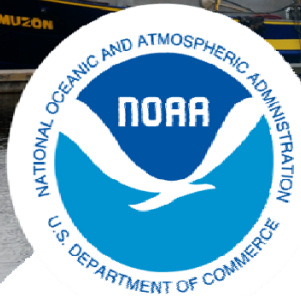


TAB C, No. 4(a)

# Gulf of Mexico King Mackerel Stock Assessment

SEDAR 38 presentation to  
Gulf of Mexico Fishery  
Management Council

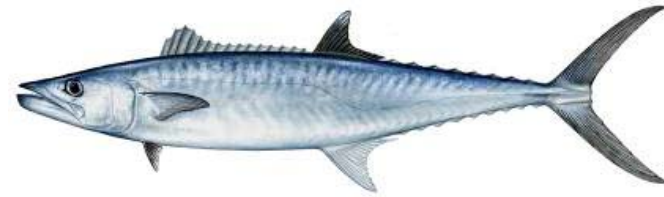
SEFSC staff  
Point Clear, Alabama  
January 28, 2015



**NOAA**  
**FISHERIES**



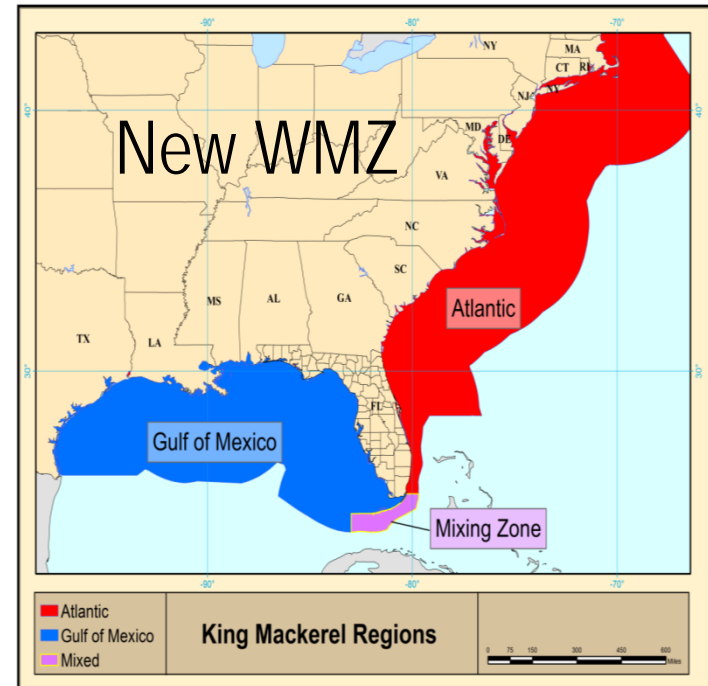
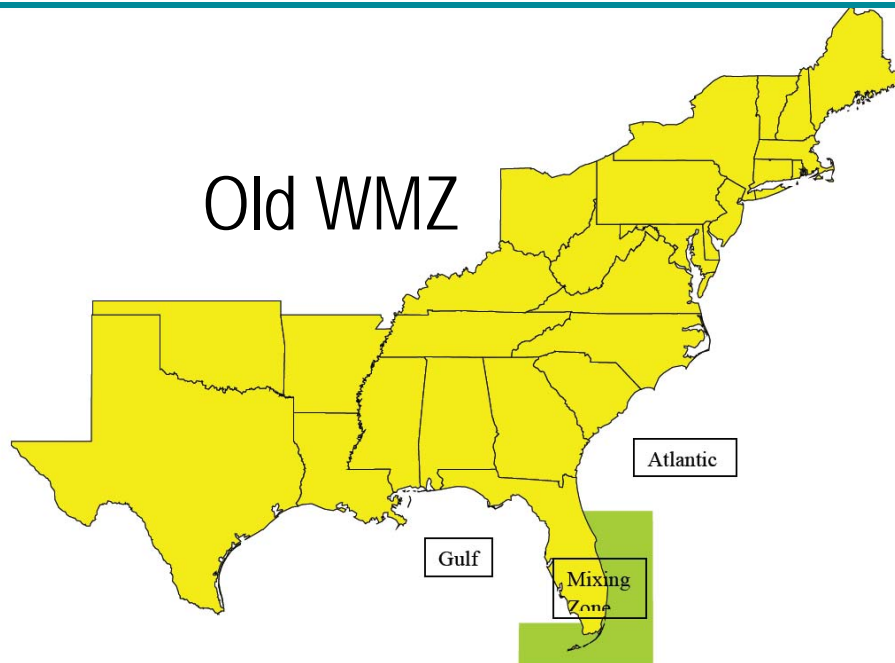
# Summary



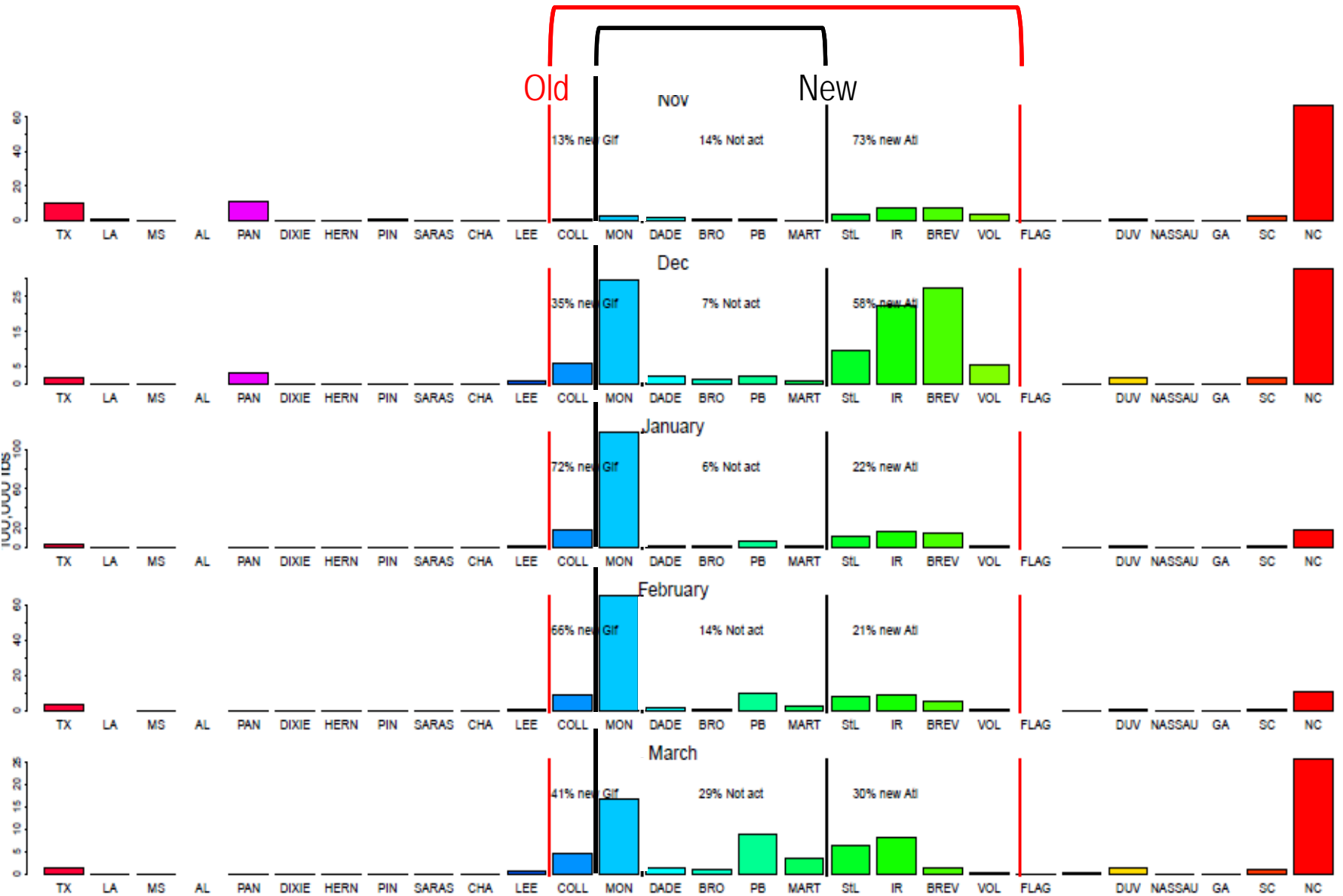
- I. CIE reviews were favorable of model for advice
- II. Gulf stock not overfished, not undergoing overfishing (base and all sensitivity runs). Atlantic stock not overfished, not undergoing overfishing
- III. The definition of the mixing in winter mixing zone has been refined leading to less assessment uncertainty
- IV. No evidence of a stock recruitment relationship

# New Mixing Zone

- Mixing zone shifted to Monroe County, Florida (south of the Keys during November 1st to March 31<sup>st</sup>, extending west to the Dry Tortugas).
- New winter mixing zone now much smaller, only ~7% unaccounted landings by stock

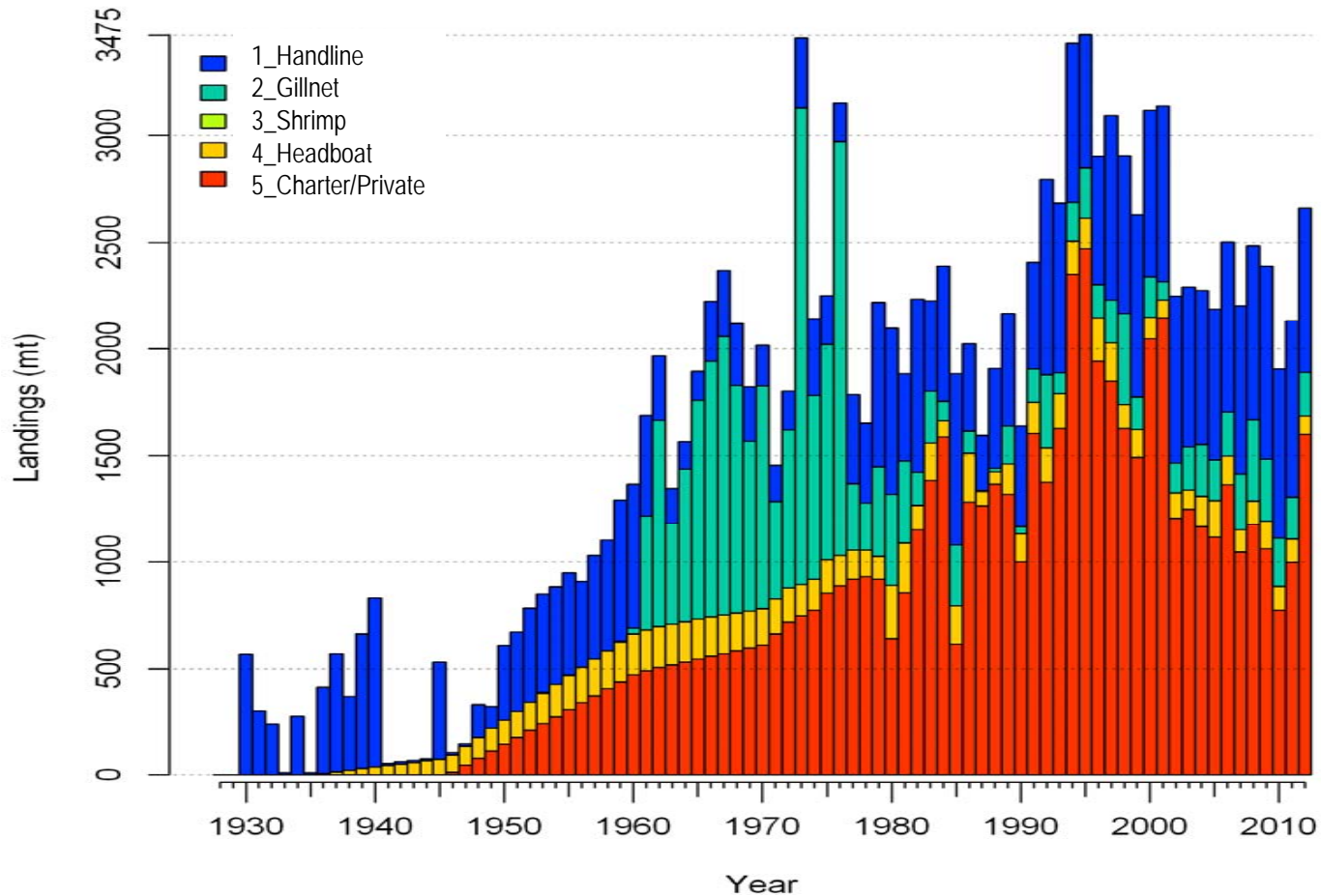


Commercial landings (10<sup>5</sup> lbs)

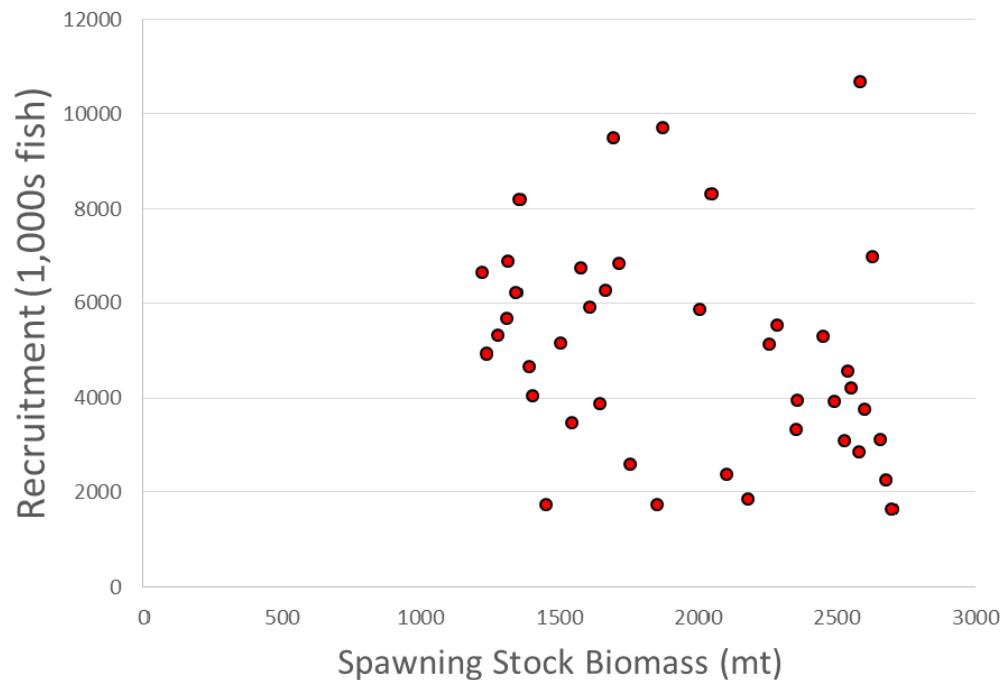


State or county of landings

# Landings dominated first by Commercial but now by Recreational



# Stock-Recruitment relationship unidentifiable

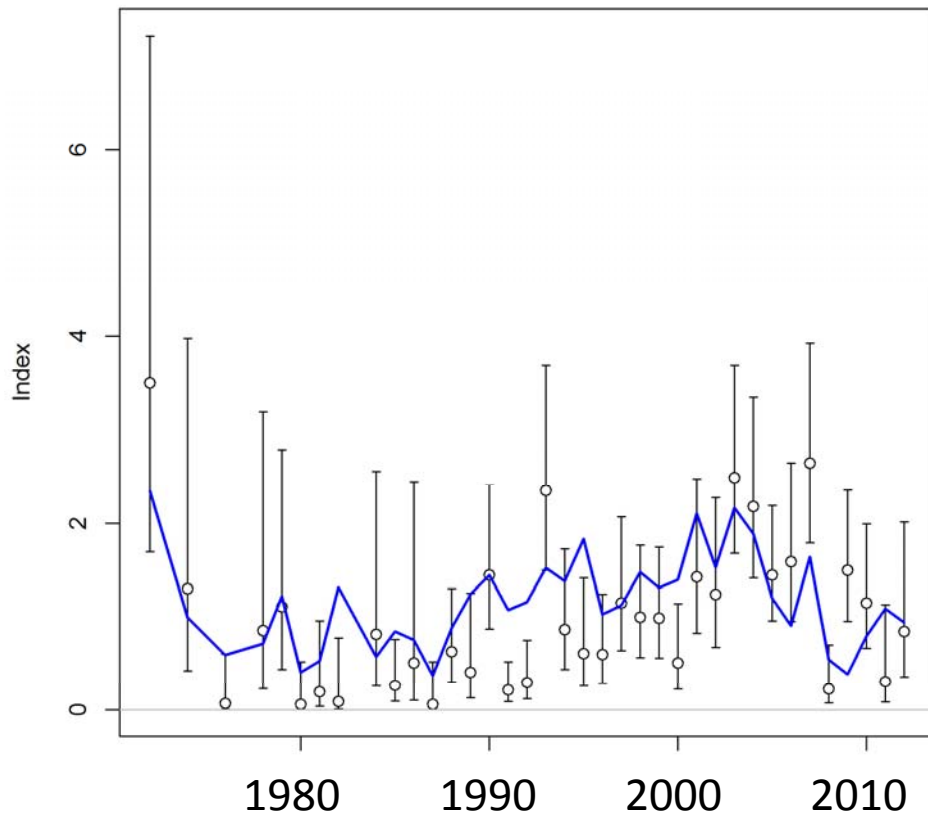


Visual inspection of the stock-recruitment data did not suggest a relationship

For this reason the MSY proxy of SPR 30% was recommended to be continued

## Recent recruitments show a possible declining trend

SEAMAP TRAWL Index of Abundance

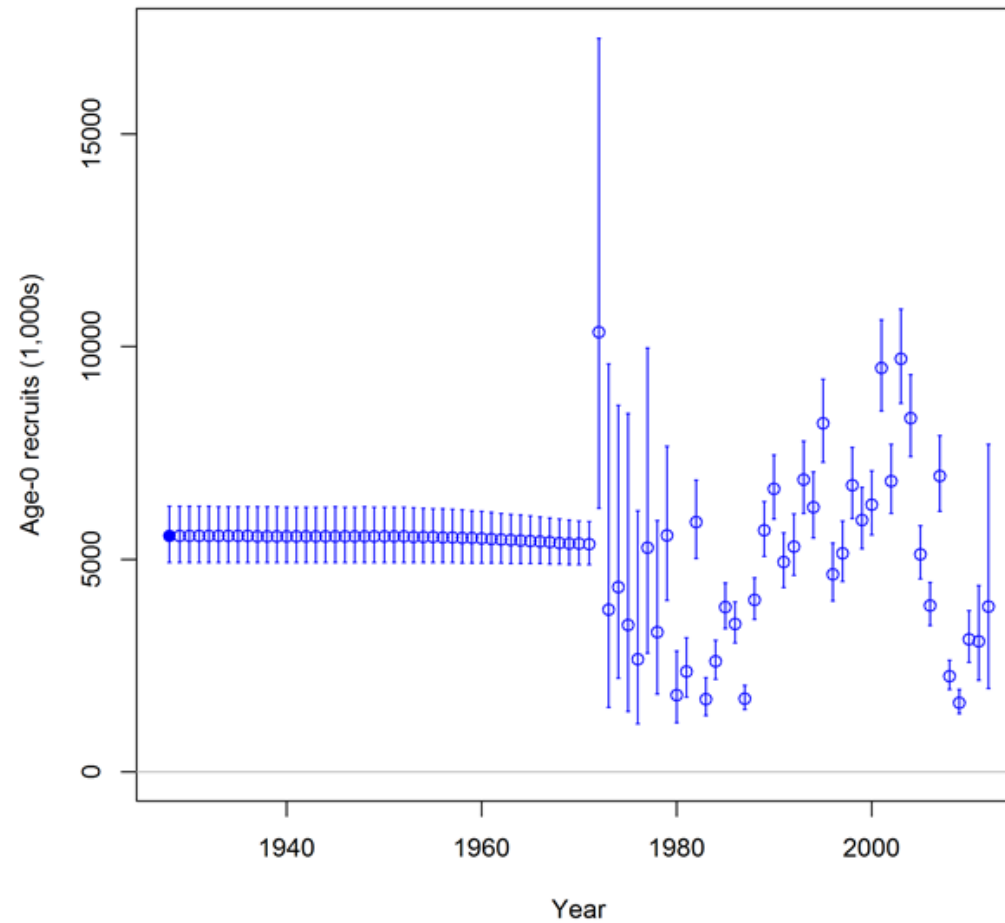


The most recent SEAMAP trawl survey data suggest that the last four years of recruitment (2008-2012) are lower than previous average.

This was viewed as a trend to remain mindful of, but ultimately attributed more to environment rather than low spawning stock.

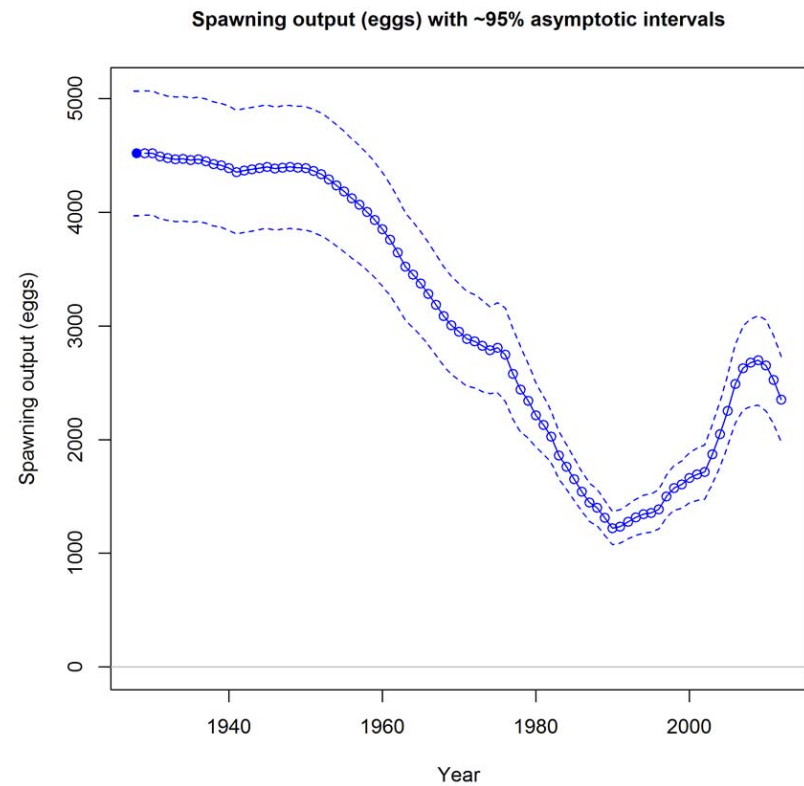
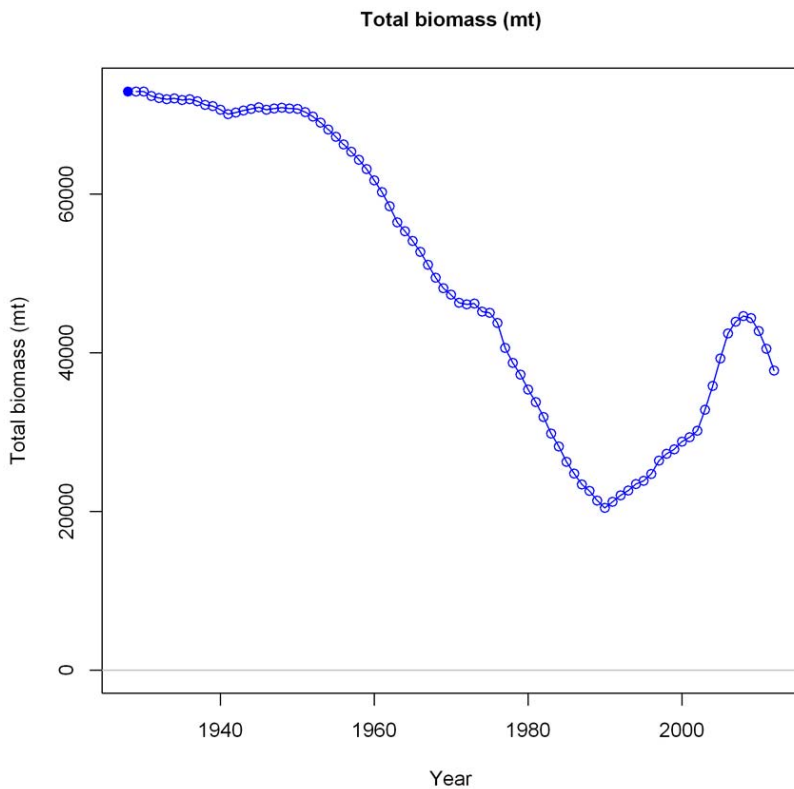
# Should remain mindful of the recent lower recruitments

Age-0 recruits (1,000s) with ~95% asymptotic intervals

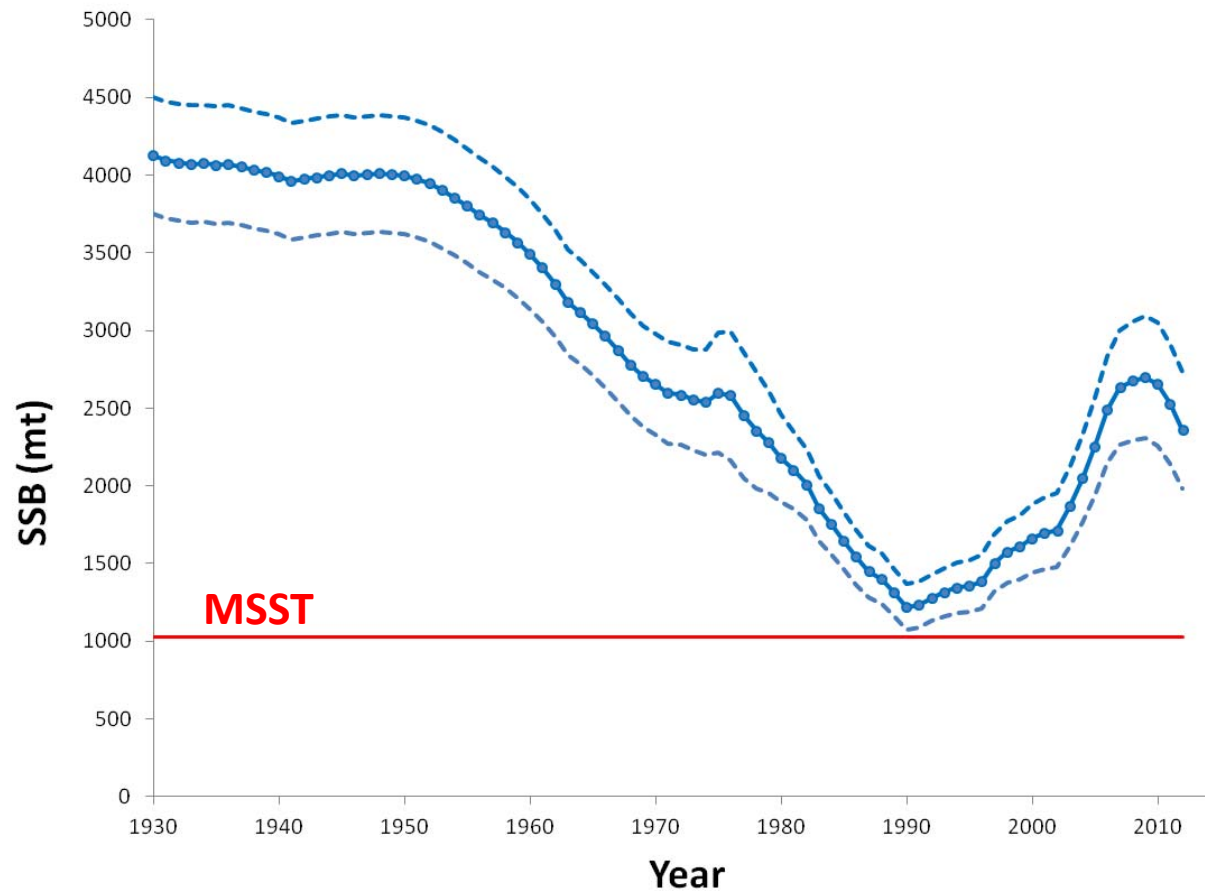




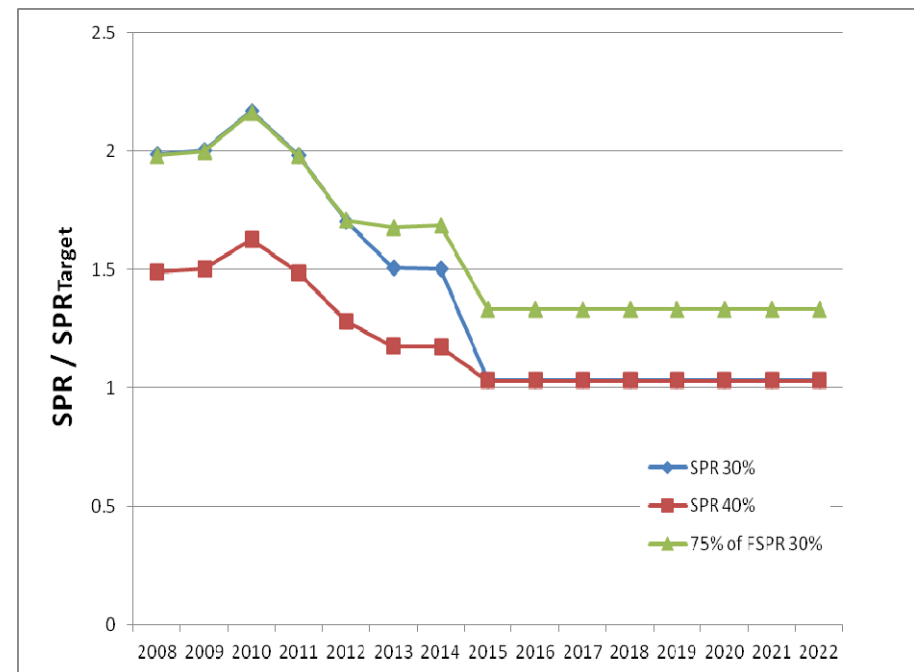
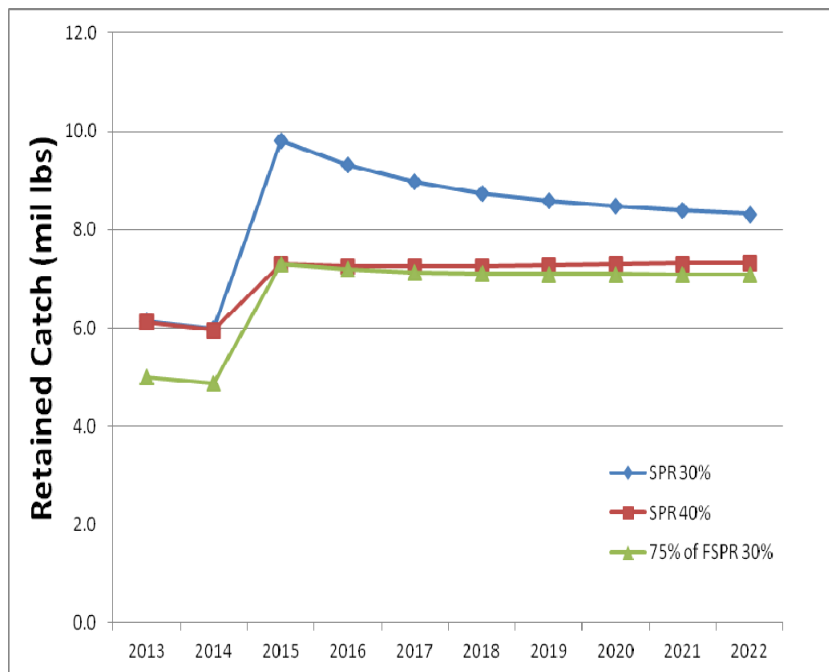
# Estimated Spawning Biomass has generally increased since 1990



Stock reached a minimum in 1992, but quickly recovered and has generally increased since



# Projected retained catch and SPR under the three Reference Points considered BP4



## Gulf King Mackerel yield streams OFL and ABC at 30% FSPR Reference (millions of pounds whole weight)

	OFL	ABC
P*	0.5	0.43
2015	10.11	9.62
2016	9.61	9.21
2017	9.27	8.88
2018	9.11	8.71
2019	8.95	8.55
2020	8.81	8.43
2021	8.68	8.29
2022	8.60	8.20
2023	8.58	8.19
2024	8.60	8.23

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# Conclusions

- There is no indication the stock is currently being overfished or experiencing overfishing. The current management strategy seems to be very effective at achieving stated goals.
- The GOM king mackerel have responded very well to regulations implemented in the 1990's. Nearly every model configuration suggests that the spawning stock size has been generally increasing since 1990
- Recent lower recruitments are noted and should be monitored for any longer term trends.