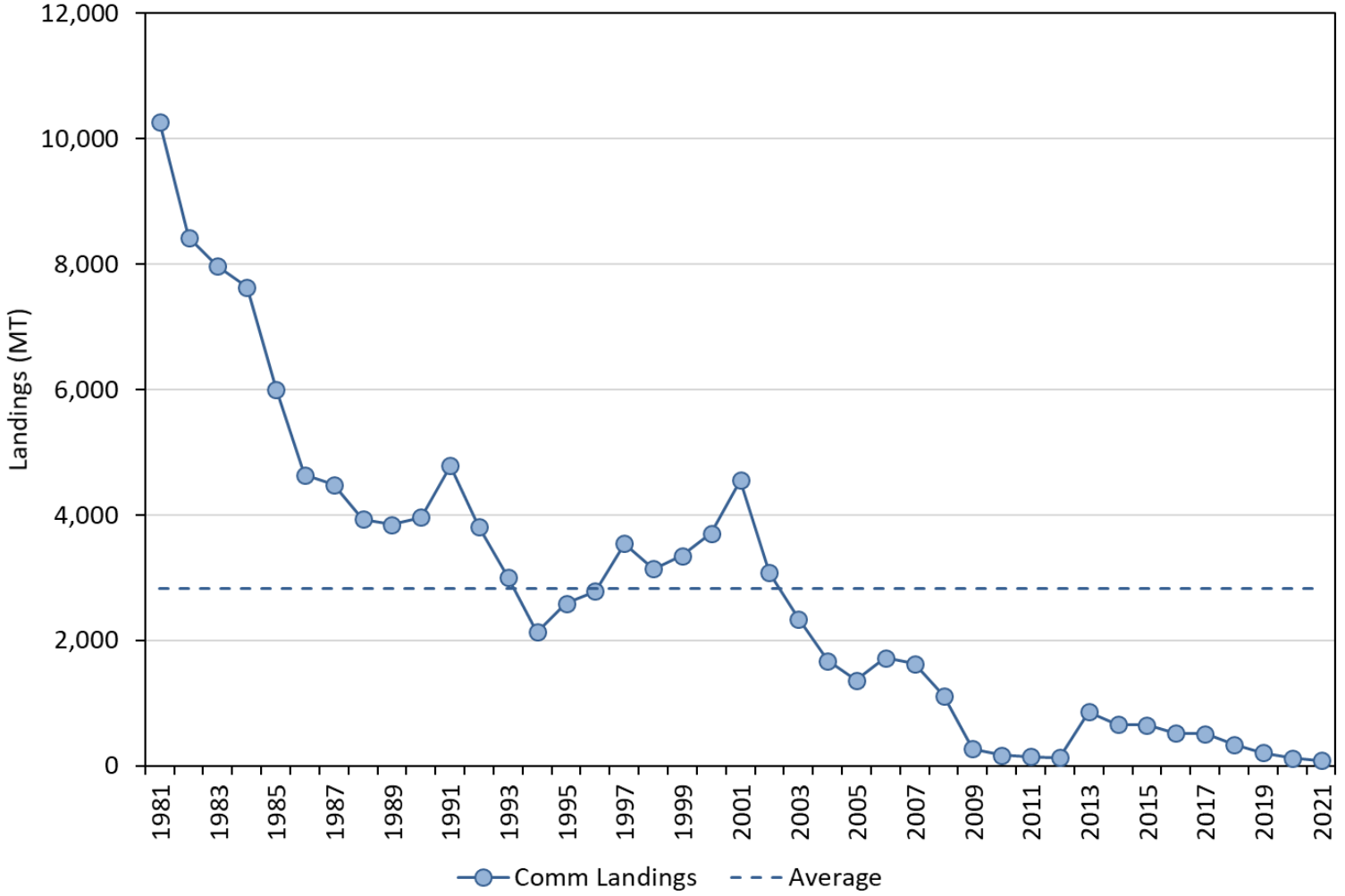
- Last assessment: 2020 Multispecies groundfish
- Statistical catch-at-age model: ASAP ages 1-7+, years 1981-2019
- Reference points: F_{MSY} = 0.284, SSB_{MSY} = 12,322 MT
- Stock status: overfished (SSB_{2019} = 3,638 MT), overfishing not occurring (F_{2019} = 0.077)



Fishery Dependent: 1981-2021 ages 1-7+

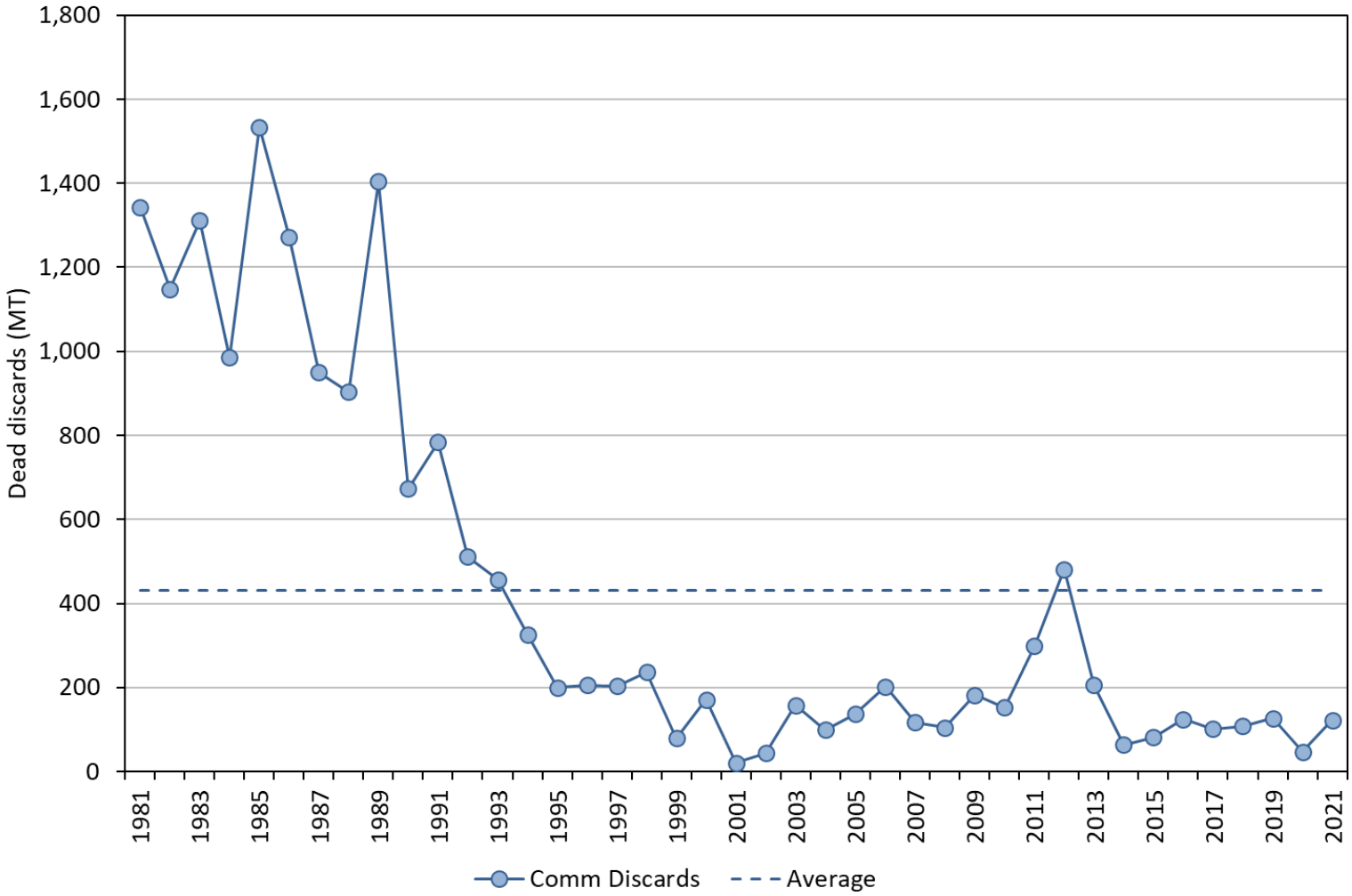
- Commercial Landings: AA Tables (1981-2019) and CAMS (2020-2021), by market category and quarter or half year
- Commercial Discards: SBRM (based on CAMS 2020-2021)
- Recreational Landings: MRIP calibrated (A+B1)
- Recreational Discards: MRIP calibrated (B2)

SNEMA WFL Commercial Landings 1981-2021



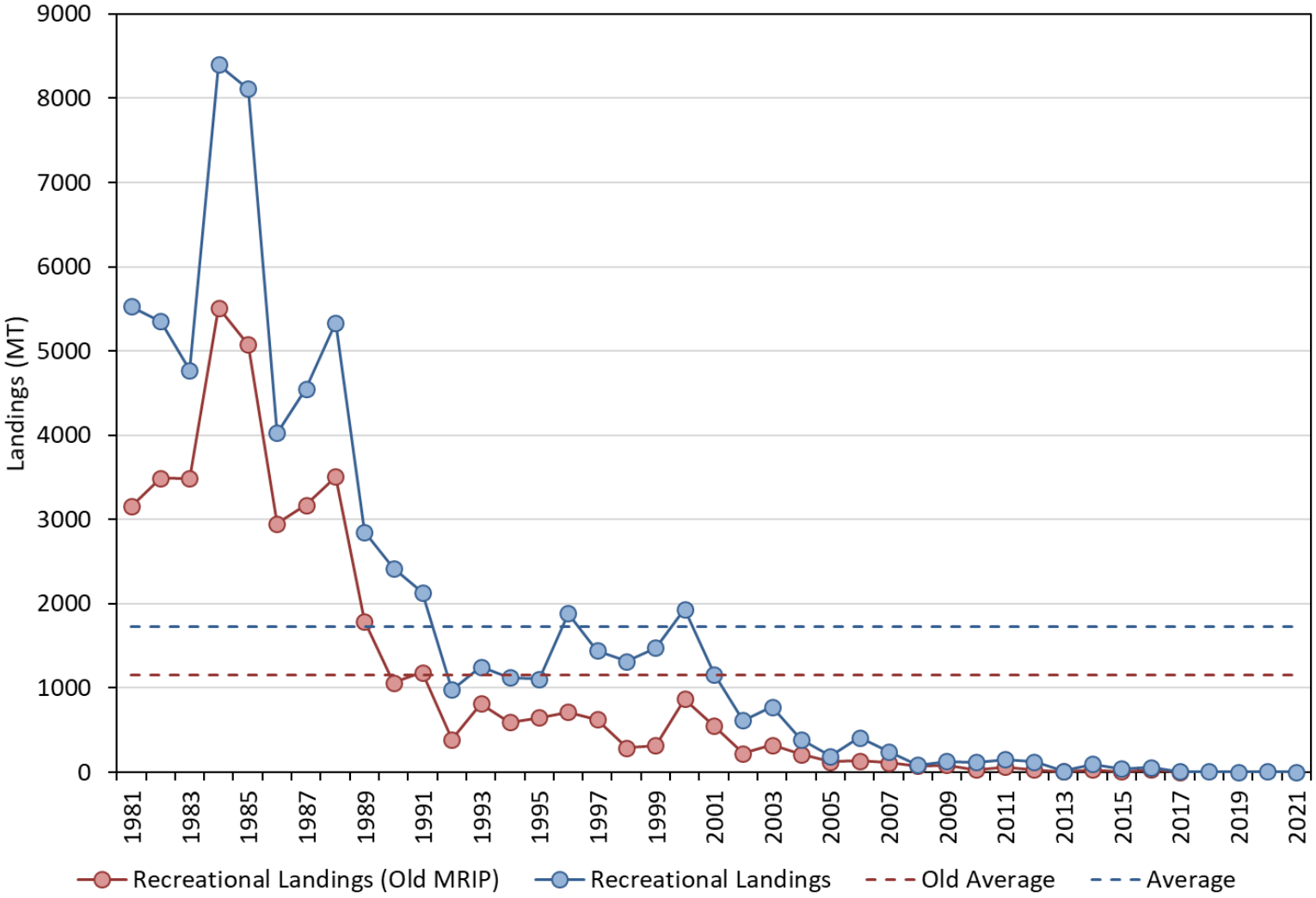
- 2020 and 2021 commercial landings from CAMS, 1981-2019 from AA
- 2020 landings were 120 MT and 2021 was 87 MT. time-series avg = 2,834 MT

SNEMA WFL Commercial Discards (50% mortality) 1981-2021



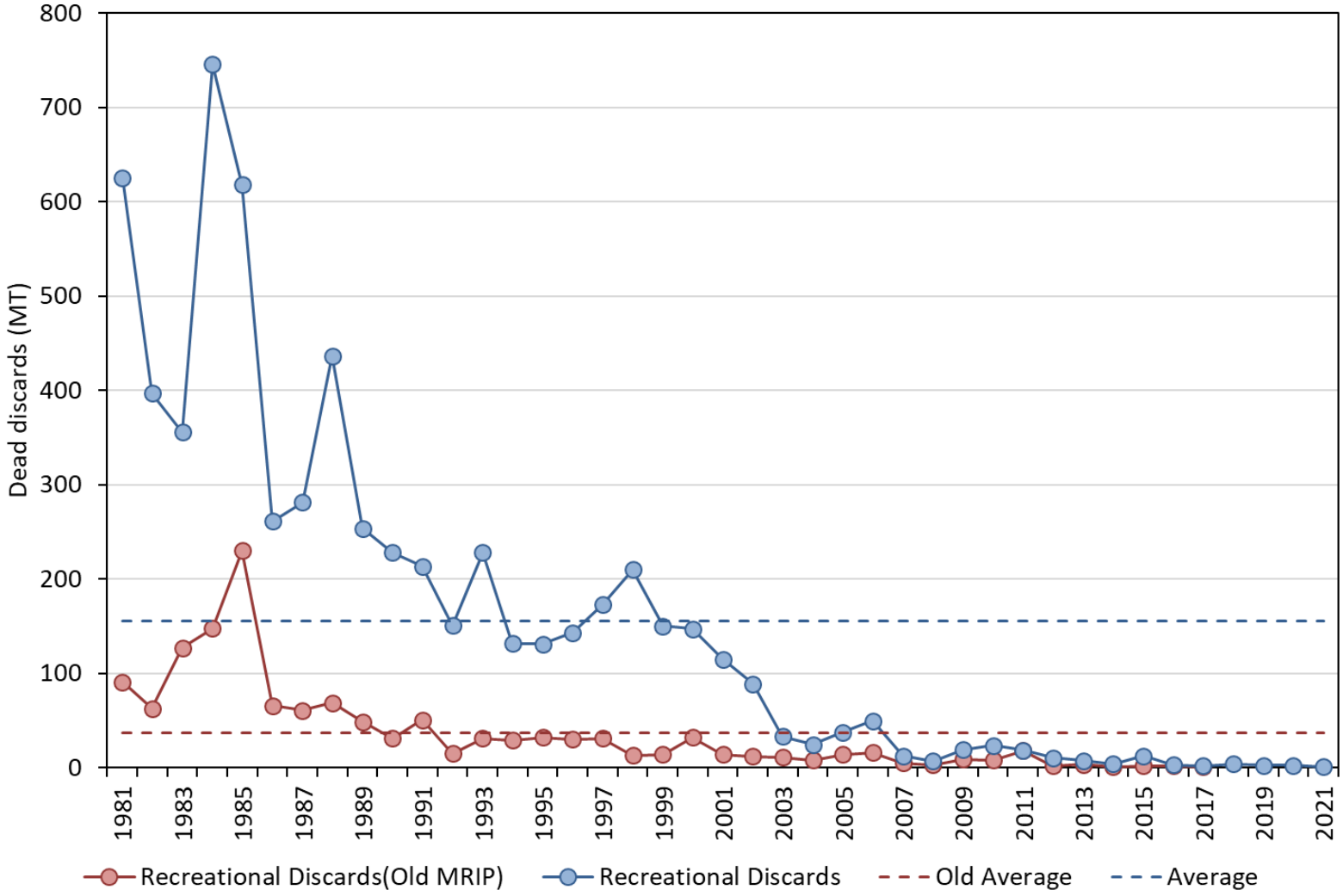
- Commercial discards from trawl (~63%) and scallop dredge (~37%) fisheries
- 2021 commercial discards were 122 MT, time-series average = 431 MT

SNEMA WFL Recreational Landings 1981-2021



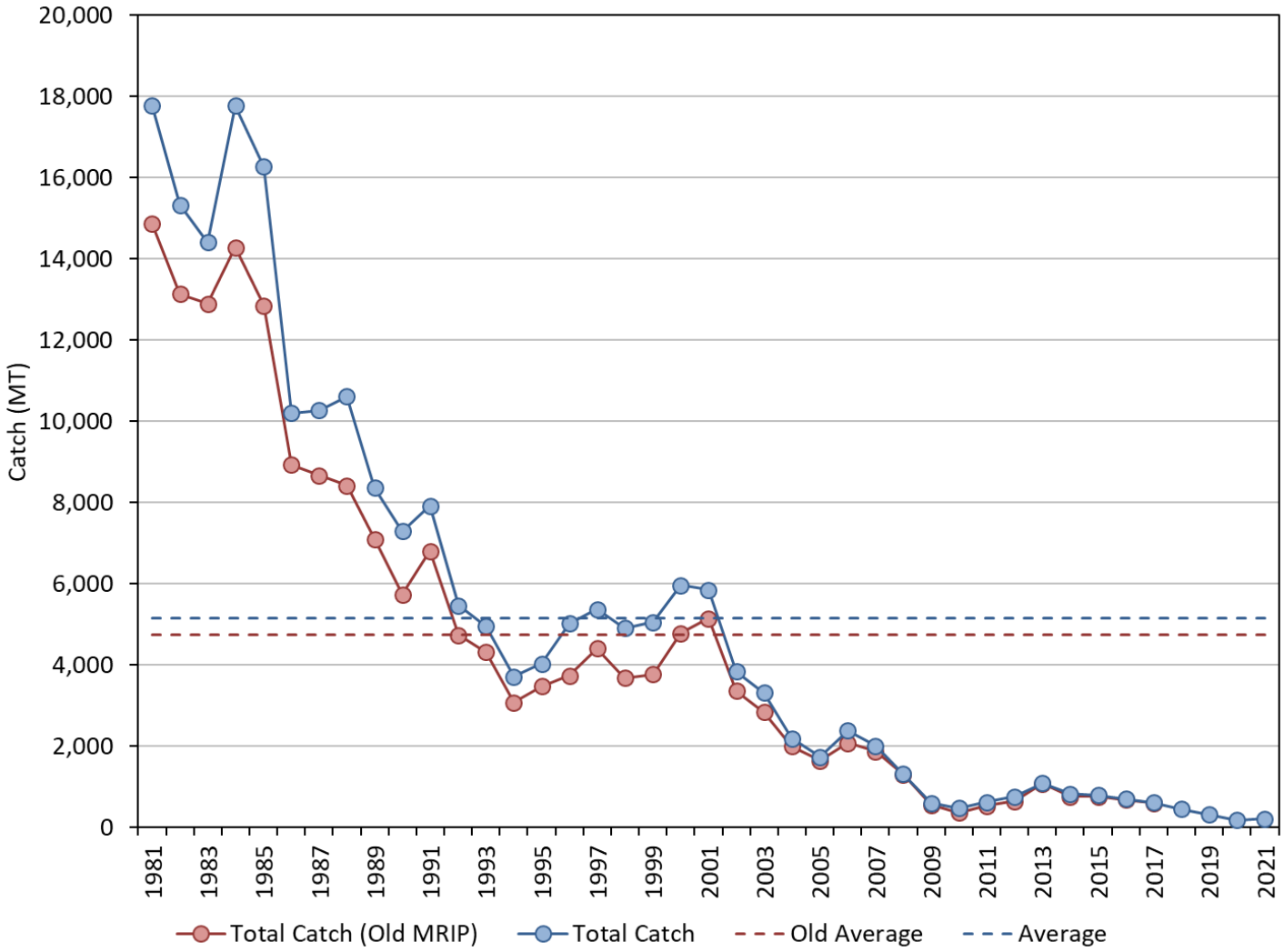
- 2021 recreational landings were 5.1 MT, time-series average = 1,811 MT (Old = 1,158 MT)

SNEMA WFL Recreational Discards 1981-2021



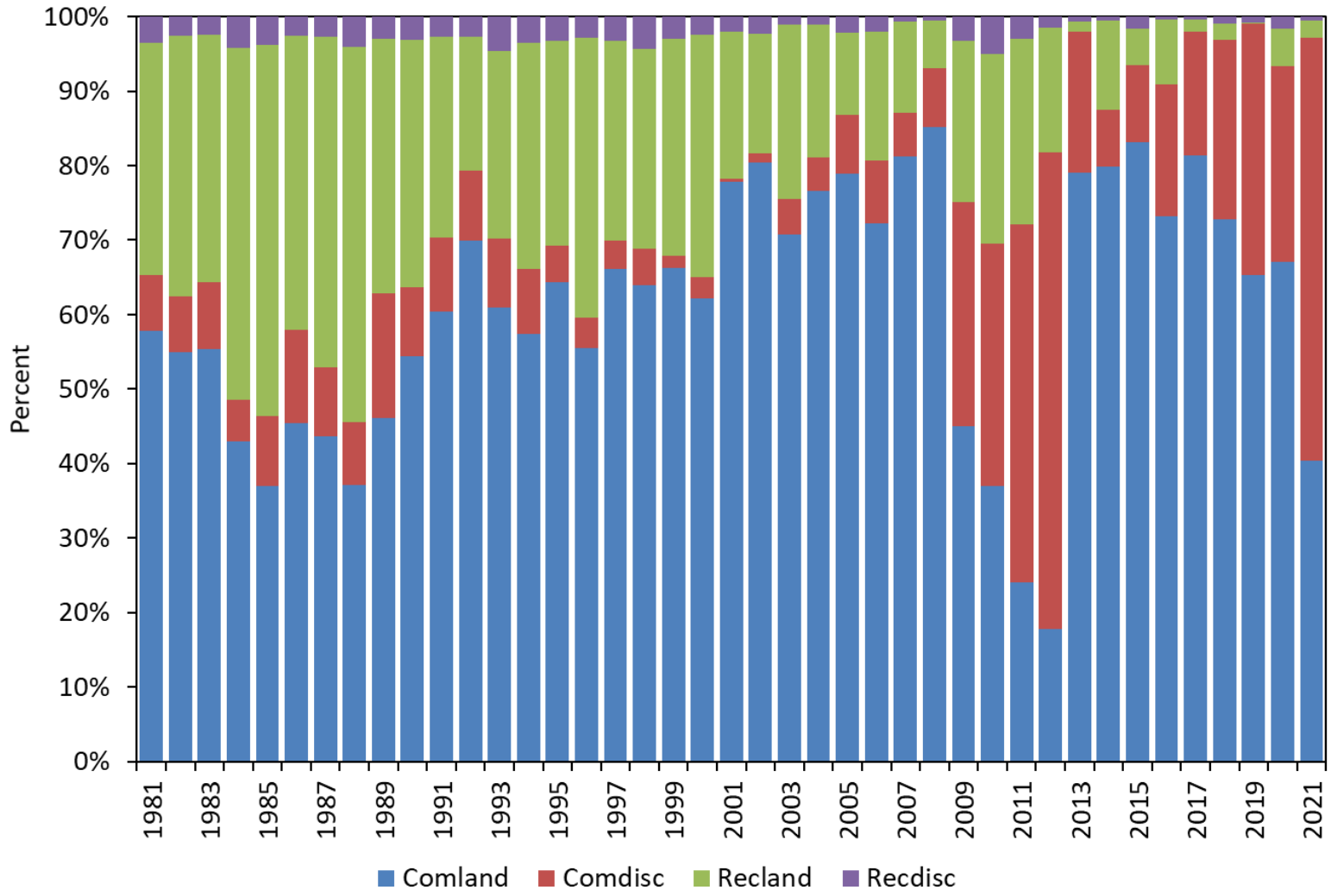
- 2021 recreational discards were 1.1 MT, time-series average = 163 MT (Old = 37 MT)

SNEMA WFL Total catch 1981-2021



- 2021 Total catch was 216 MT, time-series average = 5,396 MT (Old = 4,750 MT)

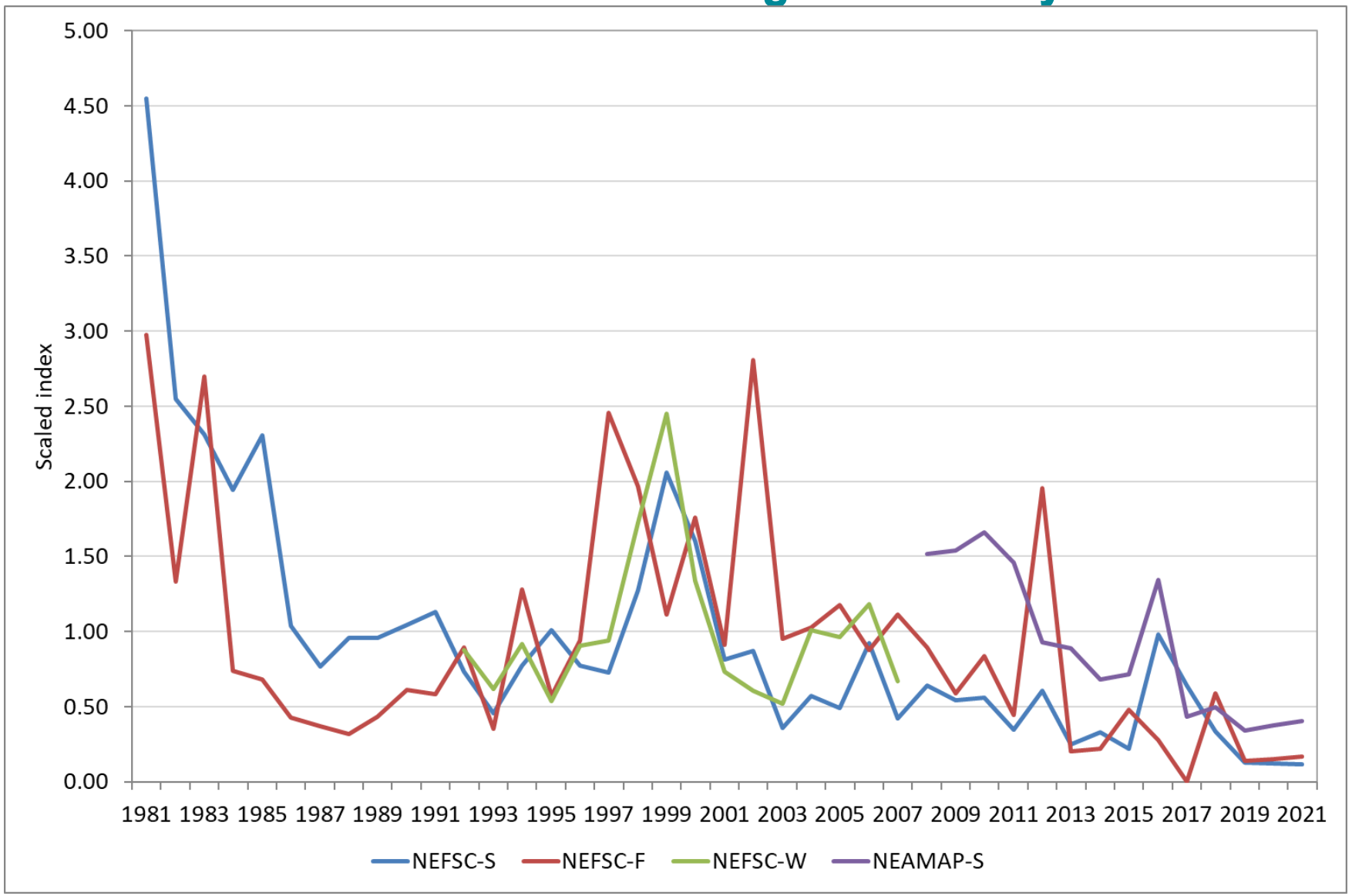
SNEMA WFL Total catch components 1981-2021



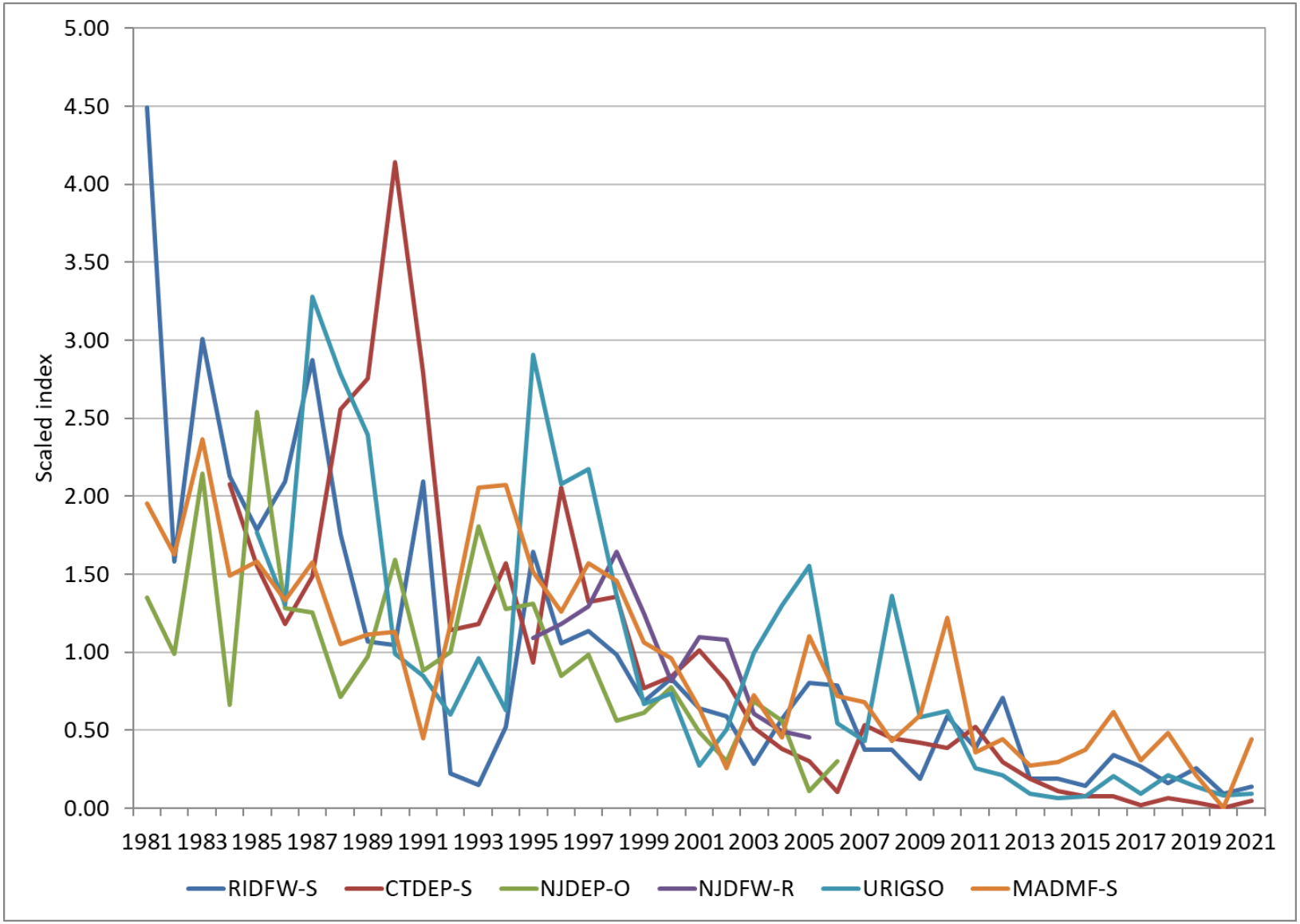
Fishery Independent: 1981-2021 ages 0-7+

- NEFSC winter, spring (no 2020), and fall (no 2017, 2020)
- NEAMAP spring (no 2020)
- MADMF spring (no 2020)
- RIDMF spring
- CTDEP spring (no 2020)
- NJDFW ocean and river (no survey since 2018)
- URIGSO
- Recruits: MADMF, CTDEP

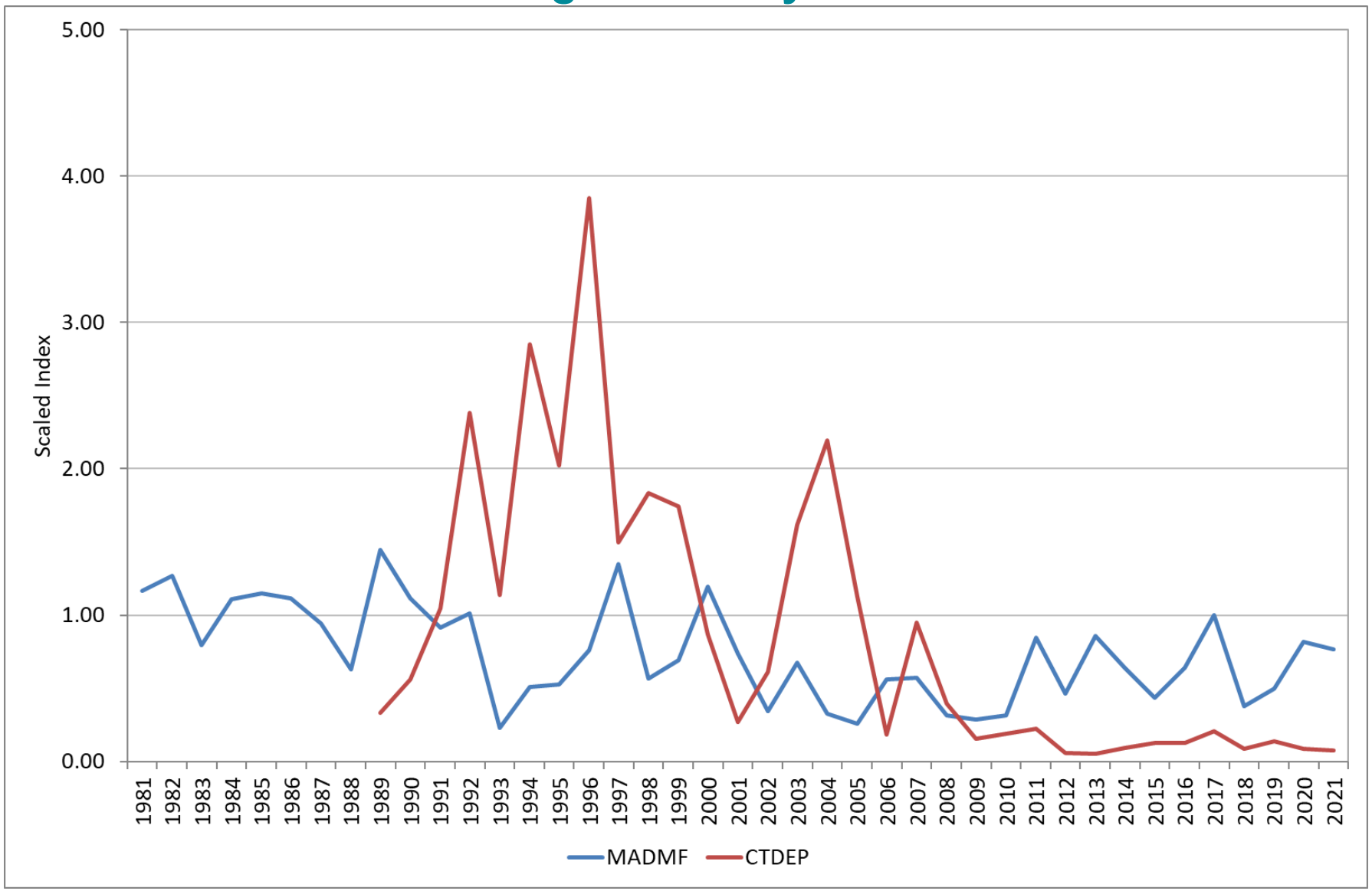
NEFSC BTS and NEAMAP regional survey indices



State survey indices



State Age 0 survey indices



Biology

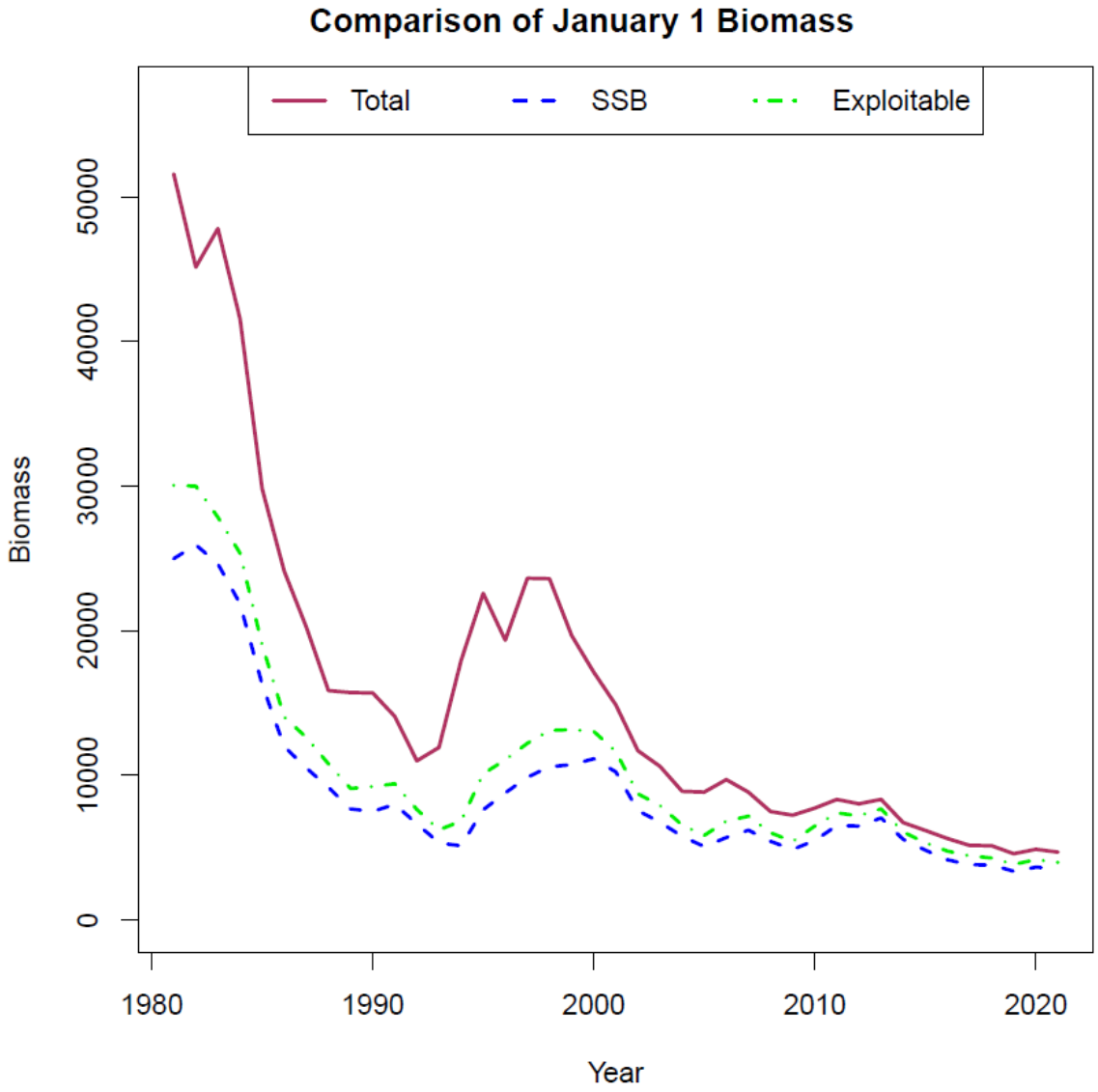
- M = 0.3
- Maturity: MADMF Spring survey data provide maturity information
  - Data from 1982-2008 used in SAW52
  - Age 1: 0%, Age 2: 8%, Age 3: 56%, Age 4: 95%

  Age 5+: 100%
- These input values were retained for the 2022 operational assessment

2022 Final Model Configuration

- Single Fleet: Commercial and Recreational Landings and Discards
- Three selectivity blocks: 1981-1993, 1994-2009, 2010+
  - Flat top selectivity
- 12 survey indices (10 Age 1-7, 2 YoY)
- Penalties on Nyear1

Results: Biomass



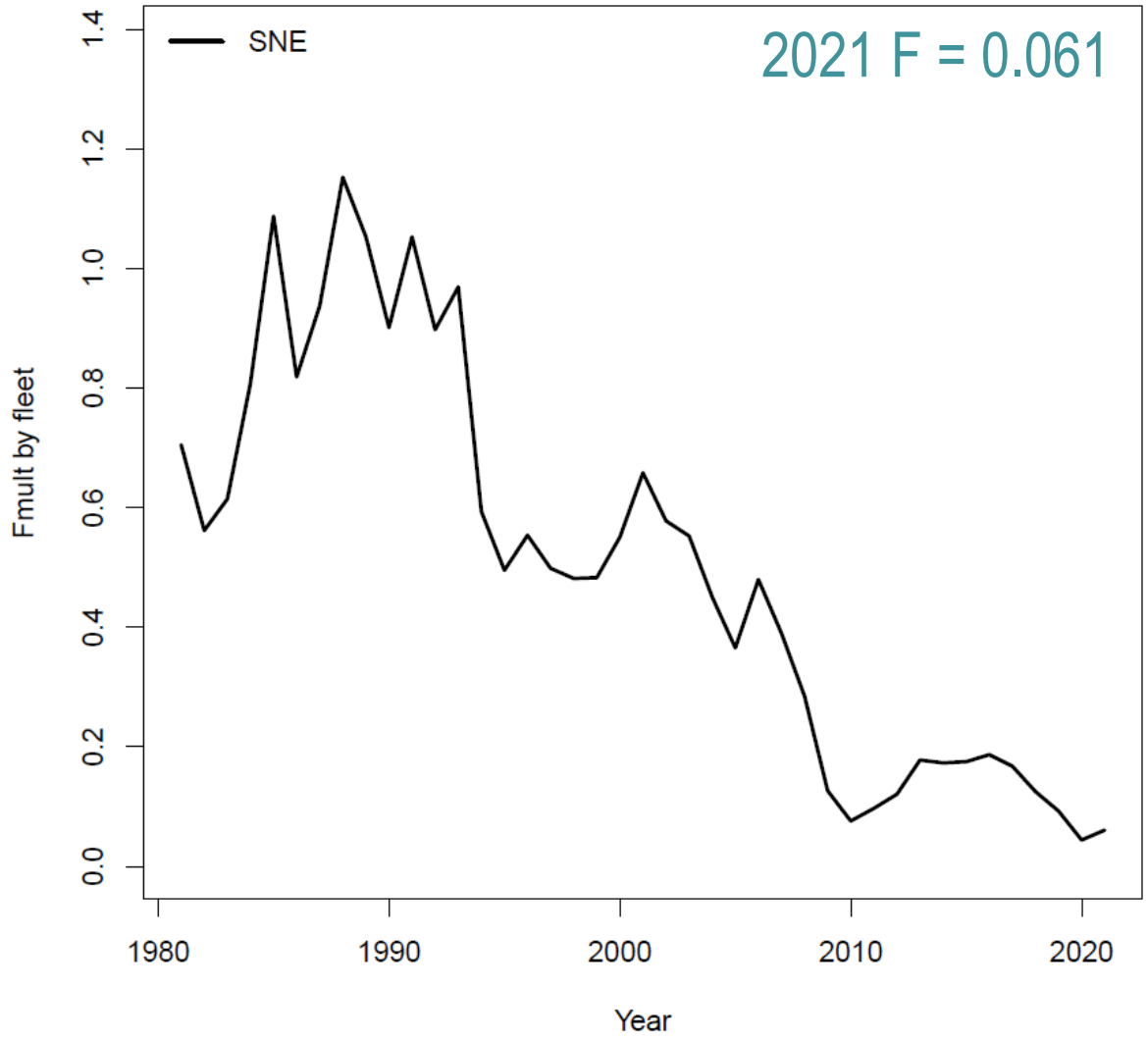
2021 Biomass Estimates

Total = 4,689 MT

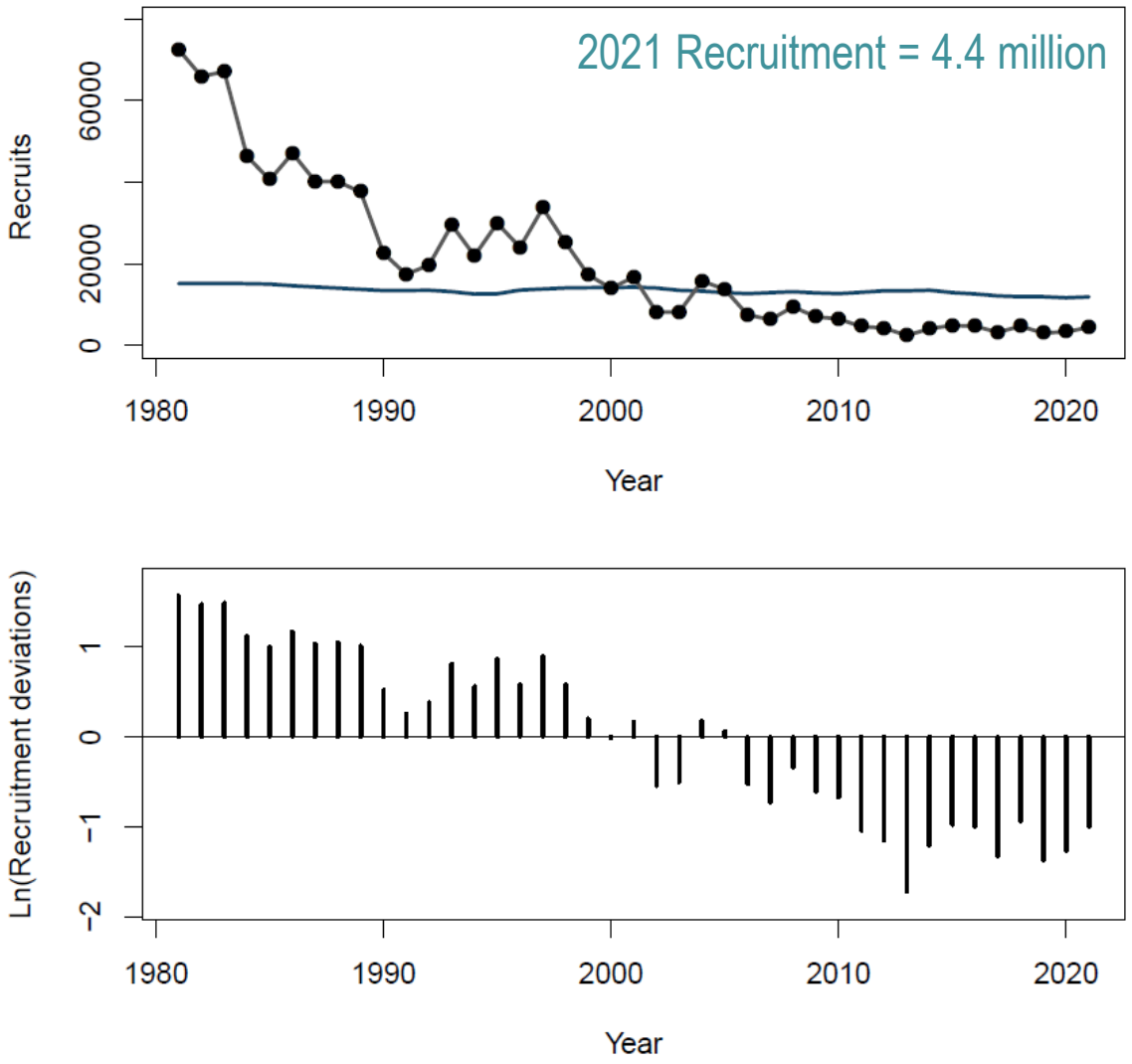
SSB = 3,353 MT

Exploitable = 4,252 MT

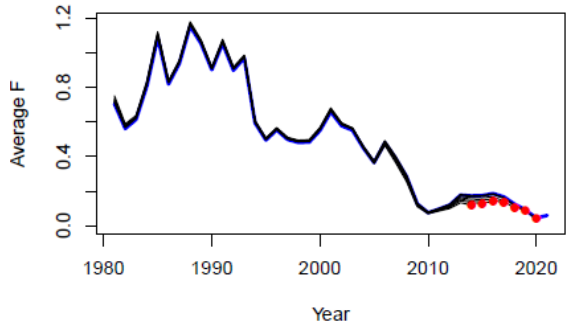
Results: Fmult

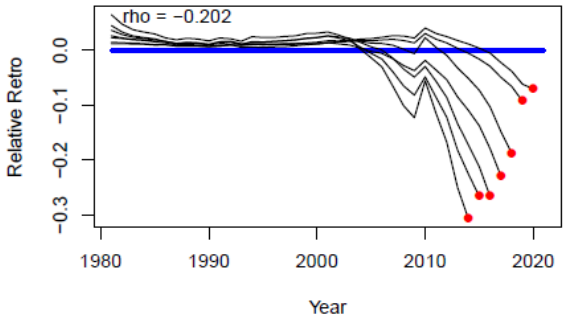


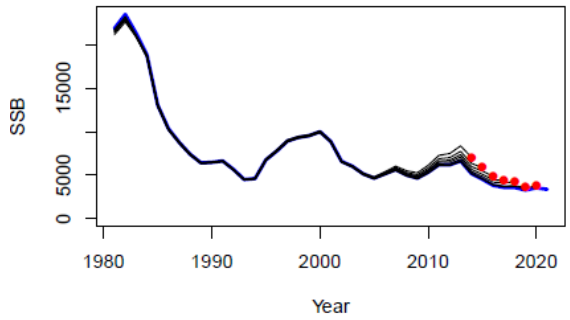
Results: Recruitment

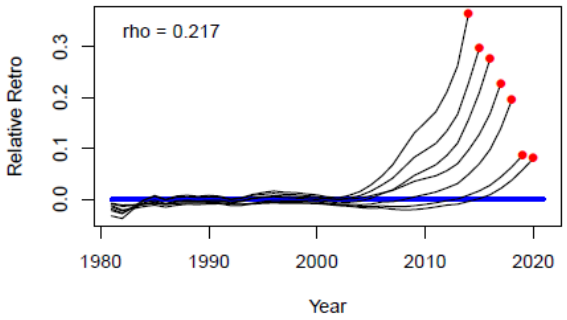


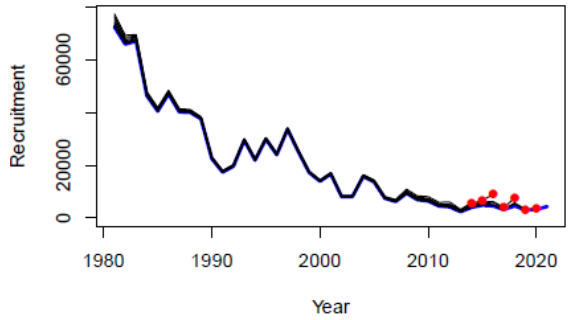
Results: Retrospective bias

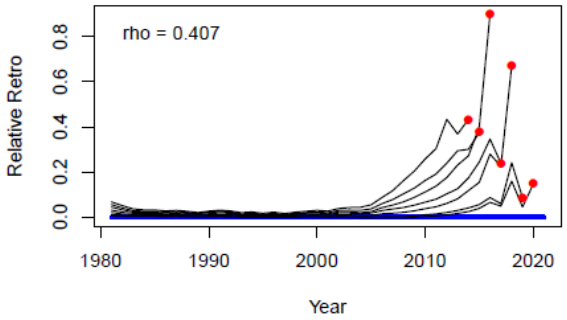






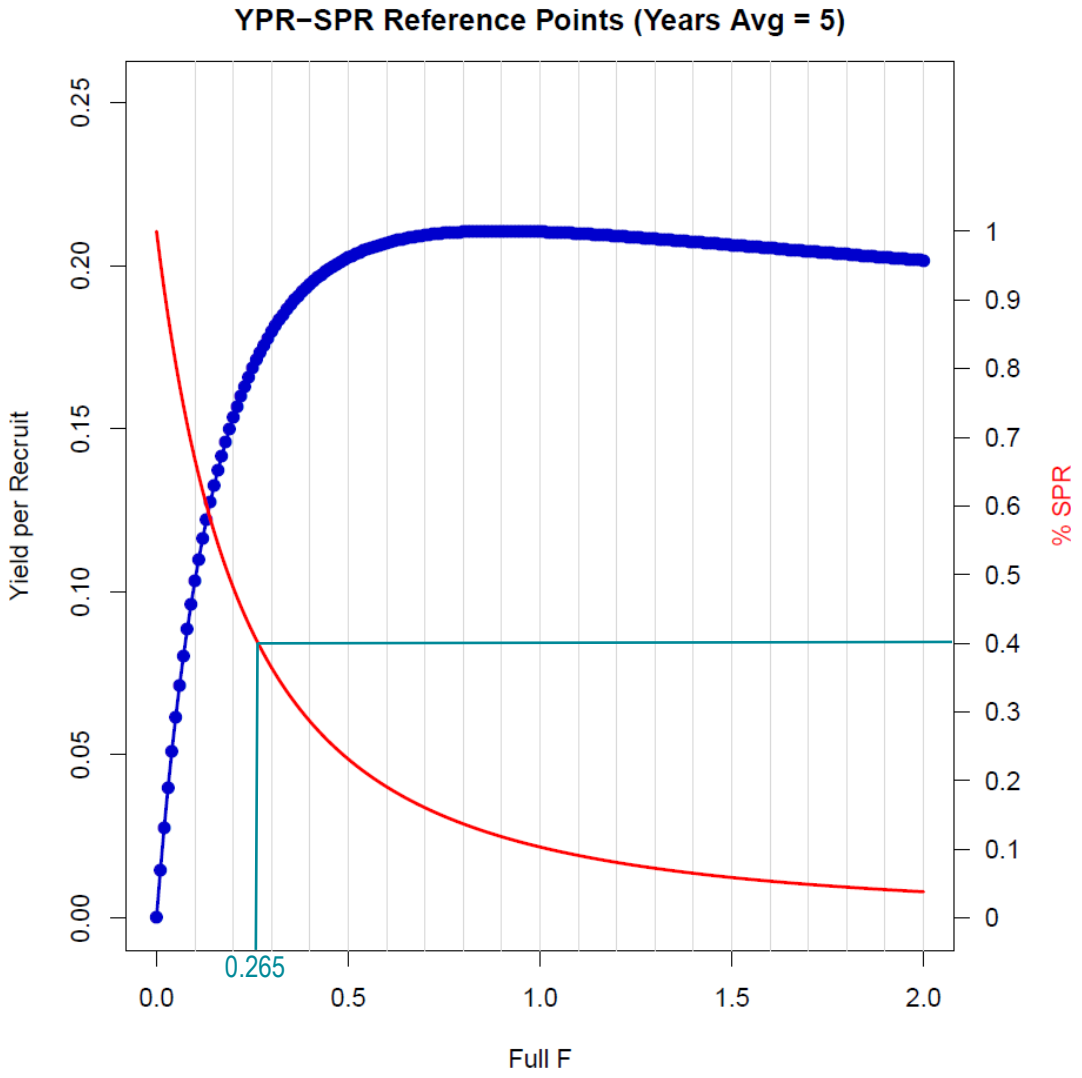






- Retrospective bias has decreased in F, SSB, and R since 2020 MT
- Considered a minor retro

2022 MT %SPR40 proxy reference for FMSY

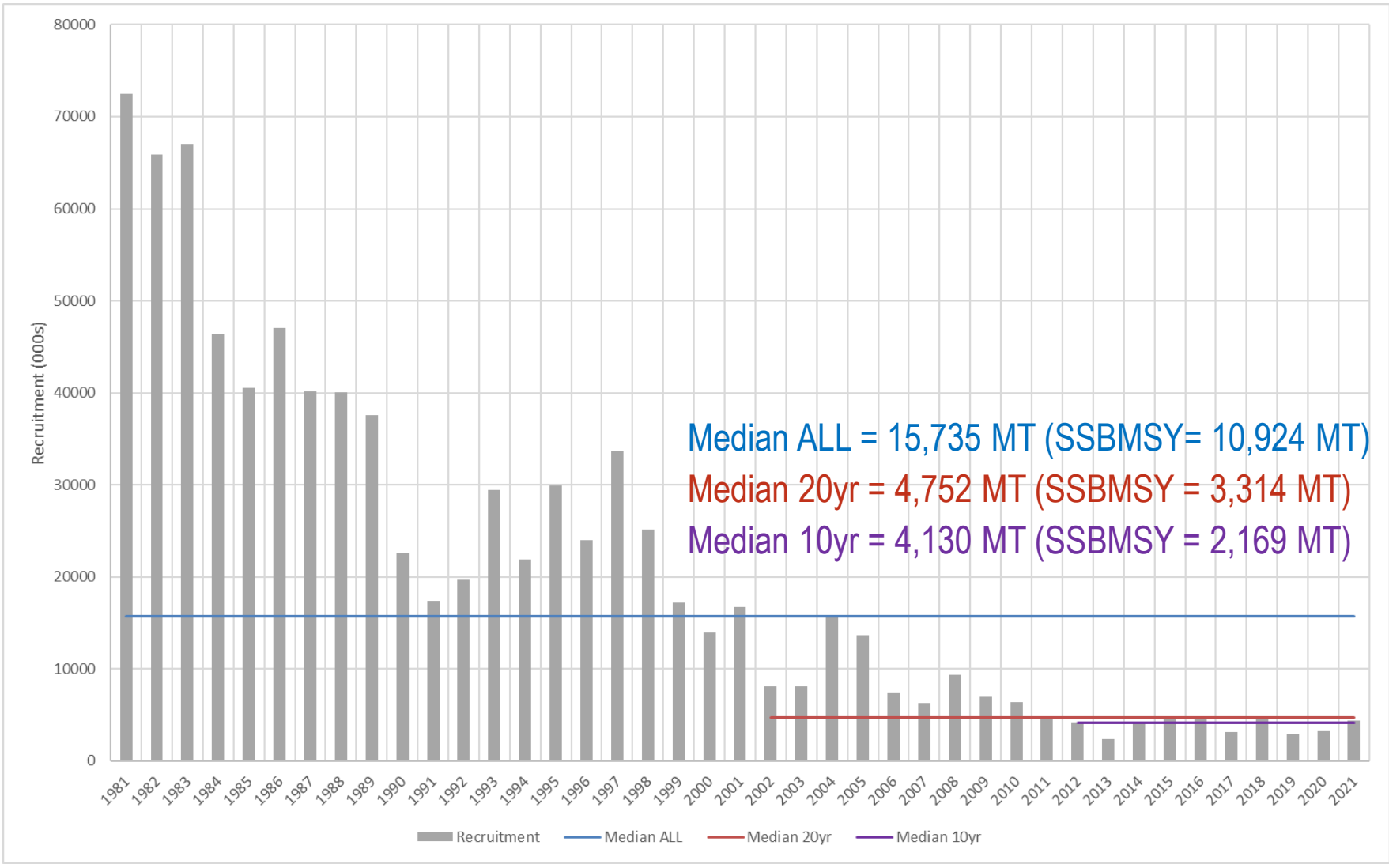


- FMSYproxy = F40% = 0.265

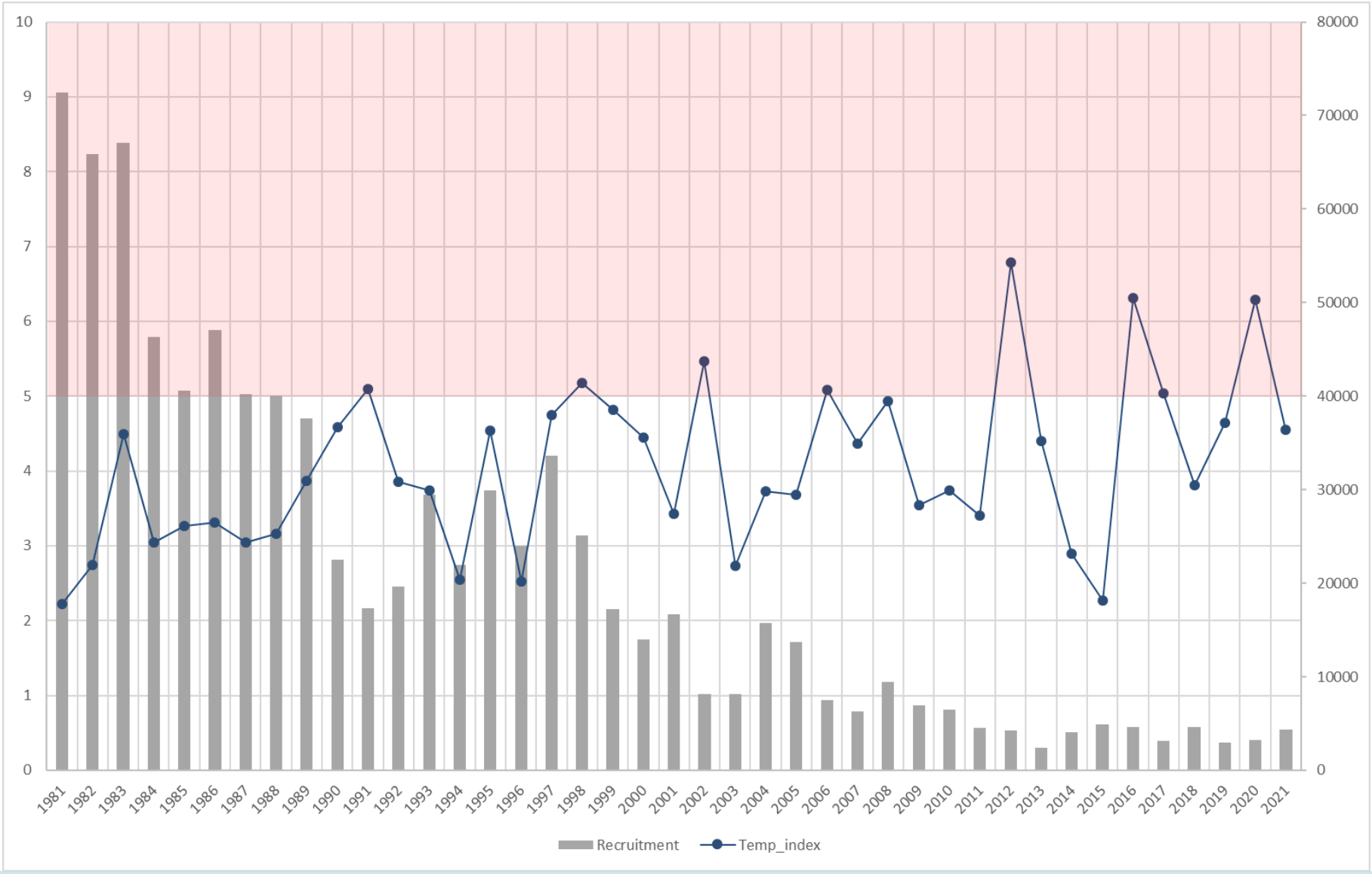
2022 MT SSBMSY

- Current SSBMSY projection methodology uses recruitment from the entire time-series (1981-2021)
- Move to a more recent stanza for recruitment that is more reflective of the current stock productivity

SNEMA winter flounder recruitment



Recruitment and mean winter estuary temperature



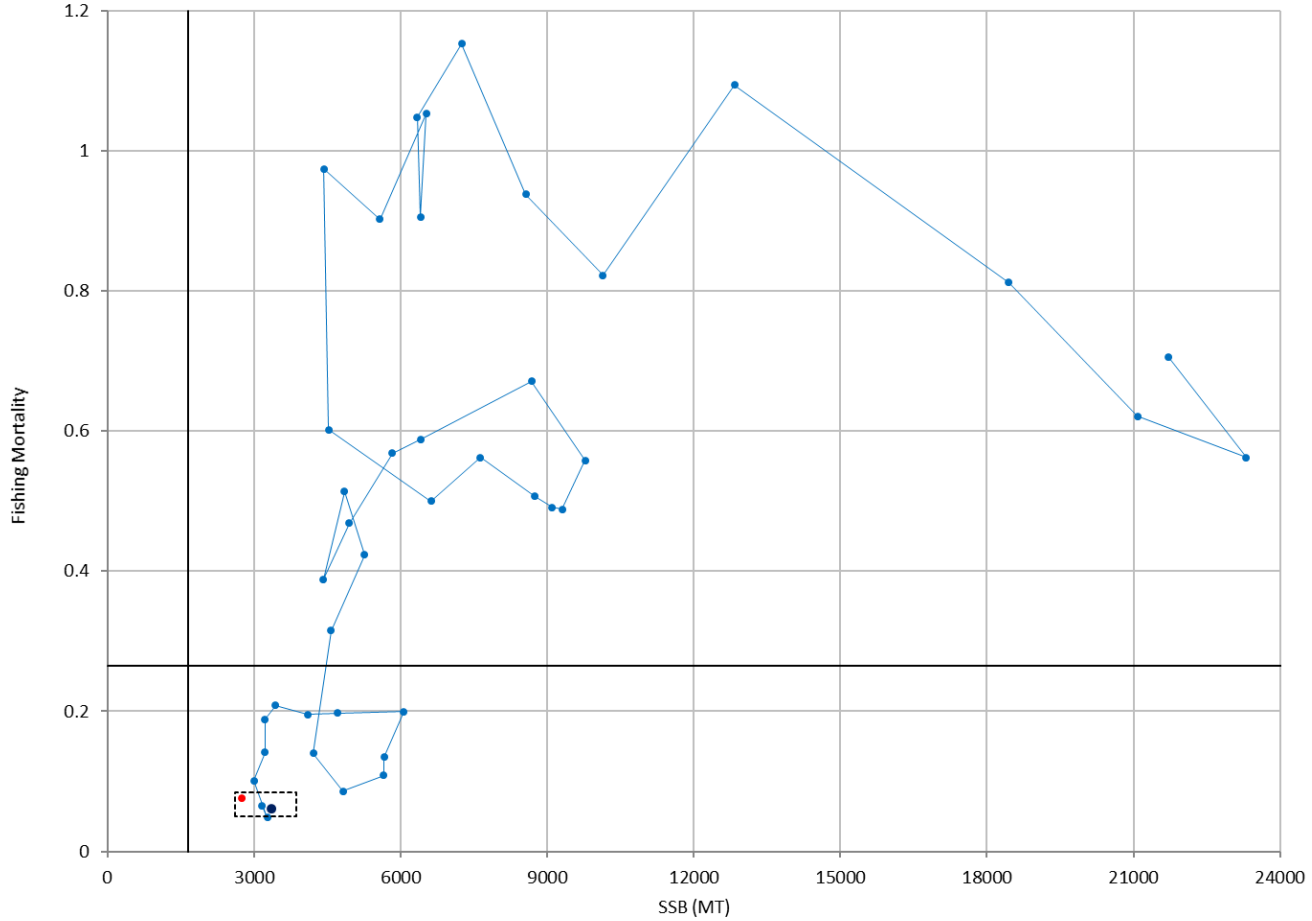
Choosing a recruitment stanza

- Temperature index has crossed over 5 degree level 6 times in past 20 years (30%), 4 times in past 10 (40%)
- Possible if we see stable or cooler winter temperatures for stock to achieve recruitment levels from early 2000's
- Propose using the last 20 years of recruitment

2022 update Reference Points

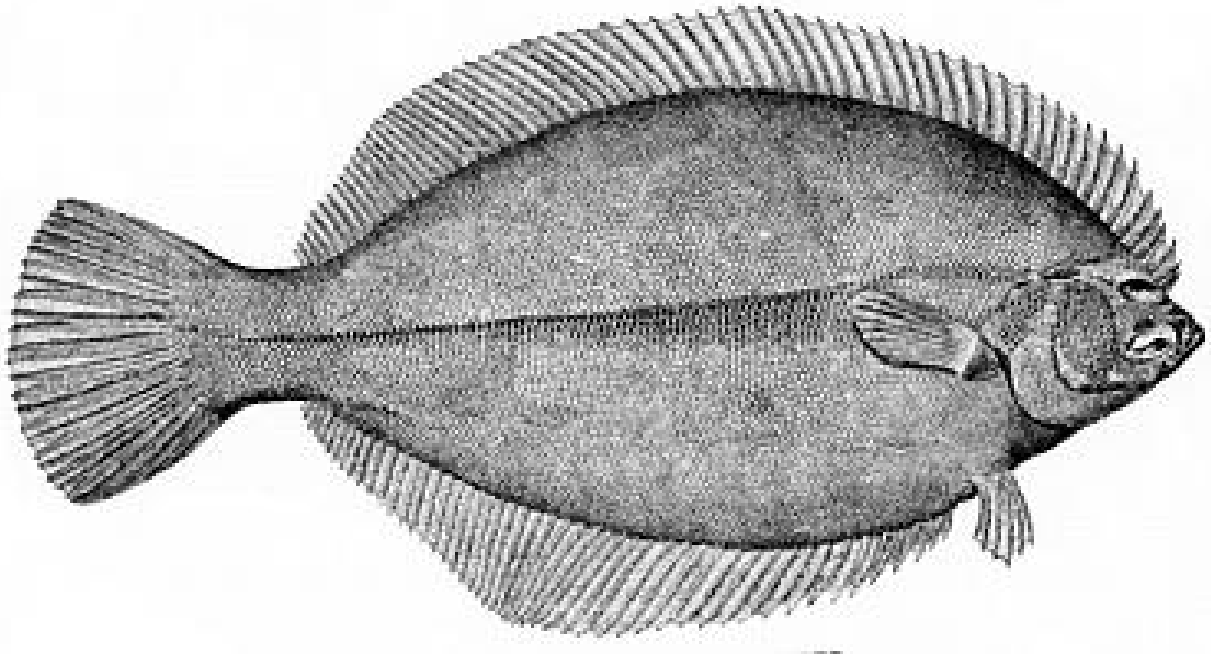
- F2021 = 0.061, SSB2021 = 3,353 mt
- F40%= FMSY = 0.265 (Fthreshold)
- SSBMSY = 3,314 mt (Btarget)
- ½ SSBMSY = 1,657 mt (Bthreshold)
- MSY = 1,025 mt
- F2021/Fthreshold = 23%, SSB2021/SSBtarget = 101%, SSB2019/SSBthreshold = 202%

Current Stock Status

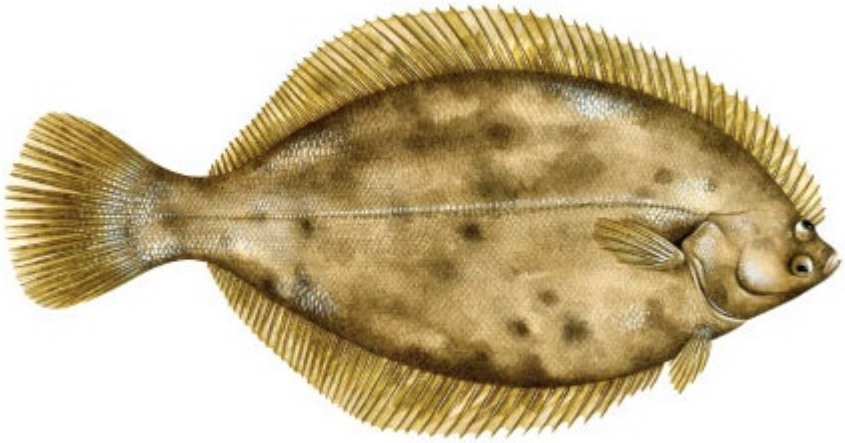


- Status changed: not overfished, overfishing not occurring
- Minor retrospective bias, no adjustment made

Questions?



Winter Flounder Specifications



Winter Flounder Management Board

January 31, 2023

Outline

- NEFMC Winter Flounder Specifications for FY 2023-2025
- Addendum III Specifications Process Overview
- Technical Committee Recommendations
- Advisory Panel Report
- Board Action: Consider Setting Specifications for FY 2024-2025

NEFMC Specifications 2023-2025

Stock	Total ACL		Groundfish Sub-ACL	
	FY22 (mt)	FY23-25 (mt)	FY22 (mt)	FY23-25 (mt)
GOM	482	772	281	607
SNE/MA	441	604	288	441

- ACL adjusted up for both stocks compared to the previous year to reflect the results of the 2022 management track assessments

NEFMC Specifications 2023-2025

Stock	State Sub-Component		
	FY22 (mt)	FY23-25 (mt)	2017-2021 average catch (mt)
GOM	194	153	151.4
SNE/MA	21	19	17.2

- State sub-component = recreational + commercial catch
- Not an allocation – no pound for pound payback if exceeded

Addendum III Specifications Process

- Specifications may be set up to 3 years
- Measures that may be adjusted through Board action:
  - Commercial measures
    - Trip limits
    - Trigger trip limits
    - Size limits
    - Season
    - Area closures
  - Recreational measures
    - Size limits
    - Bag limits
    - Season

Table 2. Commercial Winter Flounder Regulations.

State	Stock Unit	Size Limit	Trip Limit	Seasonal Closure (dates inclusive)	Min. Mesh Size
Maine	GOM	12"	500 lbs	May 1 – June 30	6.5”
New Hampshire	GOM	12"	500 lbs	April 1 – June 30	6.5”
Massachusetts	GOM	12"	500 lbs	Open all year	6.5”
	SNE/MA	12"	50 lbs	Open all year	6.5”
Rhode Island	SNE/MA	12"	50 lbs	Open all year	6.5”
Connecticut	SNE/MA	12"	50 lbs or 38 fish	March 1 – April 14	6.5”
New York	SNE/MA	12"	50 lbs	June 14 – Nov 30 (for all gear besides fyke nets, pound and trap nets)	6.5”
New Jersey	SNE/MA	12"	38 fish	June 1 – Nov 30 (all gear except for fyke nets) Feb 20 – Oct 31 (Fyke net)	6.5”

Table 3. Recreational Winter Flounder Regulations.

State	Stock Unit	Creel Limit	Size Limit	Seasonal Closure (dates inclusive)
Maine	GOM	8	12"	Open all year
New Hampshire	GOM	8	12"	Open all year
Massachusetts	GOM	8	12”	Open all year
	SNE/MA	2	12"	January 1- February 28
Rhode Island	SNE/MA	2	12"	January 1 – February 28
Connecticut	SNE/MA	2	12"	January 1 – March 31
New York	SNE/MA	2	12"	May 31 – March 31
New Jersey	SNE/MA	2	12"	January 1 – February 28
Federal Waters	GOM & SNE/MA	Unlimited	12”	Open all year

Questions?

Technical Committee Meeting Summary

Technical Committee Meeting Summary

- TC met via webinar on January 11th
- Acknowledgement of increased federal water quotas
- Change in stock status of SNE/MA stock
  - No change in perception of stock
- State surveys have seen declines/near detection level surveys in all stock areas

Technical Committee Meeting Summary

- Understood that climate may be driving low stock status
  - F has been very low
- Unanimous agreement for status quo for both stocks
  - Discussion of reducing commercial and recreational limits more likely in future than increases if current trends continue
- Status quo as a bridge to 2026 Research Track Stock Assessment
  - Incorporation of climate into model may give us new insights into trends

Advisory Panel Meeting Summary

Advisory Panel Meeting

- Four AP members met on January 12th
- Discussed specifications, current fishery management issues, and provided research recommendations

Advisory Panel Meeting

- One advisor recommended a moratorium in the GOM and SNE/MA
- One advisor recommended allowing at least some catch, for the following benefits:
  - Minimize discards
  - Allow biological data to continue to be collected on catch
- One advisor saw the merits to both recommendations

Advisory Panel Meeting

- One advisor commented that the winter flounder fishing season in the SNE/MA region should be limited again
- Two advisors expressed support for all states in the SNE/MA and GOM regions to adopt a commercial and recreational spawning season closure

Advisory Panel Meeting

- General concerns about:
  - Low abundance of winter flounder in SNE/MA and GOM
  - The low rates of reproduction will not be able to overcome the high rate of natural mortality

- Research Recommendations
  - Two AP members recommended further research into the genetic structure of winter flounder to identify possible localized sub-stocks
  - One AP member recommended that discards in state waters should be investigated

Questions?

Setting Specifications

- *Board action for consideration: Setting FY 2024-2025 commercial and recreational measures for GOM and SNE/MA winter flounder*

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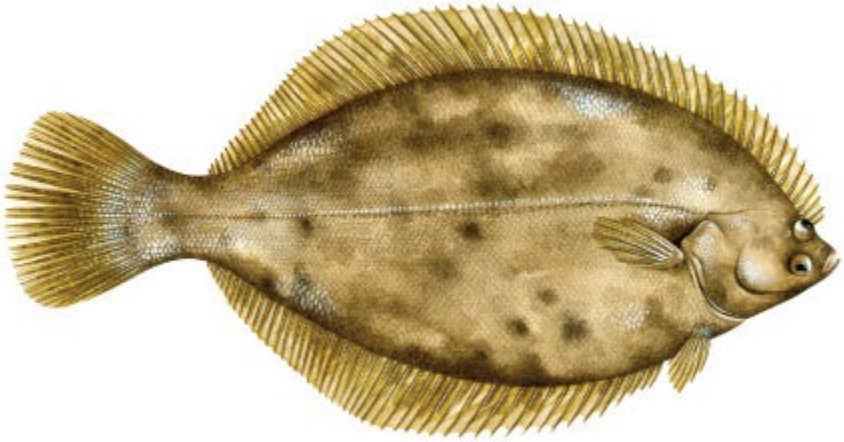
Winter Flounder
FMP Review of the 2021 Fishing Year



Winter Flounder Management Board
January 31, 2023

Monitoring Requirements

Plan-specific requirements under Amendment 1:

- Annual juvenile recruitment survey
  - ✓MA, RI, and NY
- Annual Spawning stock biomass survey
  - ✓MA, RI, CT, and NJ

State Compliance

- ✓ No inconsistencies found among states with regard to FMP requirements

- ✓ PRT recommends approval of state compliance reports and *de minimis* status for New Jersey's commercial fishery

Questions?