Standing SSC

Meeting Summary

February 25-27, 2024

Joint Meeting with South Atlantic SSC

Review: SEDAR 79: Southeastern U.S. Mutton Snapper Stock Assessment

GMFMC Staff reviewed Fishermen Feedback Tool

- 74 responses, mostly private anglers
- Overall neutral public sentiment on stock status

South Atlantic FMC staff reviewed fishery performance report

- General positive perception of the status of the fishery
- Increases in recruitment as well as medium sized fish (16-18 inches)

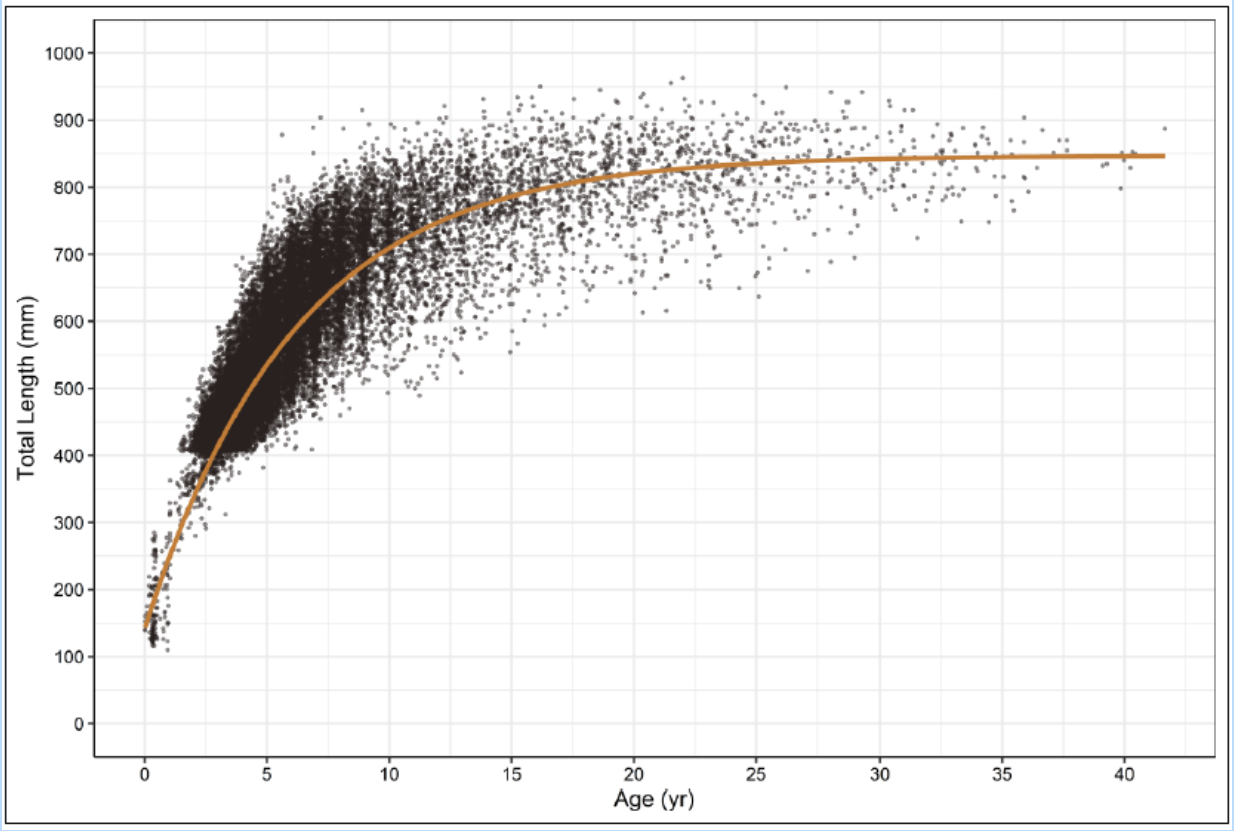
FWRI/USF Staff presented SEDAR 79

- Uses SRFS in place of MRIP-FES for recreational private landings
- Considered appropriate because 95% of landings in Florida
- Start year: 1981, Terminal Year: 2023
- Single closed population assumed

Size-Truncated Growth Model

von Bertalanffy model
Linf = 847 mm Max TL, k = 0.163, t0 = -1.12

No Sexual Dimorphism



Natural Mortality

Hamel and Cope (2022) longevity-based constant M, M = 0.129

Maturity

No change from SEDAR 42
Age at maturity ~ 3.5 years

Discard Mortality

Commercial handline: 19%
Commercial longline: 41% and 44% (pre/post IFQ)
Recreational: 11.6% (same as SEDAR 66)

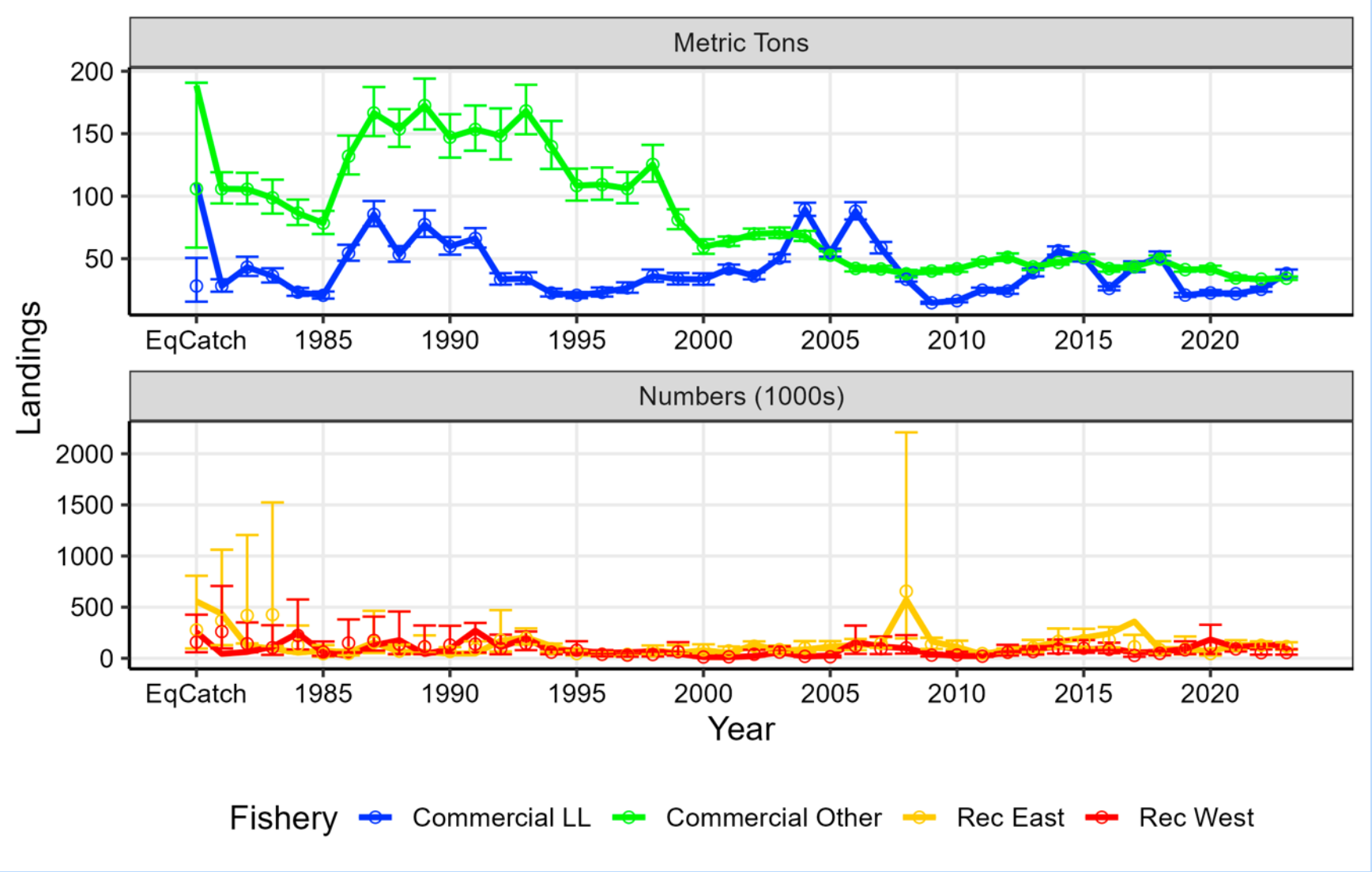
Rec Landings and Releases incorporating SRFS includes:

- Headboat data from SRHS
- Charter data from MRIP-FHTS
- Shore mode data from MRIP-FES
- Non-FL Private mode data from MRIP-FES (minimal contribution)
- FL Private mode data from SRFS (2021-2023)
- MRIP-FES calibrated to SRFS (1981-2020)
    - SEDAR79-AP-02

Indices Used in Assessment

Index	FD or FI	Time Series	Num of Years	Targets	Lengths	Ages
SERFS Video	FI	2010-2022	12	Post YOY	No	No
FIM Indian River Lagoon	FI	1999-2022	24	YOY	Yes	Few
RVC SE FL RVC FL Keys RVC Dry Tortugas	FI	1997-2023	7 19 12	Post YOY	Yes	No
Combined Gulf Video	FI	1996-2022	20	Post YOY	Yes	No
Commercial Longline	FD	1993-2010	17	Adults	Yes	Yes

Landings


Metric Tons
200
150
100
50
EqCatch
1985
1990
1995
2000
2005
2010
2015
2020
Numbers (1000s)
2000
1500
1000
500
0
Landings
Year
Fishery
Commercial LL
Commercial Other
Rec East
Rec West

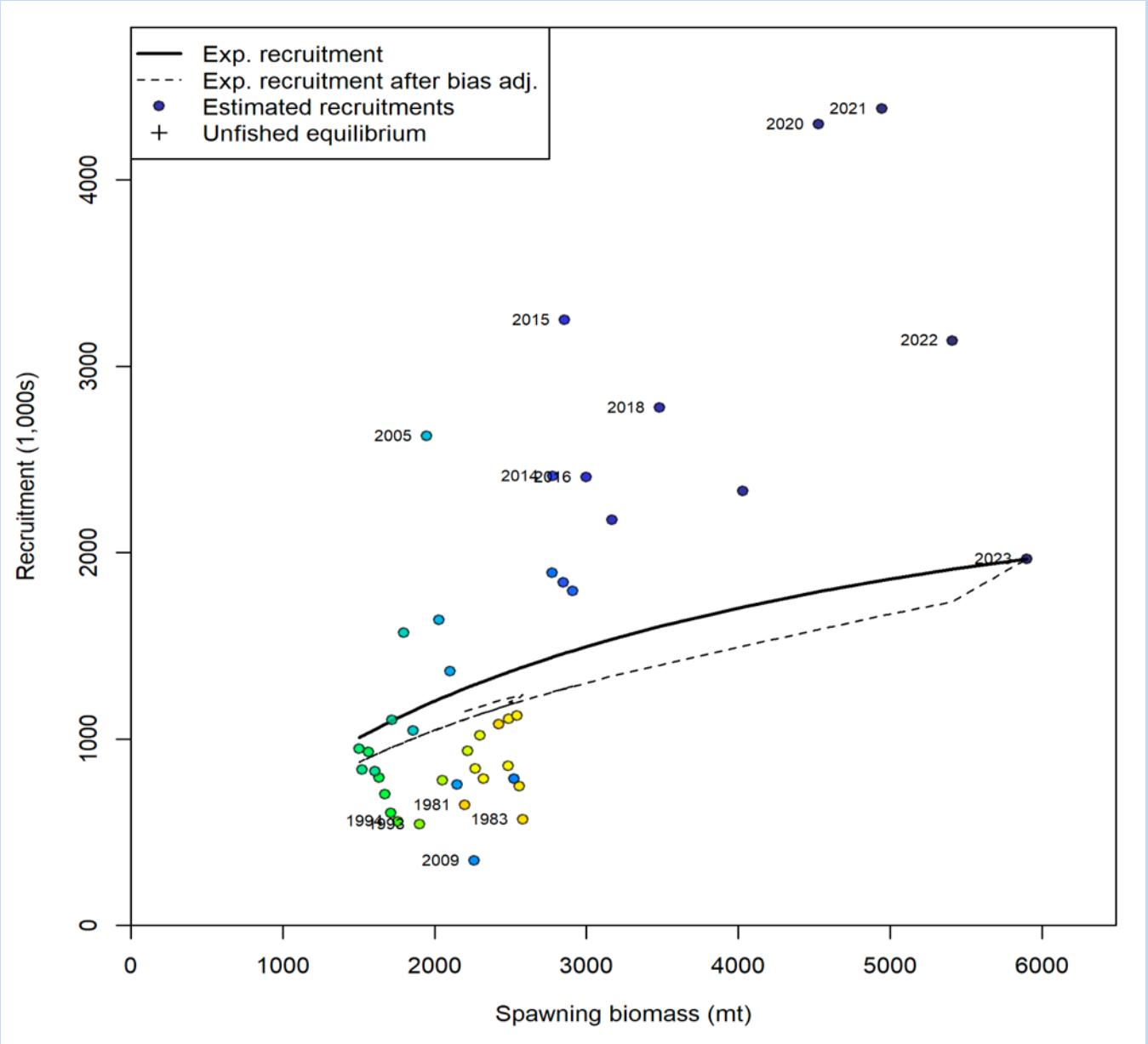
Model Results

- Biomass increasing including young and old (age 10+) fish

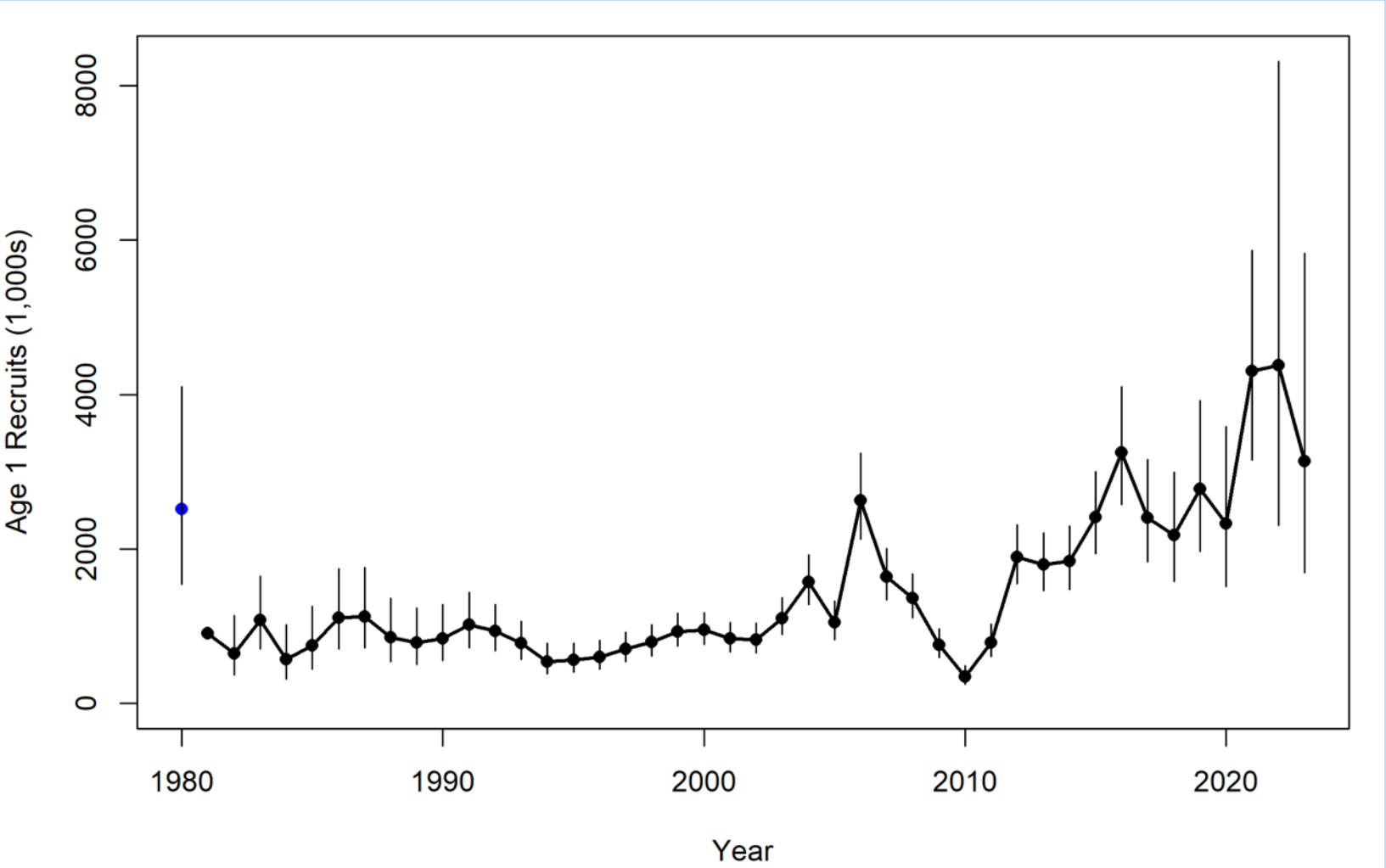
Stock Recruit Curve

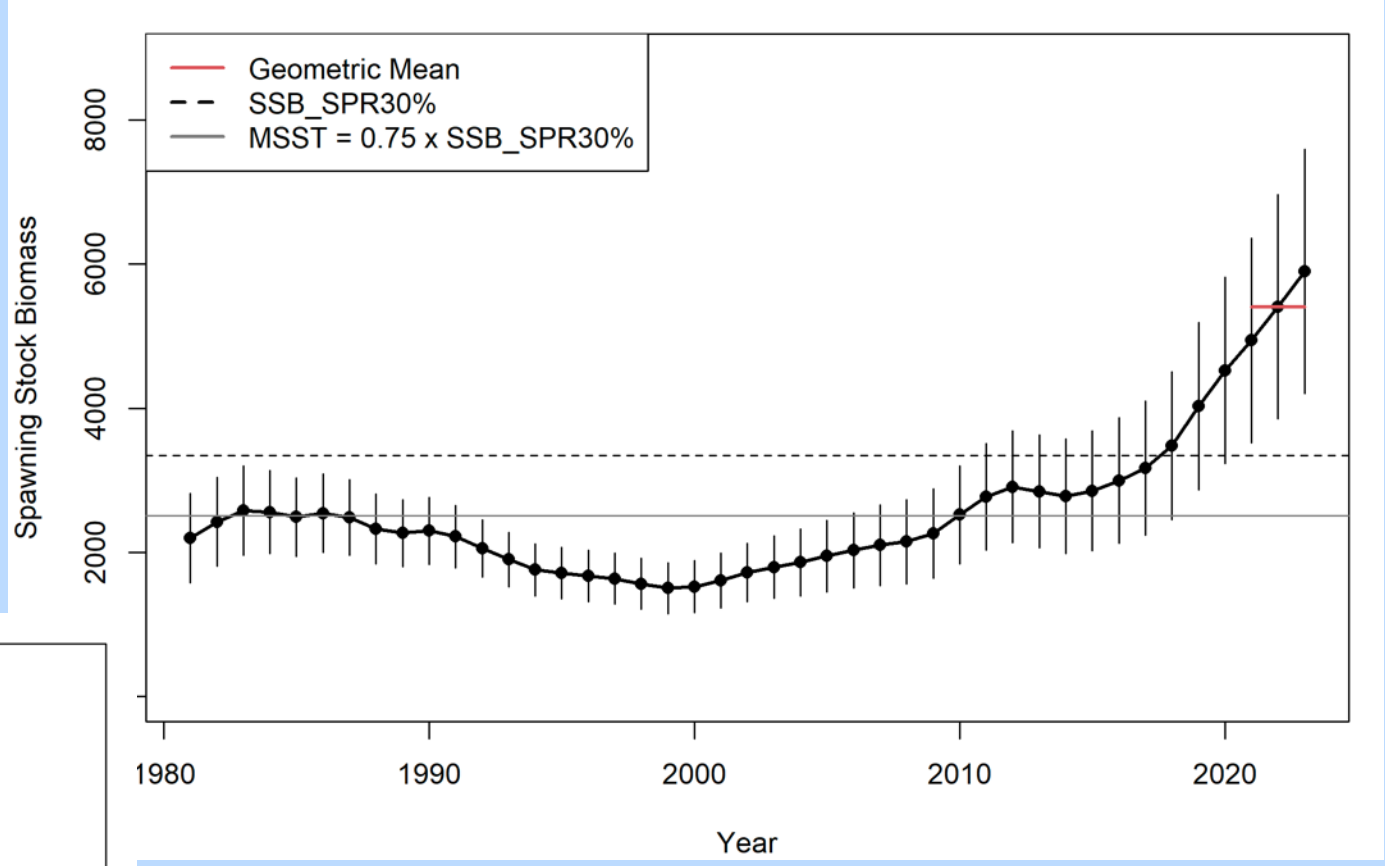
SSB_0: 17,778 mt
R_0: 2.513 million
Steepness (h) = 0.64
σ_R: 0.55

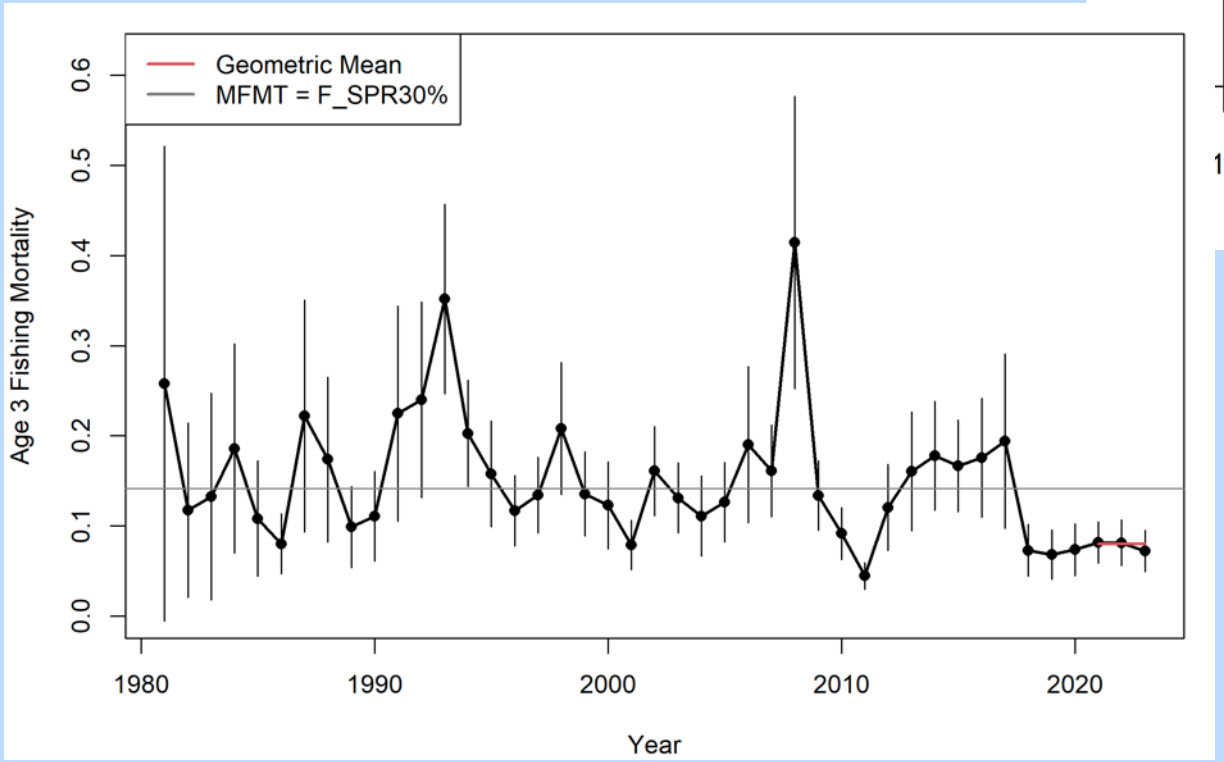
Steepness estimated, but highly uncertain

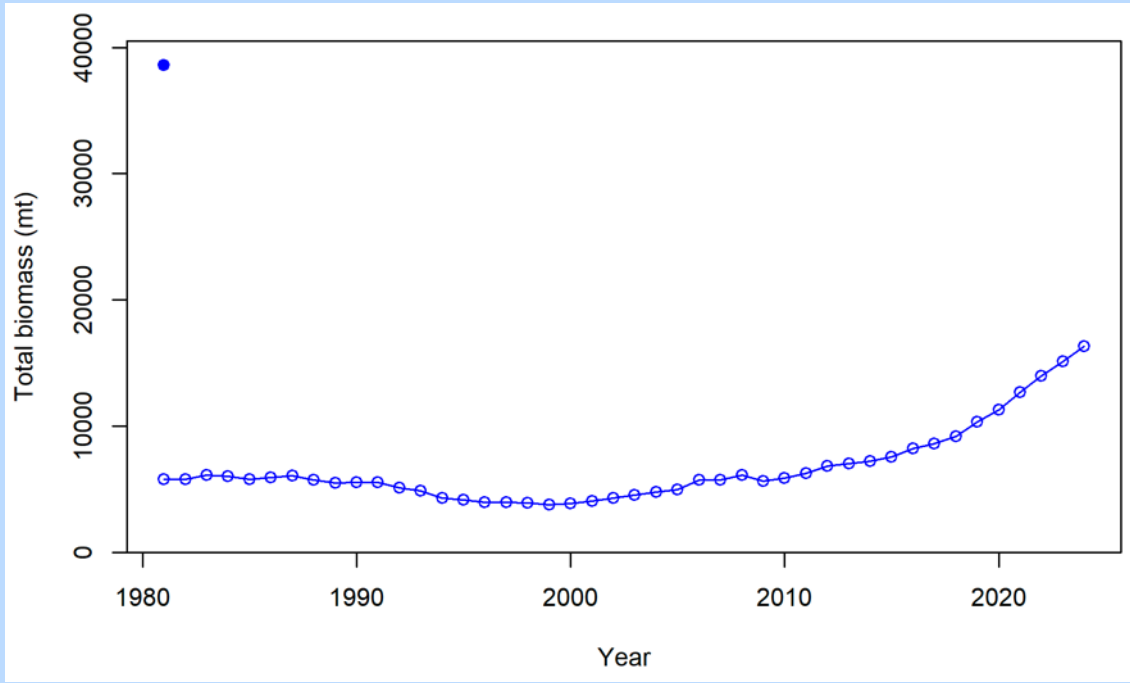


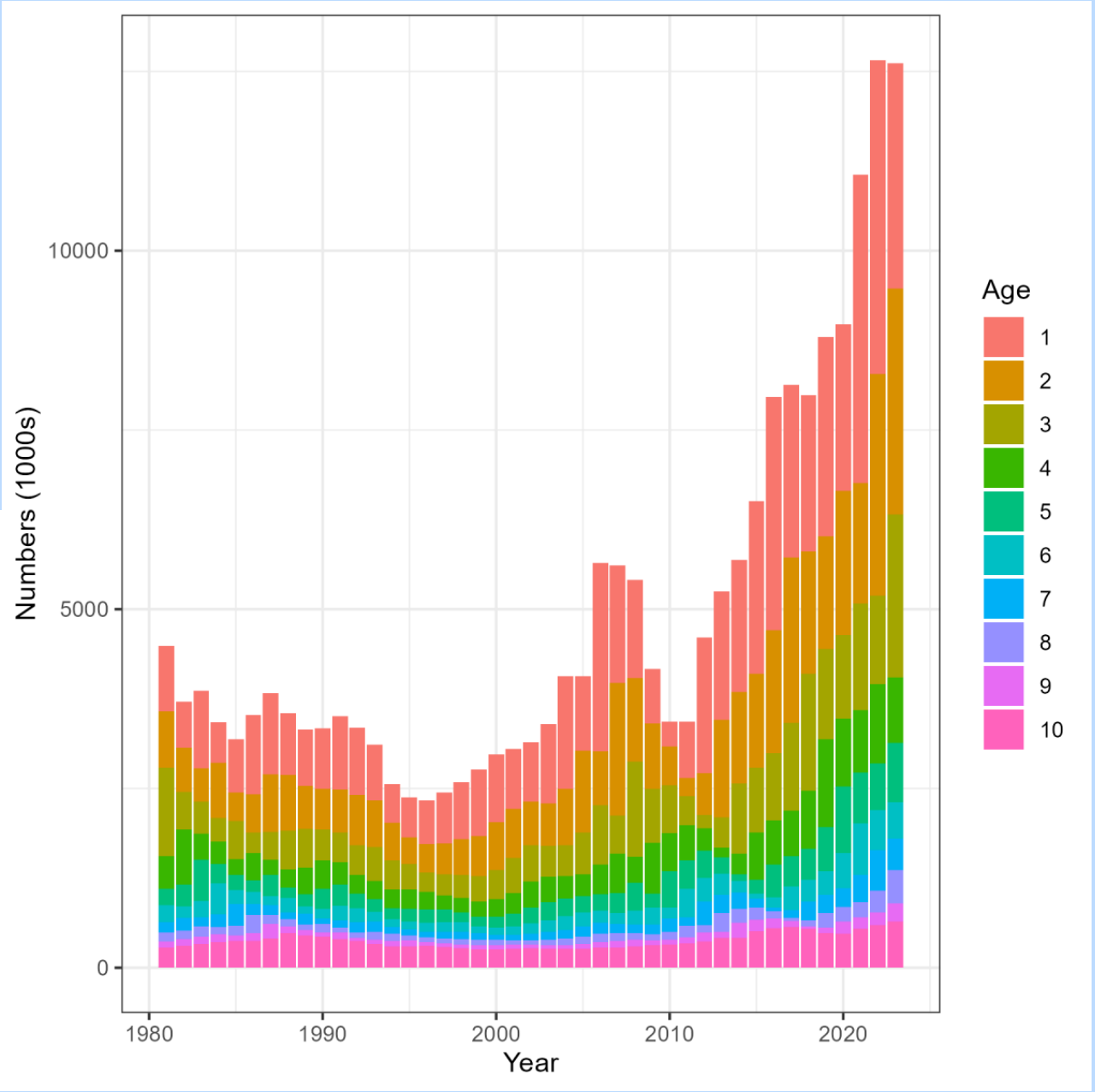
Estimated Recruitment




Geometric Mean
SSB_SPR30%
MSST = 0.75 x SSB_SPR30%
Spawning Stock Biomass
2000
4000
6000
8000
1980
1990
2000
2010
2020
Year


Geometric Mean
MFMT = F_SPR30%
Age 3 Fishing Mortality
0.0
0.1
0.2
0.3
0.4
0.5
0.6
1980
1990
2000
2010
2020
Year


Total biomass (mt)
0
10000
20000
30000
40000
1980
1990
2000
2010
2020
Year


Numbers (1000s)
0
5000
10000
1980
1990
2000
2010
2020
Year
Age
1
2
3
4
5
6
7
8
9
10

SSCs Consensus: The combined SSCs consider the SEDAR 79 stock assessment as consistent with BSIA. The SSCs conclude based on the SEDAR 79 results that the mutton snapper stock is not undergoing overfishing nor is it overfished. This is based on the currently adopted SPR-based FMSY proxy of F30%SPR.

SSC Discussions

- The SSCs had robust discussion about SPR proxy values for both Mutton and Yellowtail Snapper (coming next)
- Mutton Snapper have been managed at SPR30%, and saw increases in stock biomass, and landings have not exceeded ACLs in recent years
- Age composition showed older fish were present and increasing in the time series
- Total biomass increasing since 2018, in line with minimum size limit and bag limit changes
- Several closed areas may provide a refuge for the Mutton Snapper population, possibly contributing to recruitment
- The life history (relatively early maturity, subtropical, gonochoristic, etc.) suggest that $SPR_{30\%}$ likely appropriate

SSCs Consensus: The SSCs used the geometric mean of the most recent five years of recruitment (2019 – 2023) for informing OFL and ABC projections. Using the geometric mean for recruitment can be interpreted to indicate a regime shift; however, in this situation for mutton snapper, the SSCs do not think a regime shift has occurred. The OFL is set at F30%SPR, and the ABC is set at 75% of F30%SPR, for the years 2026 – 2028, as derived from the provided projections for 2024 – 2028.

	OFL ($F_{30\%SPR}$)	ABC (75% of $F_{30\%SPR}$)
2024	3,280,143	2,498,073
2025	3,384,760	2,662,320
2026	3,363,706	2,725,359
2027	3,313,030	2,752,377
2028	3,270,355	2,772,615

Catch limits are in lb ww.

SSCs Consensus: The Gulf and South Atlantic SSCs see a clear need to collectively address the required precision to estimate steepness (and thus estimate MSY) for management advice, as well as a discussion of SPR proxy values given a range of life history values among fish species (e.g., longevity, age at maturity, growth characteristics, vulnerability to environmental perturbations). The SSCs by consensus think that a follow up joint meeting to address these topics is essential to the consistent application of an agreed decision-making paradigm for present and future stock assessments.

Questions?

SEDAR 96: Southeastern U.S. Yellowtail Snapper

- FWRI/USF led assessment

Fishermen Feedback

Gulf Staff reviewed Fishermen Feedback Tool

- 363 responses, mostly private anglers
- Responses were positive across the Gulf and South Atlantic

South Atlantic FMC staff reviewed fishery performance report

- Range expansion northward into Carolinas, with no reduction perceived in historic range
- Evidence of more large fish and more small fish
- Noted most releases are in shallow water (35-90 feet) with little evidence of survival problems

FWRI/USF presented SEDAR 96

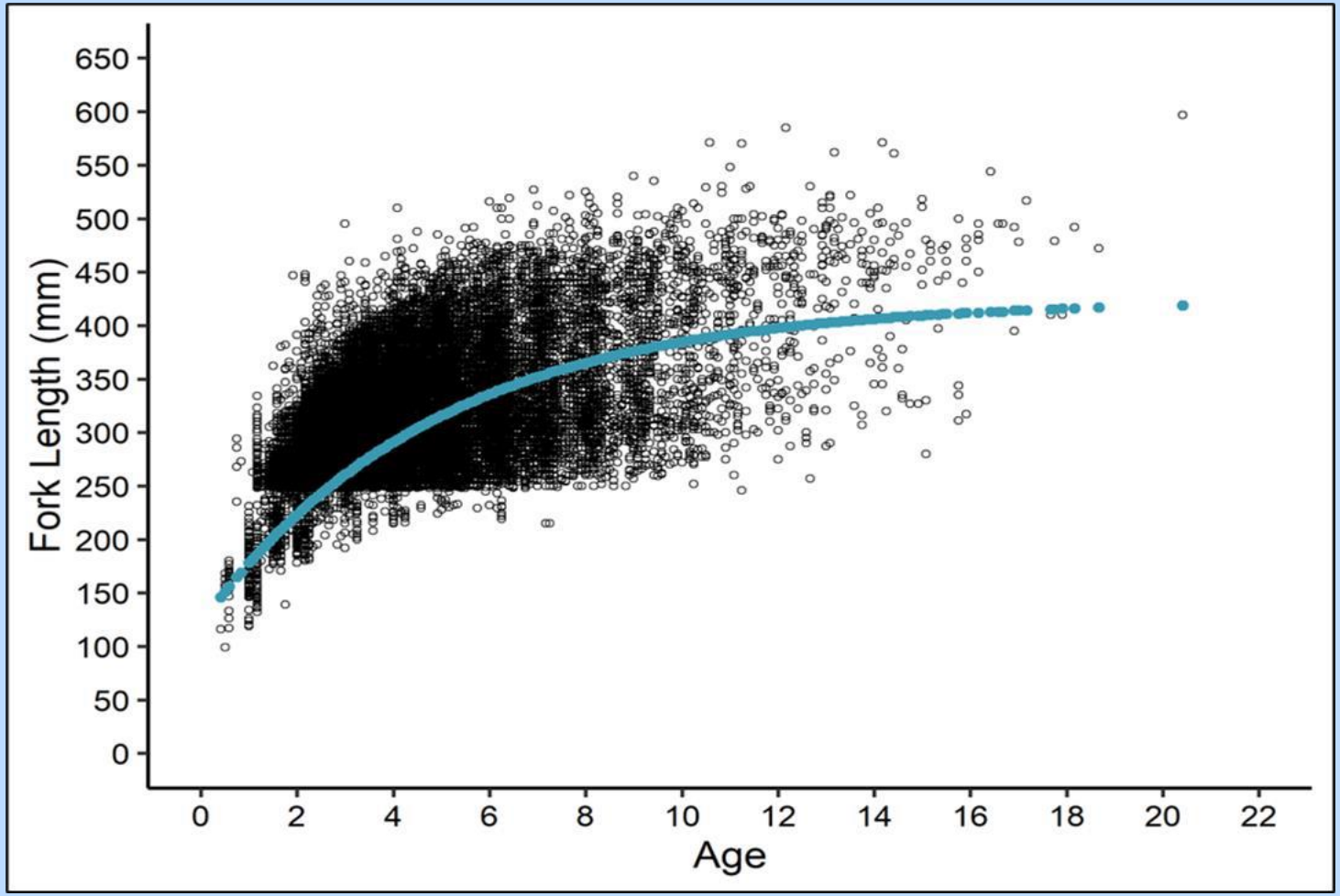
- Uses SRFS in place of MRIP-FES for recreational private vessel landings
- Considered appropriate because the vast majority of landings in Florida
- Start year: 1981, Terminal Year: 2023
- Single closed population assumed

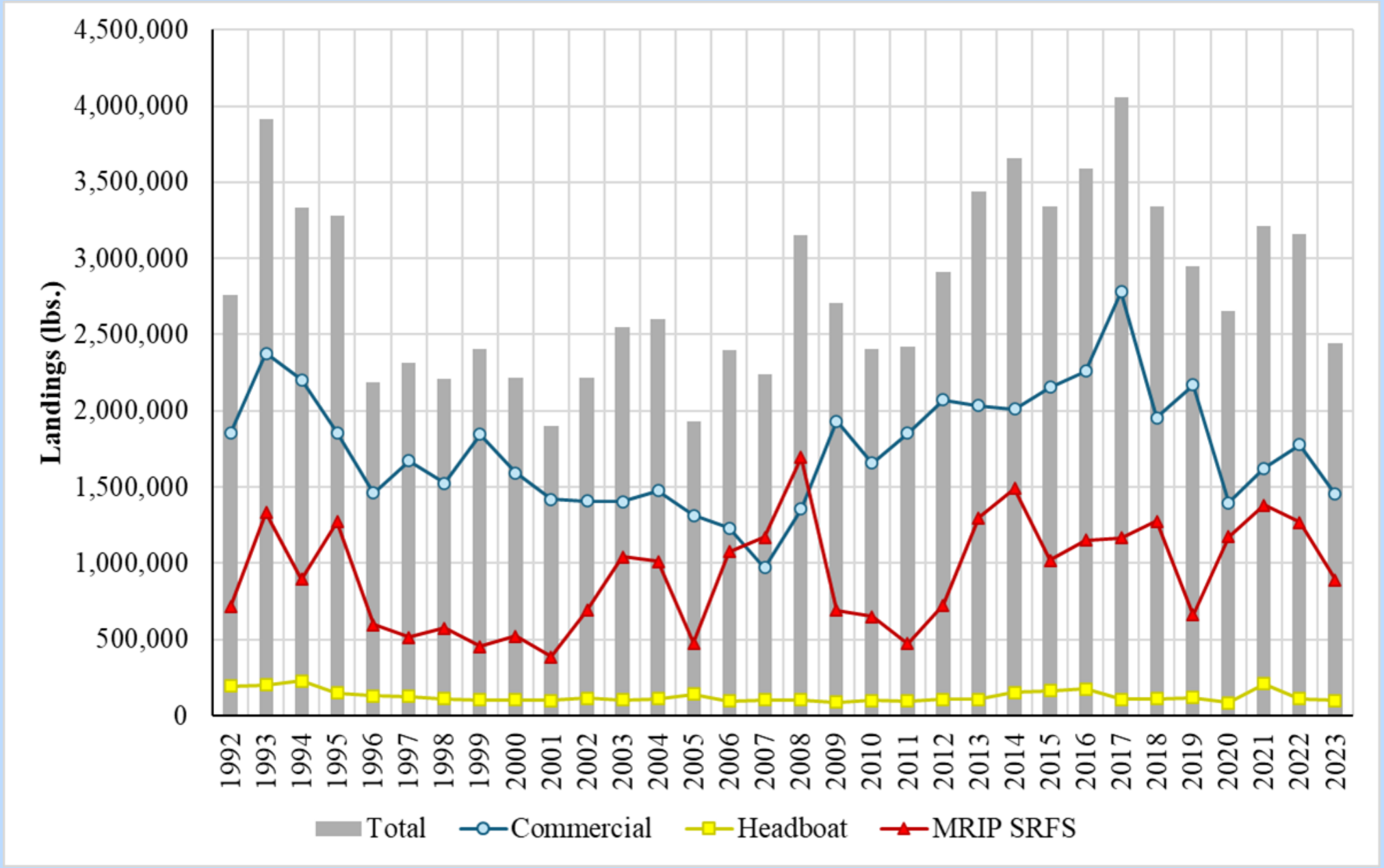
Growth
High variability in length for given age
45,833 otoliths

Maturity
50% maturity at 192 mm
(1.7 years old)

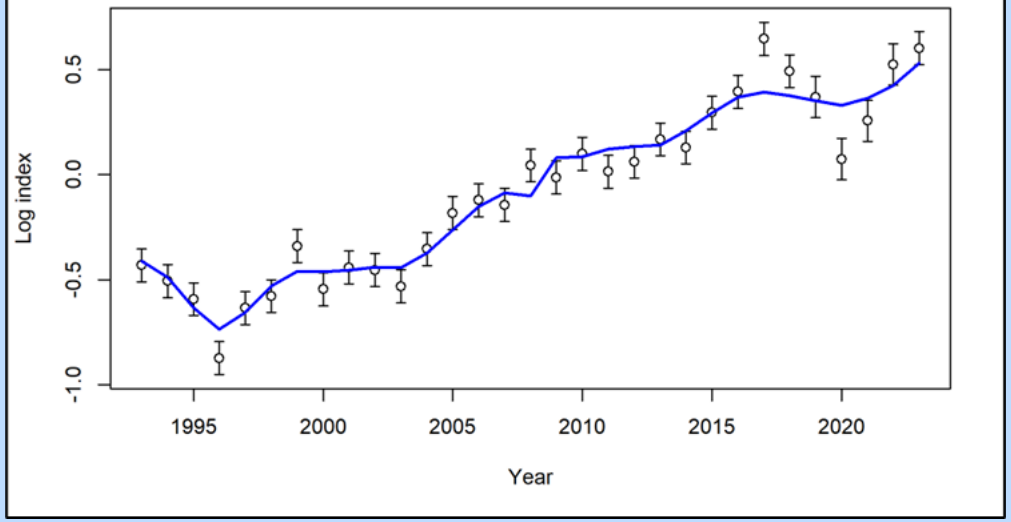
Natural Mortality
M = 0.223

Discard Mortality
All Fleets: 10%

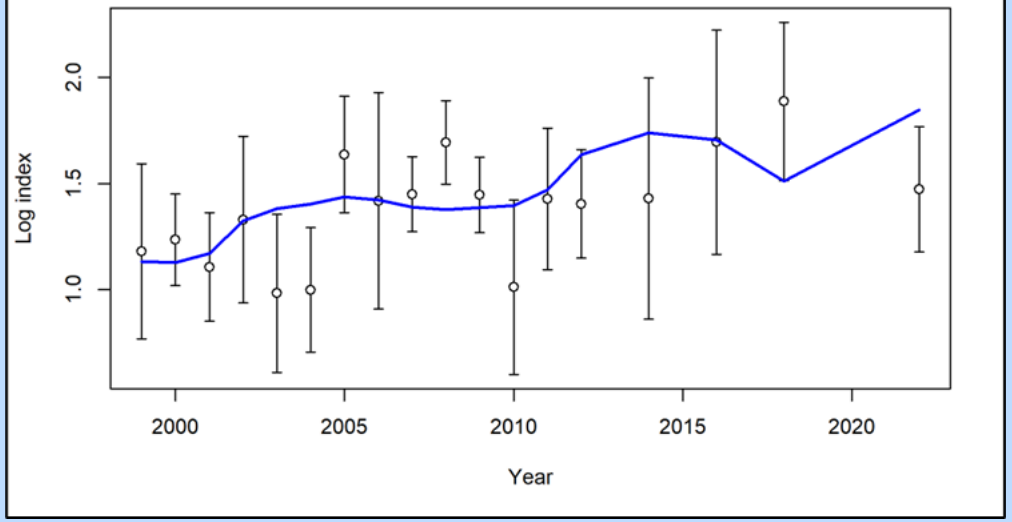



Landings (lbs.)
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Total
Commercial
Headboat
MRIP SRFS

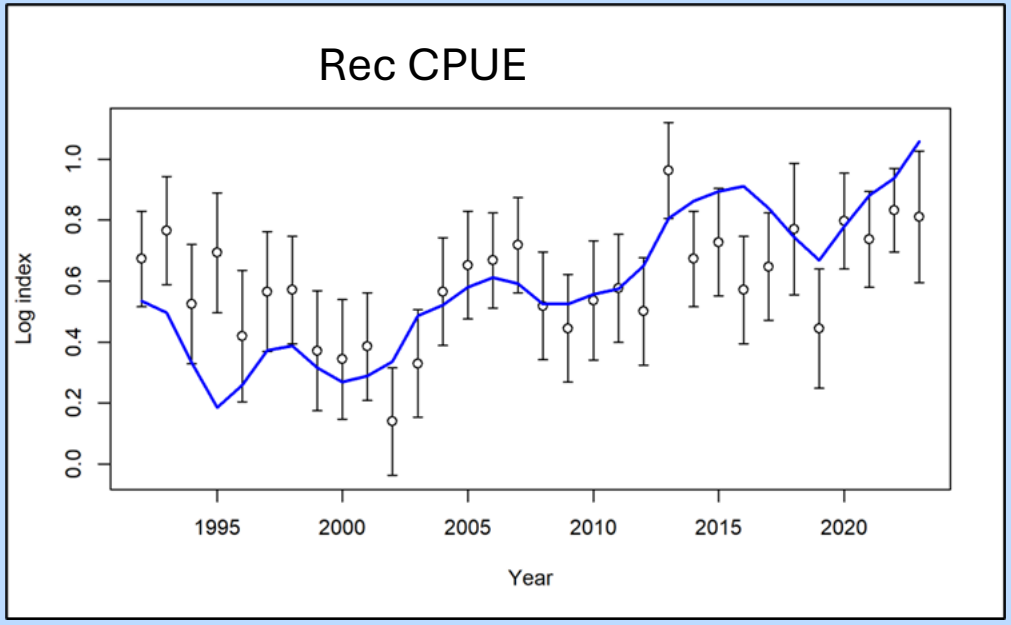
Commercial CPUE



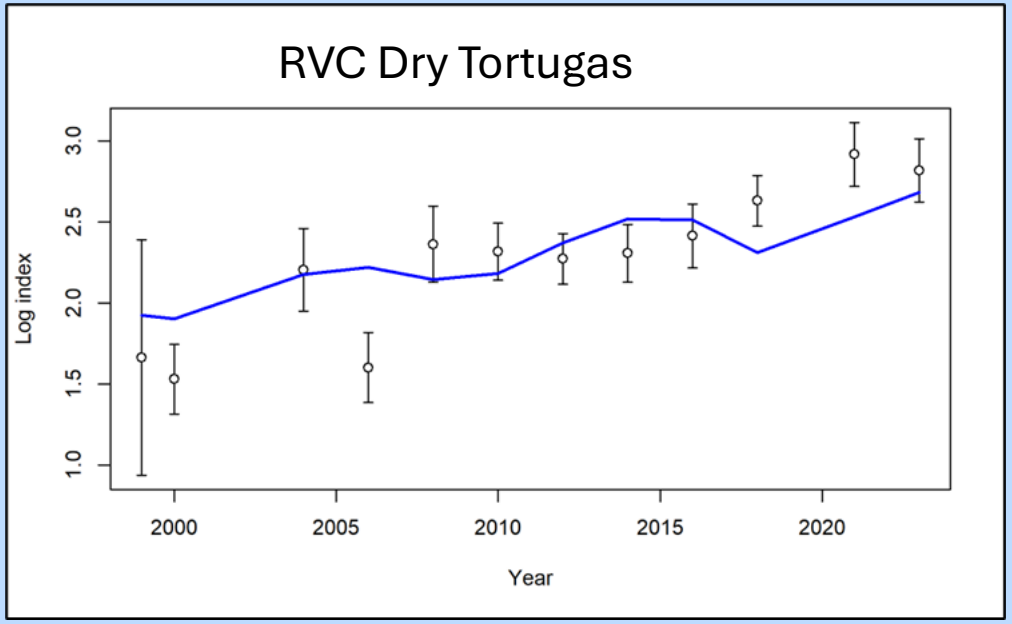
RVC Florida Keys

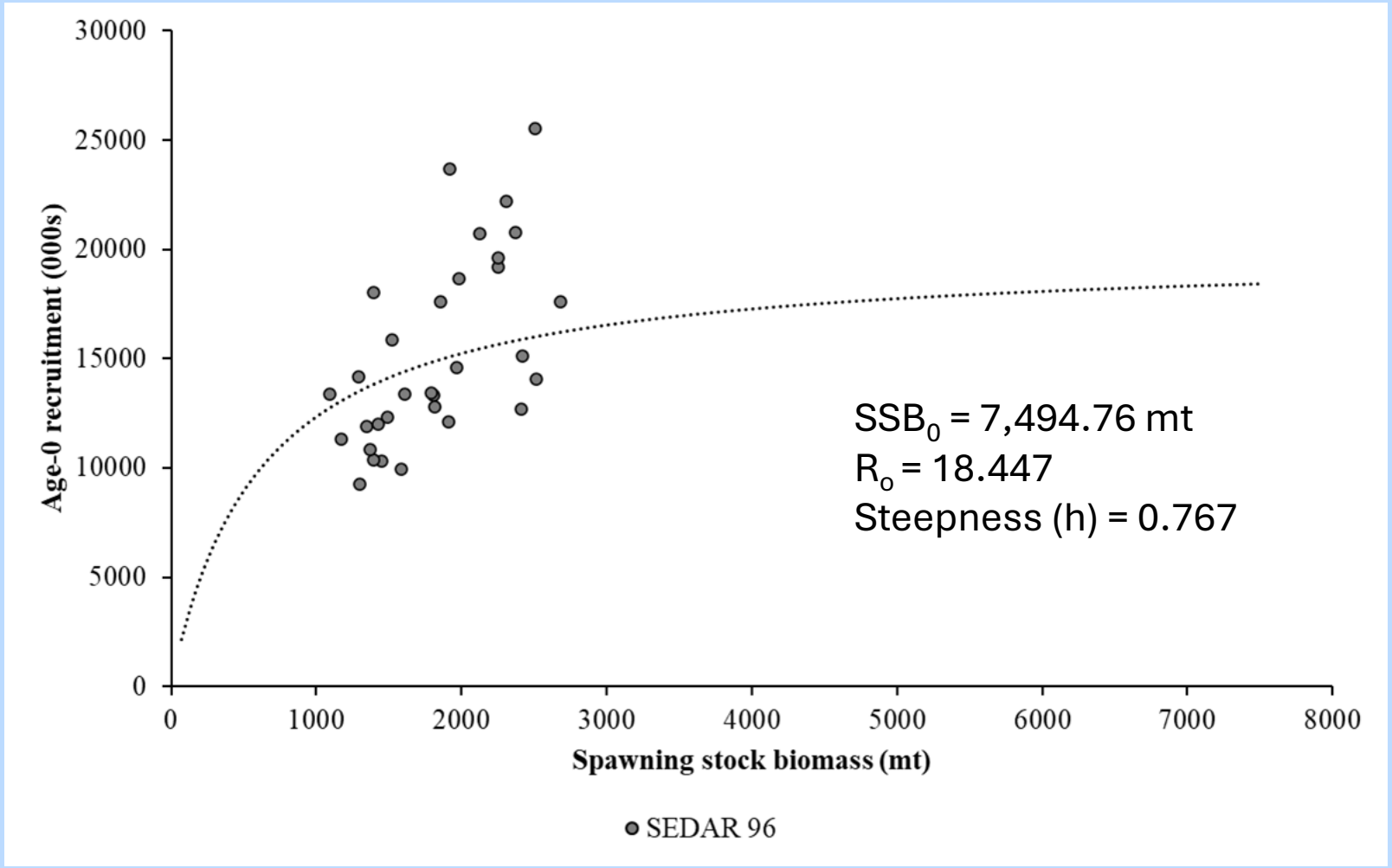


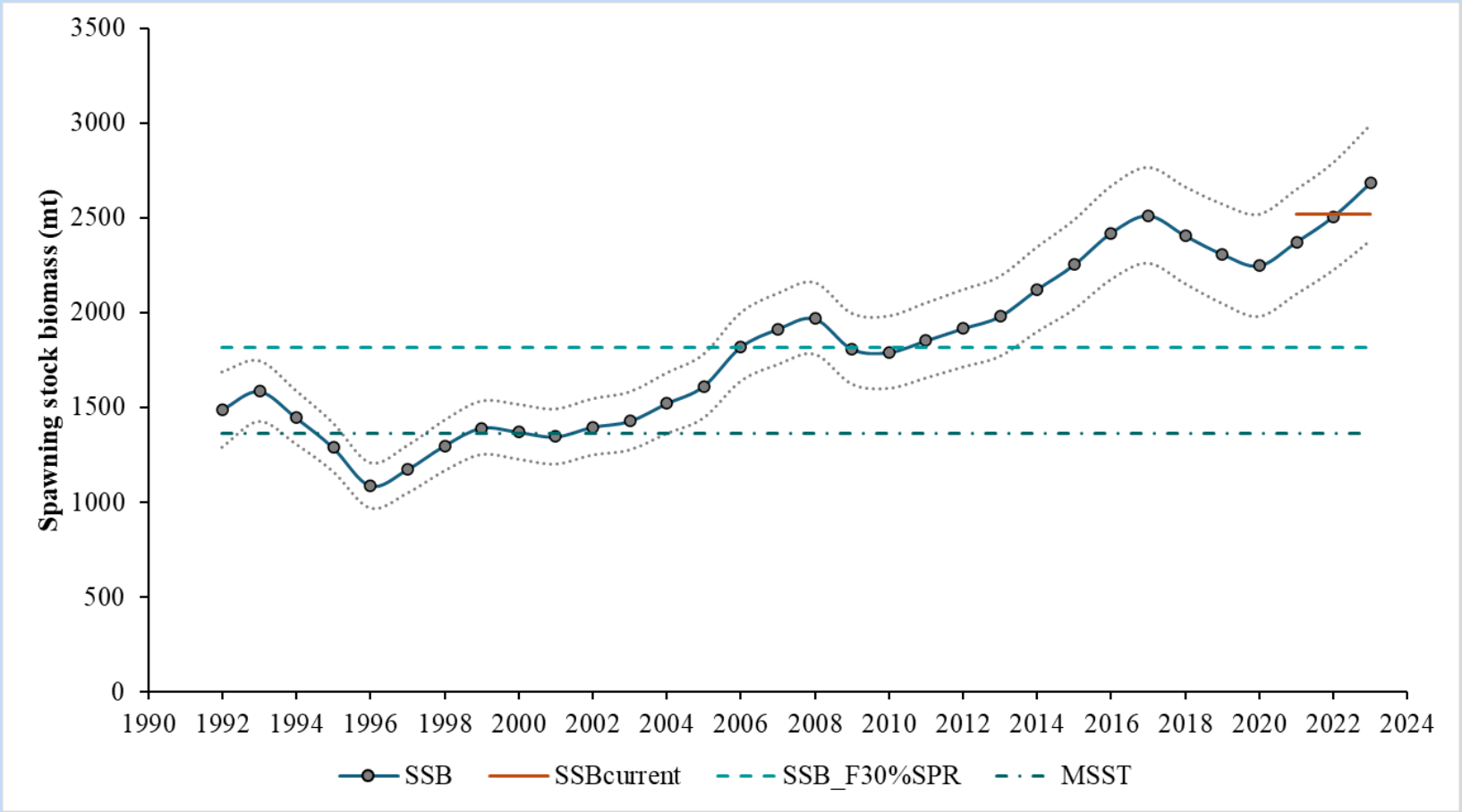
Rec CPUE



RVC Dry Tortugas




30000
25000
20000
15000
10000
5000
0
Age-0 recruitment (000s)
0
1000
2000
3000
4000
5000
6000
7000
8000
Spawning stock biomass (mt)
SSB0 = 7,494.76 mt
Ro = 18.447
Steepness (h) = 0.767
SEDAR 96



SSCs Consensus: The SSCs find the SEDAR 96 stock assessment to be consistent with BSIA and appropriate for management advice. Based on the results of the assessment, yellowtail snapper is estimated to not be overfished and not experiencing overfishing.

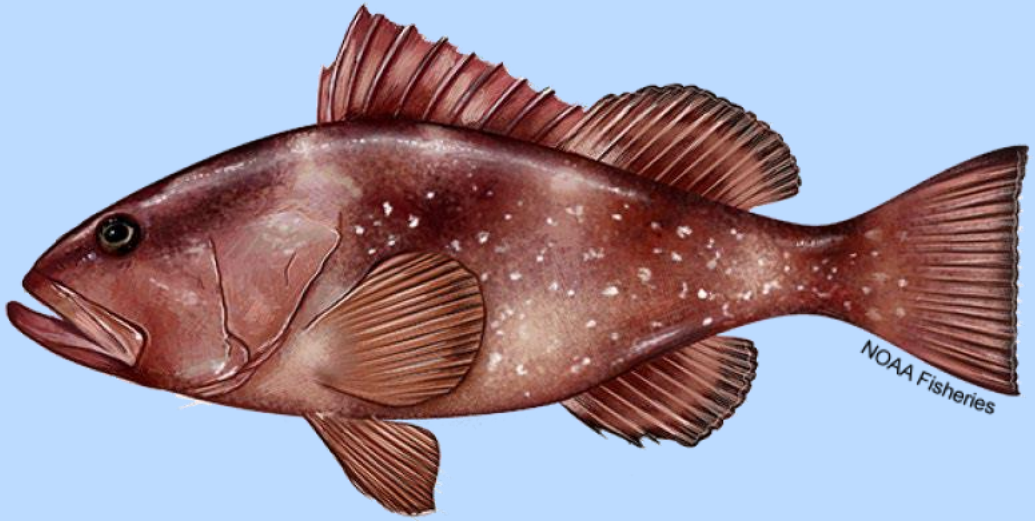
SSCs Consensus: The SSC used the arithmetic mean of the most recent five years of recruitment (2019-2023) for informing OFL and ABC projections. Using the arithmetic mean for recruitment can be interpreted to indicate a regime shift; however, for yellowtail snapper, the SSCs do not think a regime shift has occurred. The OFL is set at F30%SPR, and the ABC is set at 75% of F30%SPR, for the years 2026-2028, as derived from the provided projections for 2024-2028.

	OFL ($F_{30\%SPR}$)	ABC (75% of $F_{30\%SPR}$)
2024	~~5,076,490~~	~~3,955,300~~
2025	~~4,767,230~~	~~3,973,088~~
2026	4,495,187	3,925,031
2027	4,364,600	3,913,426
2028	4,307,856	3,918,634

SSCs Consensus: **The SSCs recommend updating the stock assessments for mutton and yellowtail snapper at least every five years.**

Questions?

Review: SEDAR 88: Southeastern Red Grouper Operational Assessment



- SEFSC conducted assessment

- Fishermen Feedback (GMFMC staff)

- 344 responses
- Generally neutral comments
- Fishers seeing high abundance of smaller fish
- Concerns about shark depredation

Review: SEDAR 88: Southeastern Red Grouper Operational Assessment

https://www.floridasportfishing.com/inshore/red-grouper-tactics/article_df4bb91c-13b4-11ef-881f-d37d62033f27.html

- Uses SRFS in place of MRIP-FES for recreational private vessel landings
- Considered appropriate because over 95% of landings in Florida
- Lower landings estimated, and improved precision

Growth Model

von Bertalanffy model
Linf = 82.7 mm, k = 0.12, t_0 = -0.899

Natural Mortality

Hamel and Cope (2022) longevity-based constant
M = 0.179 (previous SEDAR 61 M = 0.14)

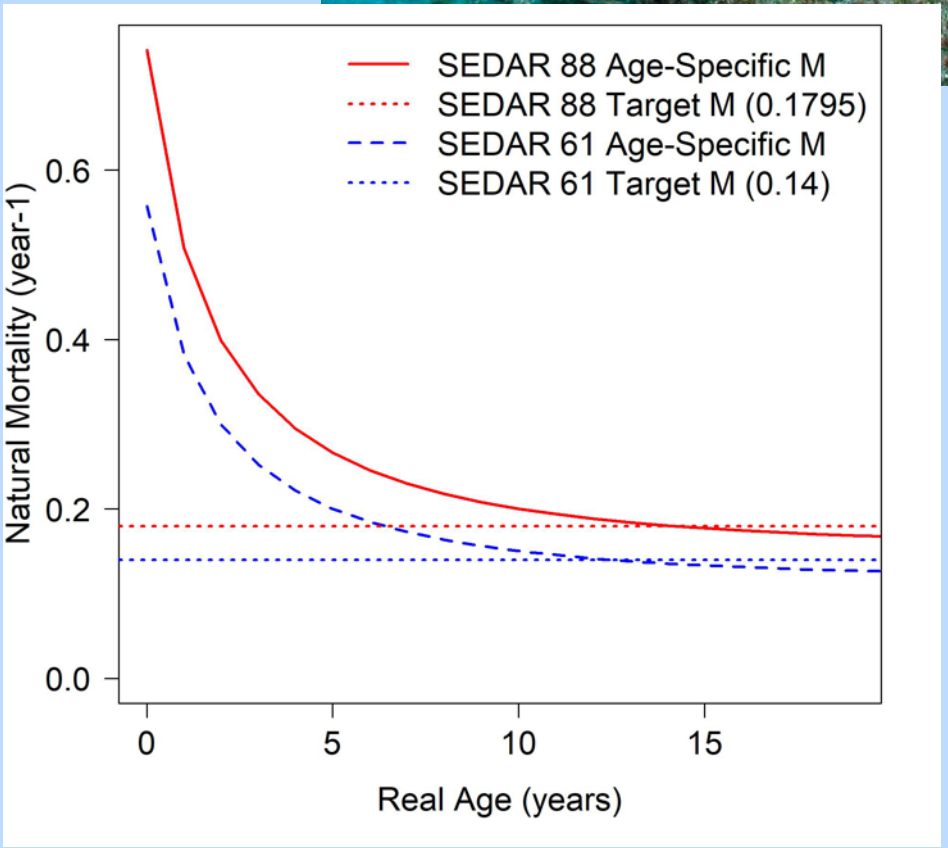
Maturity

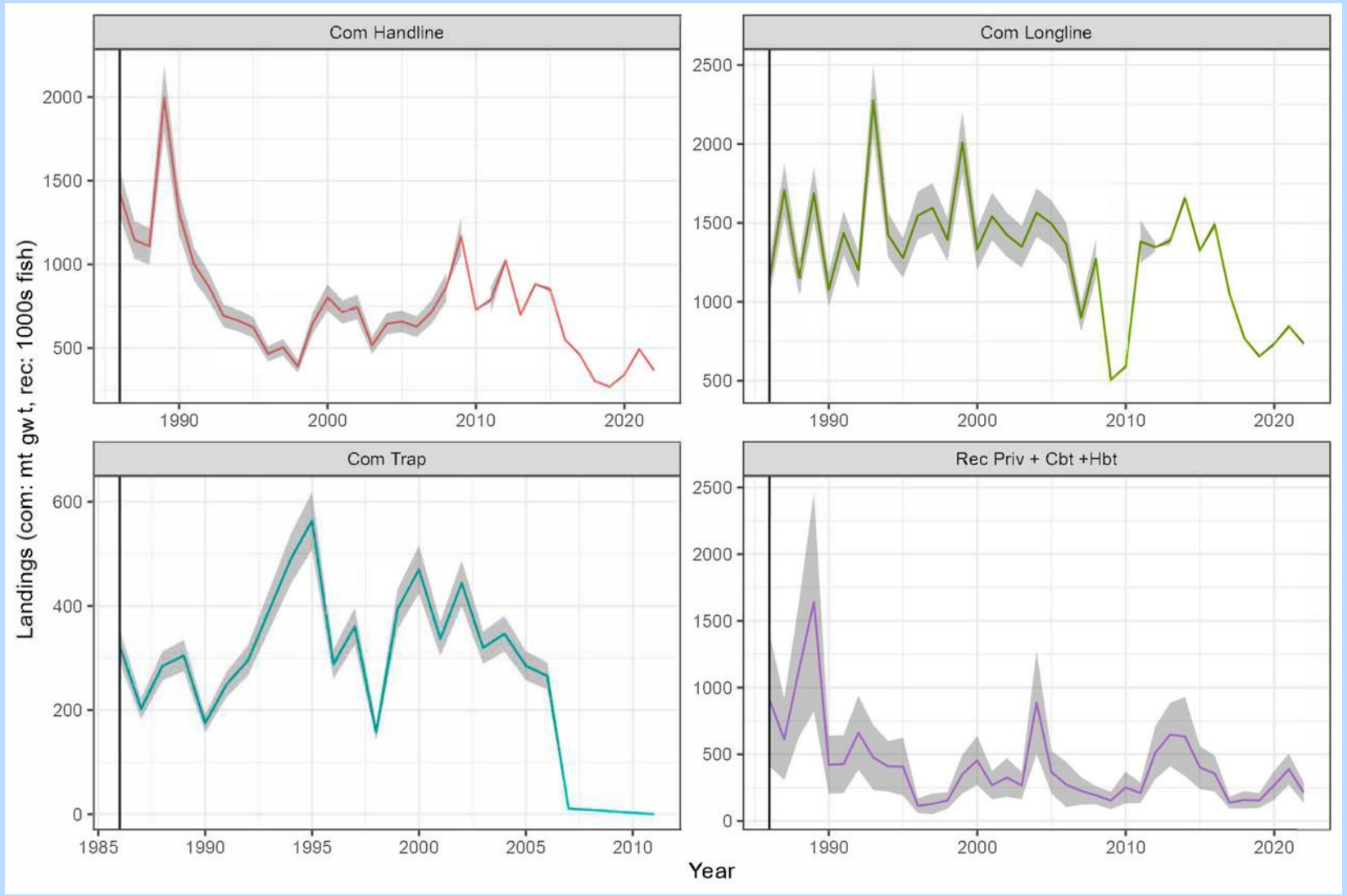
Age at 50% maturity = 3.5 years

Discard Mortality

All Fleets: 30% with 15% and 45% sensitivities

Age-based selectivity, not length based




Com Handline
Com Longline
Com Trap
Rec Priv + Cbt +Hbt
Landings (com: mt gw t, rec: 1000s fish)
Year
2000
1500
1000
500
2500
600
400
200
0
1985
1990
1995
2000
2005
2010
2020

Combined Video Survey

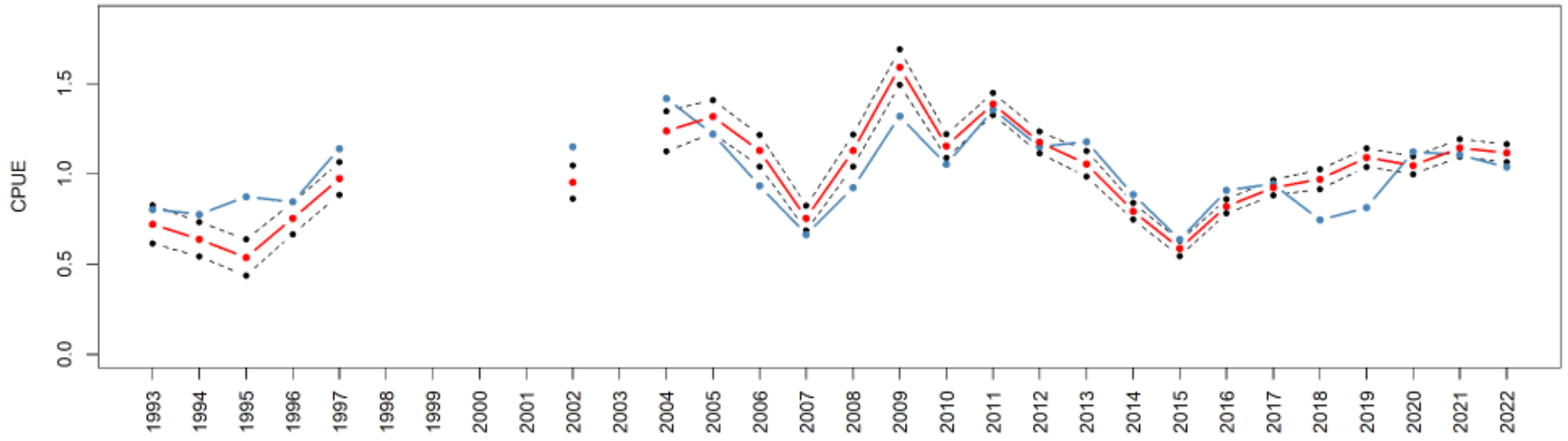


Figure 10. Standardized index of abundance (solid red line) with 2.5% and 97.5% confidence intervals (black dotted lines) and nominal CPUE (solid blue line) for Red Grouper in the eastern Gulf of Mexico.

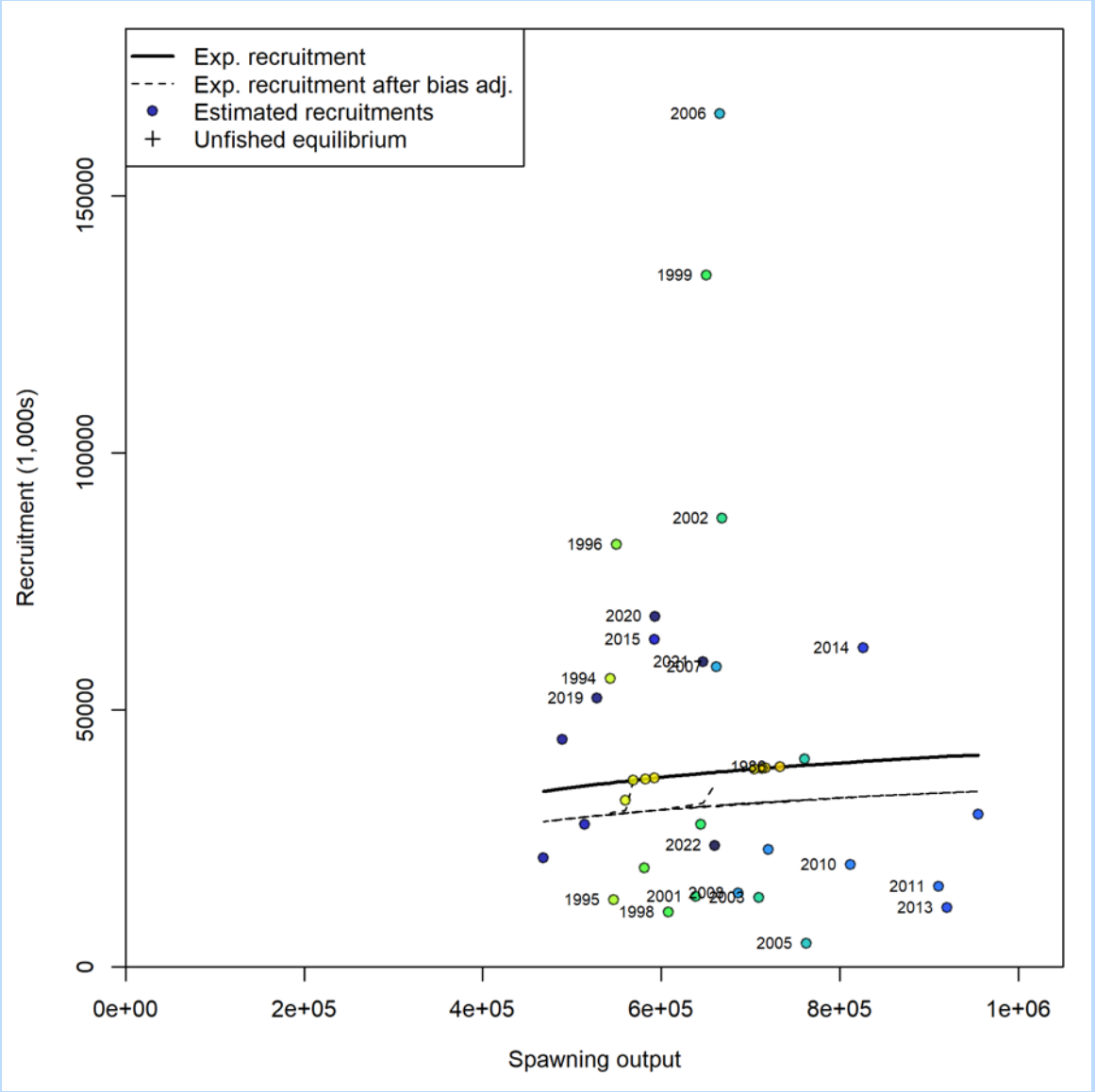
Stock Recruitment

Steepness estimated at 0.661, previously assumed to be 0.99 in SEDAR 61

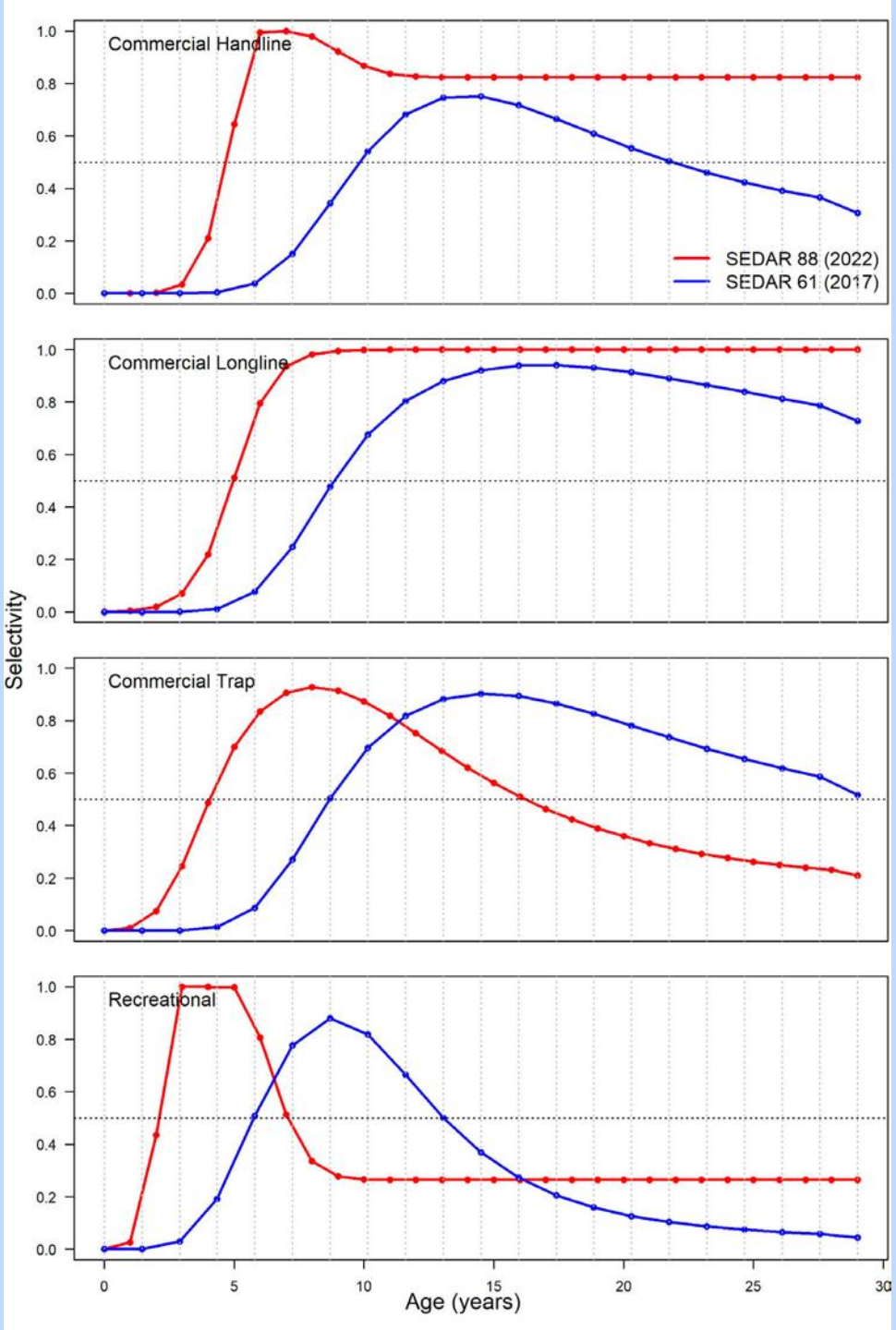
R_o = 44.9 million age-0 fish

Sigma R = 0.647

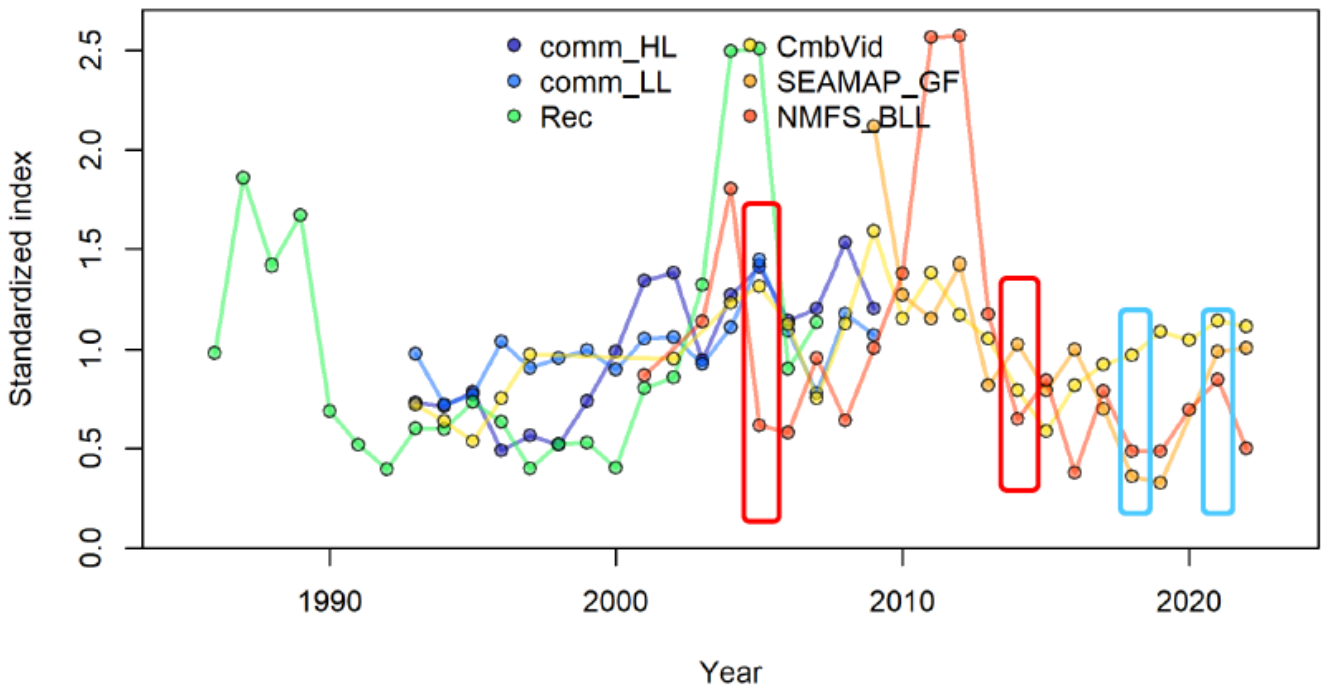
Steepness was able to be estimated, but again this estimate had high uncertainty based on likelihood profile



- Age Based Selectivity
- Comparison to SEDAR 61
- Influences model results, particularly for rec fishery being more selective for small fish.



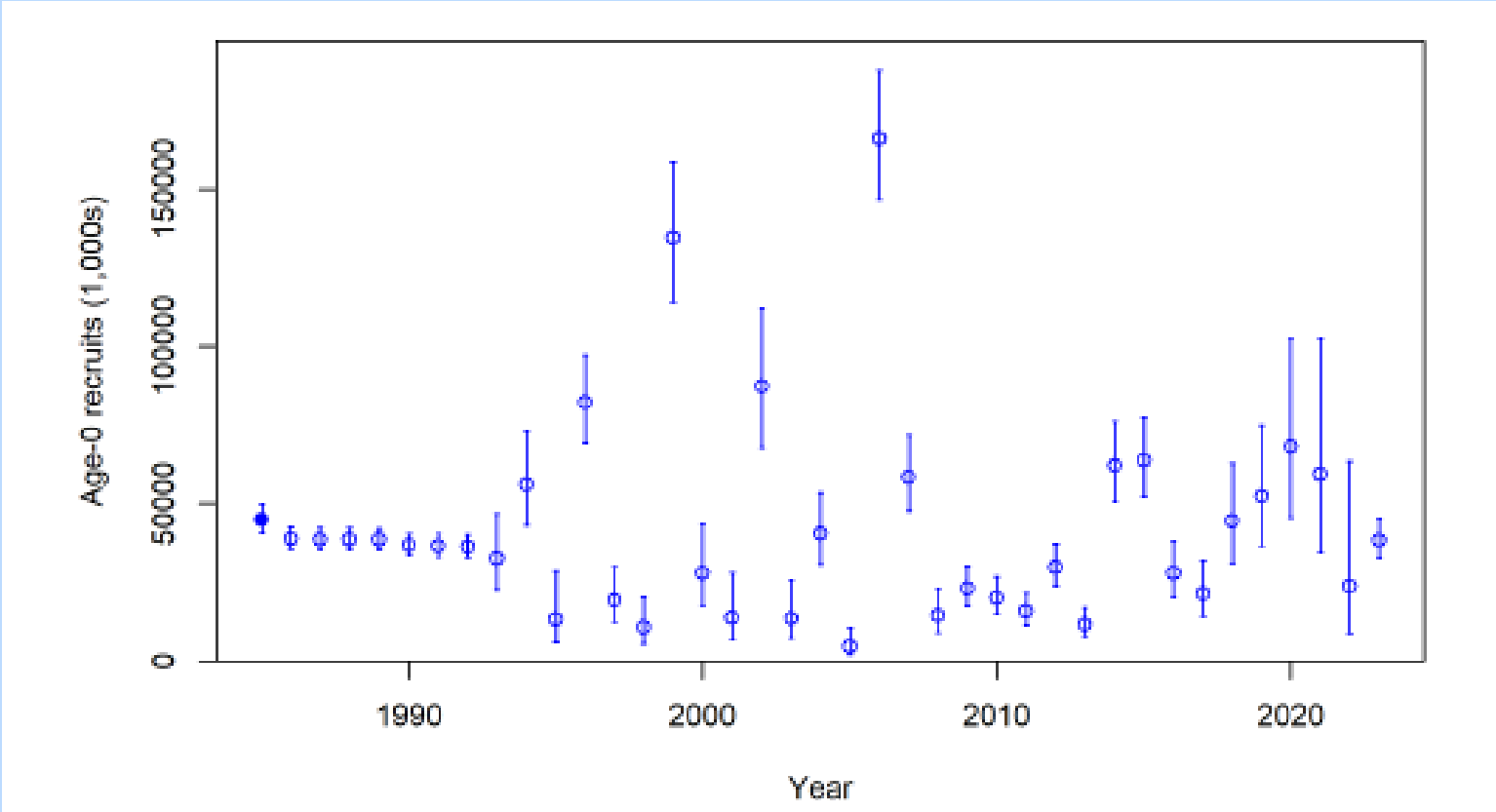
Red Tide Years



- 2005 and 2014 outlined in red
- 2018 and 2021 outlined in blue

- Modeled as four bycatch fleets, one each for 2005, 2014, 2018, and 2021.
- Selectivity curves fixed at values obtained from outputs from WFS EwE model
- SEDAR 61: Red tide mortality modeled as single bycatch fleet that only operated in years with significant red tide events (2005 and 2014)
  - Full selectivity assumed (i.e., = 1) and constant at age

Model Estimated Recruitment Through Time



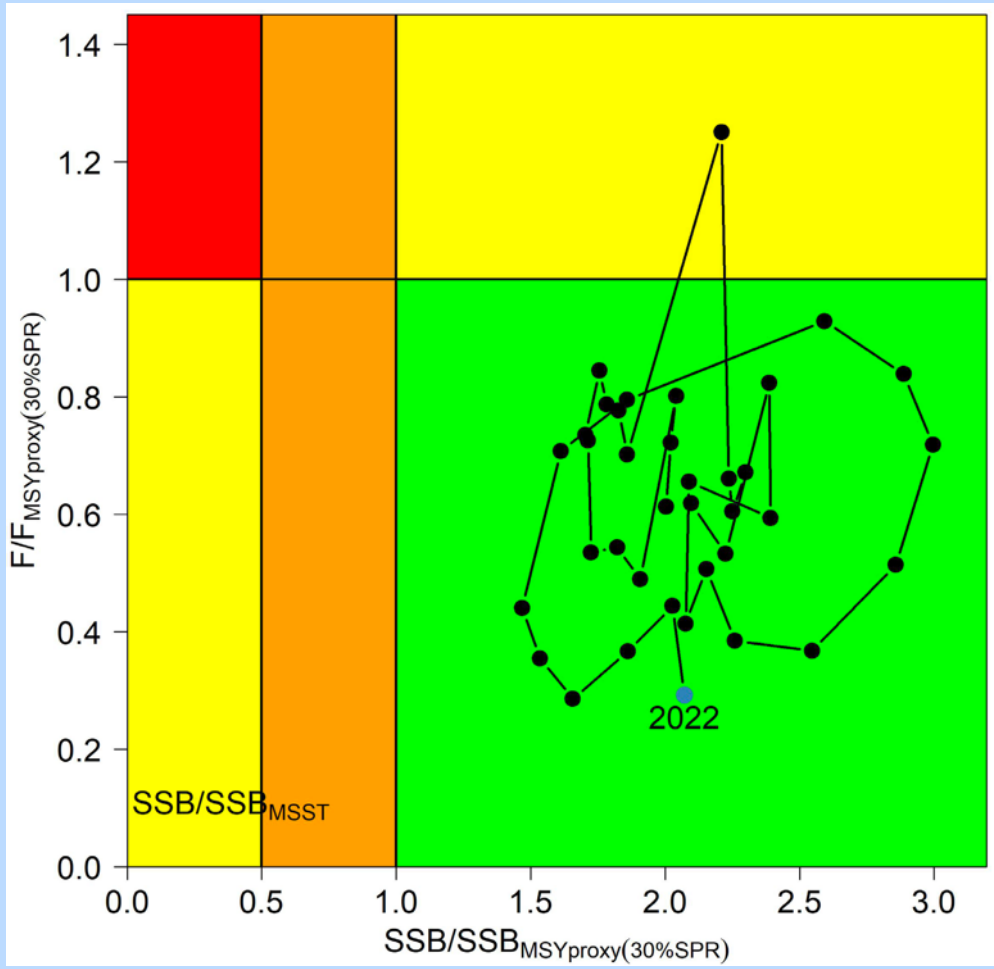
https://coastalanglermag.com/red-grouper-3/

https://blacklabelmarinegroup.com/blog/red-grouper-fishing/

Motion: The SSC finds the SEDAR 88 stock assessment for Gulf red grouper to be consistent with the best scientific information available, and appropriate for management advice.

Stock Status: 30% SPR

- Gulf of Mexico Red Grouper is **not overfished nor undergoing overfishing at 30% SPR**

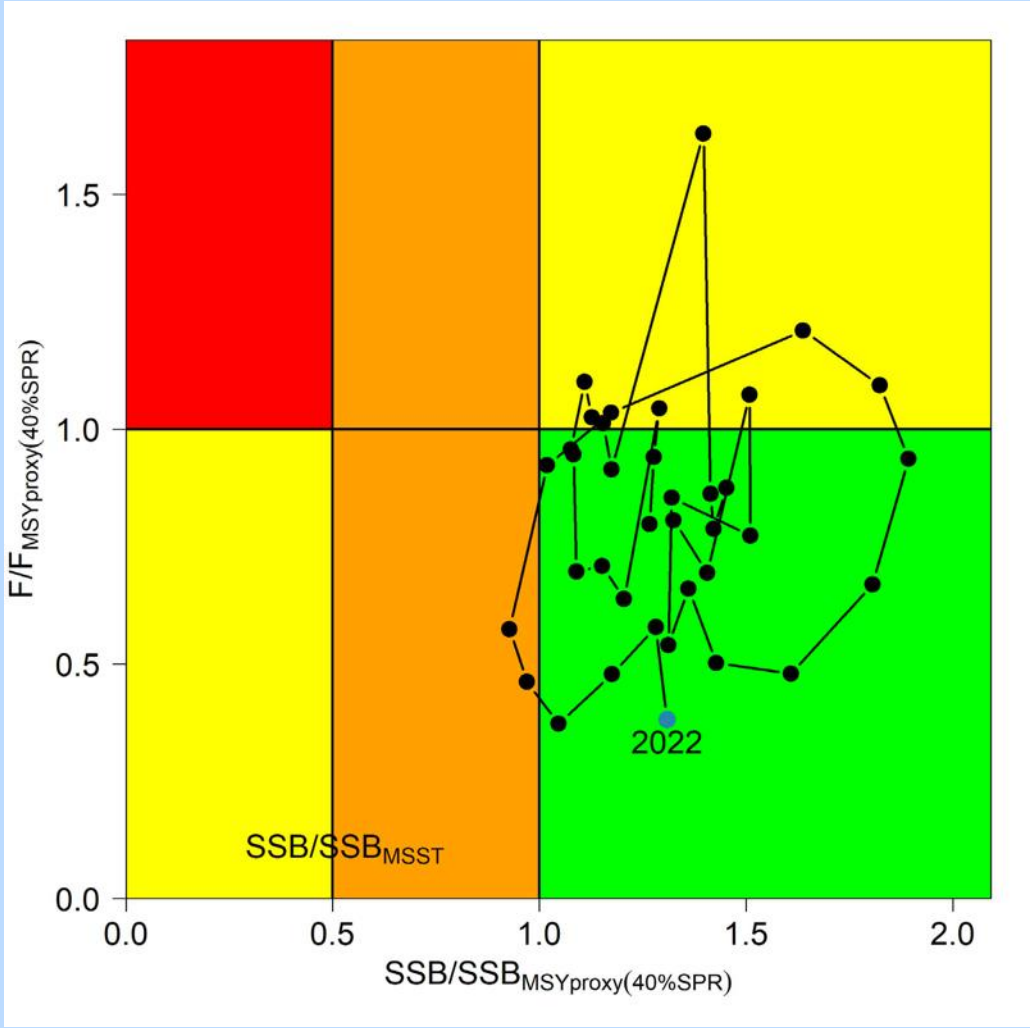


Stock Status: 40% SPR

- Gulf of Mexico Red Grouper is **not overfished nor undergoing overfishing at 40% SPR**

Recent literature suggests for hermaphroditic groupers, SPR proxy values should range from 40-50%, which the SSC discussed.

SSC consensus after discussion was that 40% SPR is appropriate for Red Grouper, which is consistent with other recommendations for groupers



Motion: The SSC sets the OFL at $F_{40\%SPR}$ for Gulf red grouper based on the SEDAR 88 base model projections and a constant catch scenario for the fishing years 2027 – 2029 at 11.28 million pounds gutted weight (mp gw).

Motion: The SSC sets the ABC at 75% of $F_{40\%SPR}$ for Gulf red grouper based on the SEDAR 88 base model projections and a constant catch scenario for the fishing years 2027 – 2029 at 8.78 mp gw.