

# Summary of Vermilion Snapper Stock Assessment

SEDAR 67 Gulf of Mexico Vermilion Snapper Stock Assessment:  
Assessment Review

SSC Meeting June 1, 2020



***Based on Presentation by Sustainable Fisheries Division, SEFSC***

# *Vermilion Snapper Status*

***Results:***

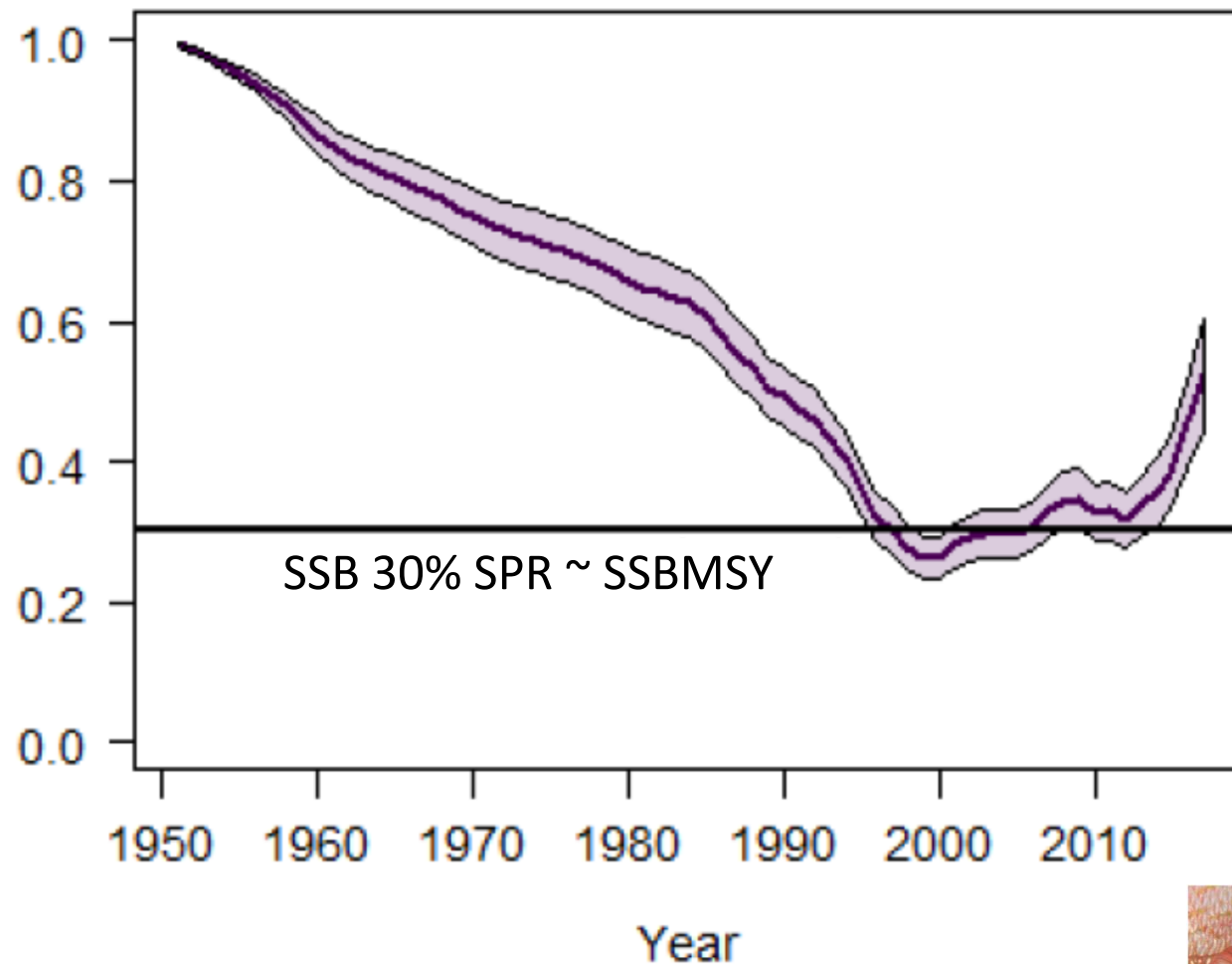
***Not Overfished***

***Not Undergoing Overfishing***

From Sustainable Fisheries Division, SEFSC



***Spawning  
Stock  
Biomass  
(SSB)  
relative to  
SSB before  
fishing***

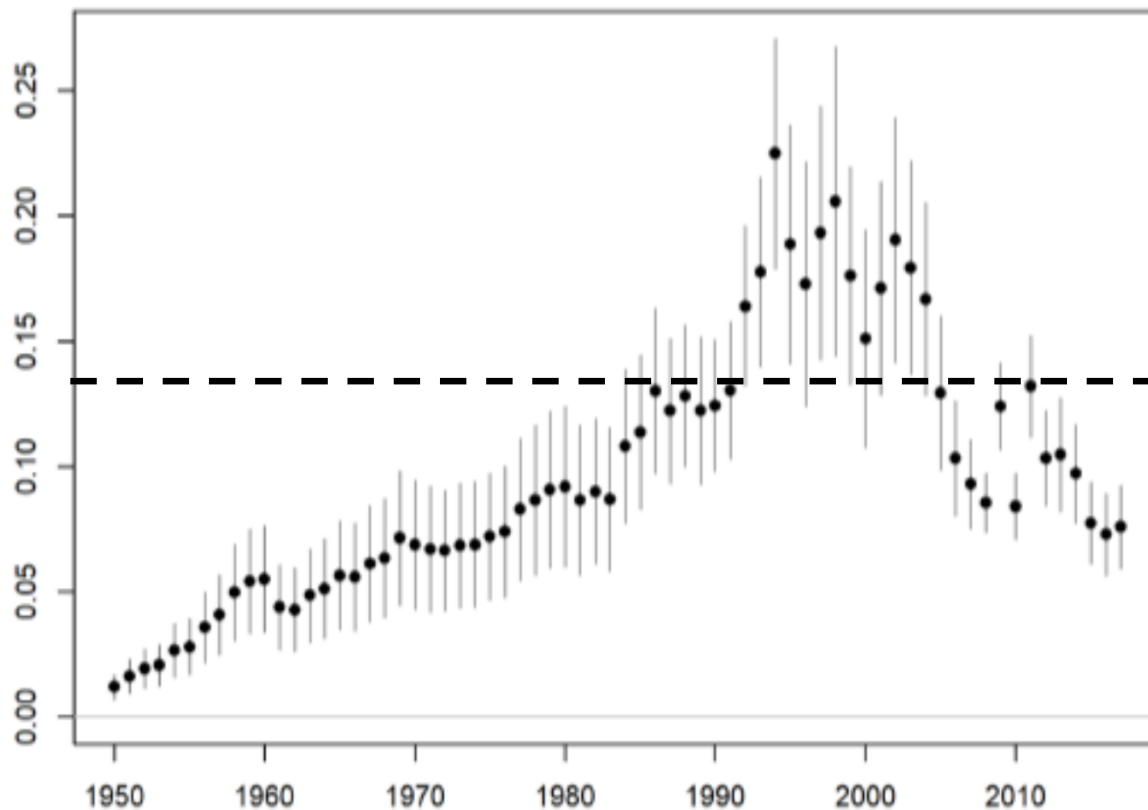


From Sustainable Fisheries Division, SEFSC



Fishing  
Mortality  
Rate

Harvest Rate  
(total number killed/exploitable numbers, Age-1+)



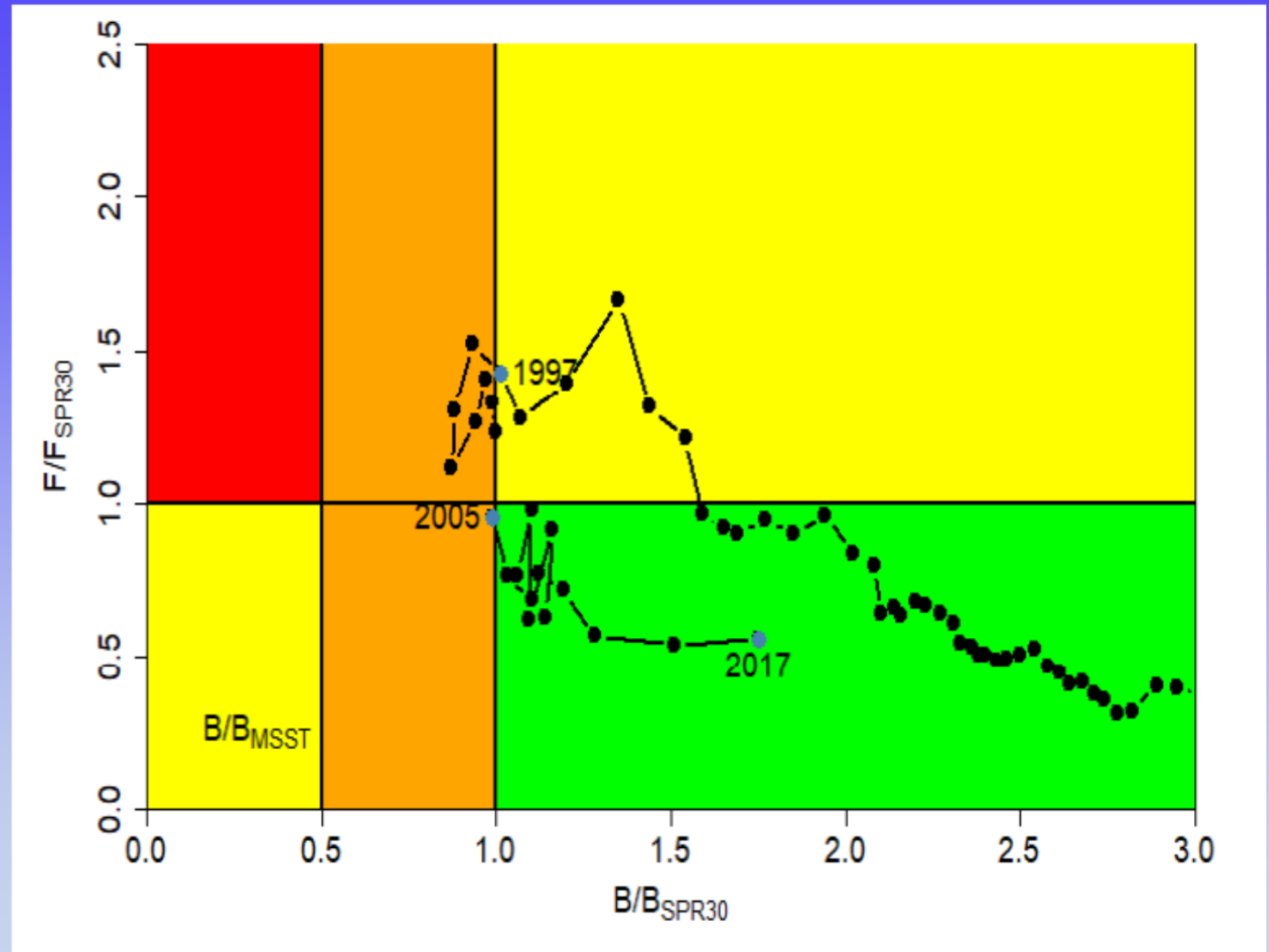
Maximum  
Fishing  
Mortality  
Threshold  
(MFMT)

From Sustainable Fisheries Division, SEFSC





***Historical  
transition  
of status  
(Kobe  
plot)***



From Sustainable Fisheries Division, SEFSC

# ***What's Changed?***

***Last Assessment included data through 2014***

***Current Assessment includes data through 2017***

***Updated Commercial catches through 2018***

***New Recreational Catch estimates (transition to the new FES MRIP estimates) This affects the historical catch estimates, the estimates since the last assessment and the associated size distributions...result was increased estimates of SSB, recruitment and improved estimates of status***

***Discards included***

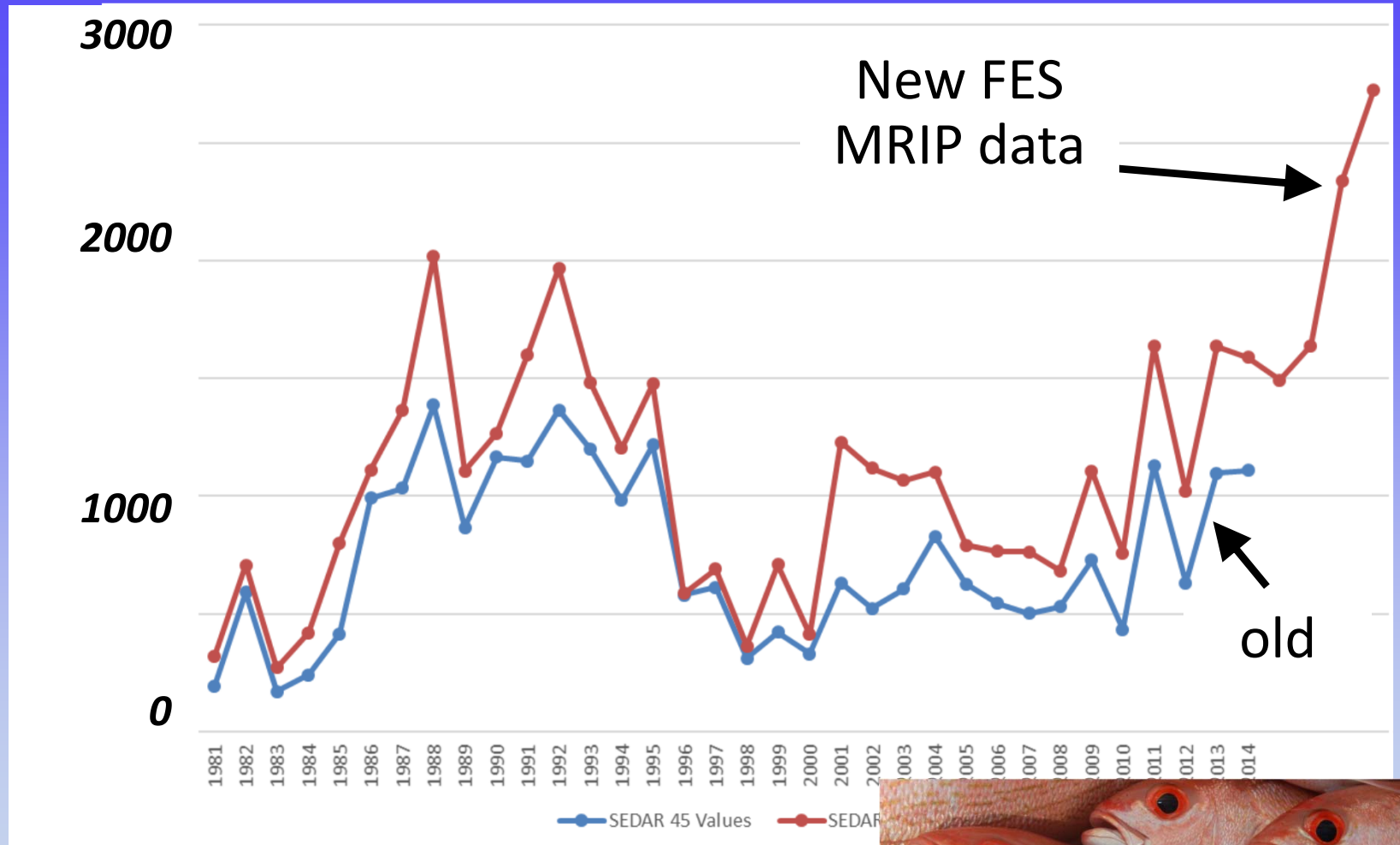
***Included combined video index which affected recent recruitment estimates***

***Updated CPUE with commercial CPUE truncated to account for effort behavior relative to ITQ***

From Sustainable Fisheries Division, SEFSC

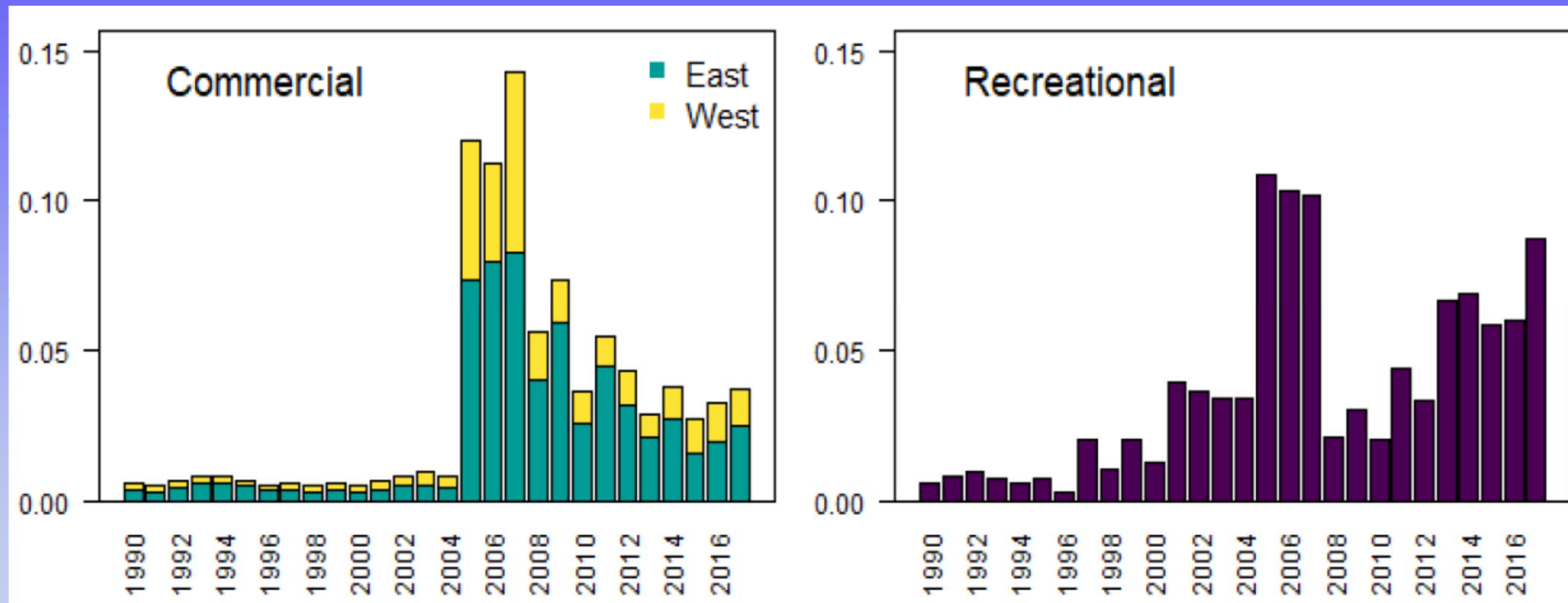


***Recreation  
al Landings  
in  
Thousands  
of Fish***

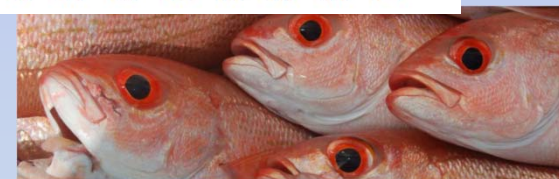


From Sustainable Fisheries Division, SEFSC

# Discards in Millions of Lbs

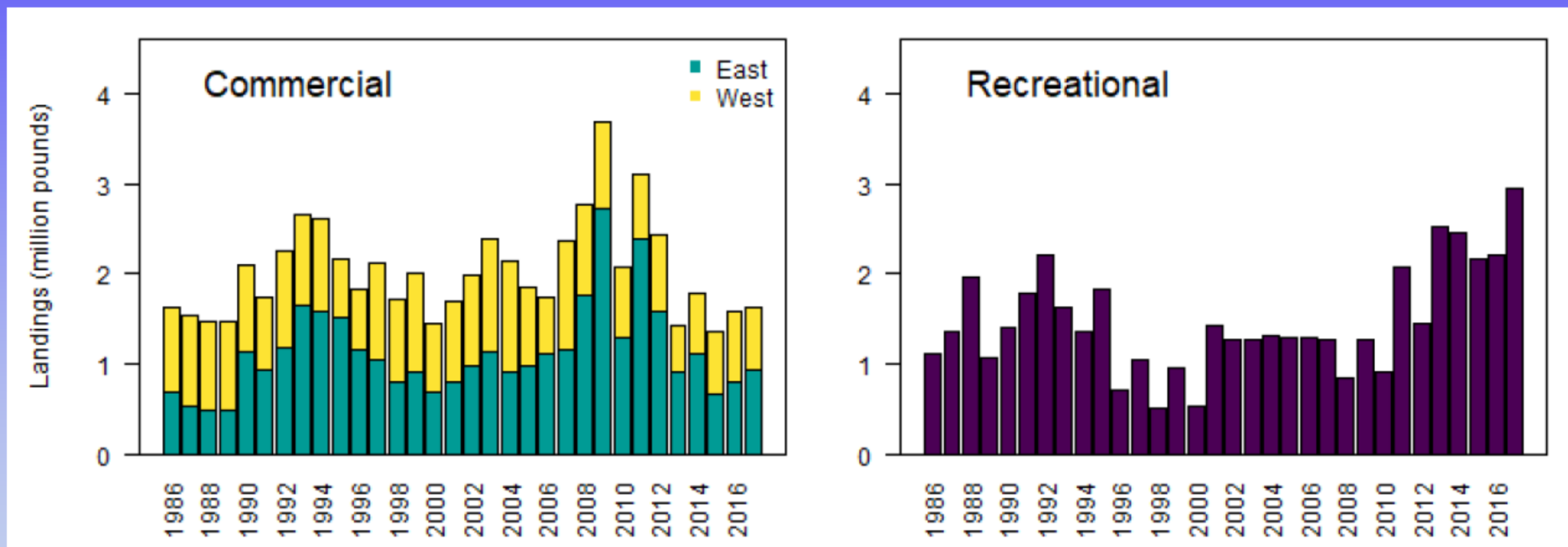


From Sustainable Fisheries Division, SEFSC





## *Landings in Millions of Lbs*



From Sustainable Fisheries Division, SEFSC



*SSB is in billions of eggs, whereas  $F$  is a harvest rate (total numbers killed / total exploitable numbers [age 1+]).*



## Reference Point Criteria

SSB0 (unfished)	672,597
SSB(30%)~SSB <sub>MSY</sub> proxy	201,747
MSST=0.5*SSB(30%)	100,874
MFMT = F <sub>30%</sub> ~F <sub>MSY</sub> proxy	0.135
FOY (F at optimum yield)=0.75* MFMT	0.115

## Current Benchmarks

SSB <sub>2017</sub>	352,682
F <sub>current</sub> (geom. mean: 2015 – 2017)	0.075
SSB <sub>2017</sub> / SSB0 (30%)	0.52
SSB <sub>2017</sub> / SSB <sub>30%</sub>	1.75
SSB <sub>2017</sub> / MSST	3.35
–MSST Overfished?	No
F <sub>current</sub> / MFMT	0.56
–MSST Overfishing?	No

*Where we were in  
2017 at end of  
assessment time  
series?*

# ***Projection of status 2021-2035***

***First project from end of assessment 2017 through current time 2020 based on actual catches***

***Then project from 2021 through 2035 using the OverFishing Limit (OFL,  $F_{30\%SPR}$ ) or alternatively using the Optimum Yield criterion (OY,  $0.75 * F_{30\%SPR}$ )***

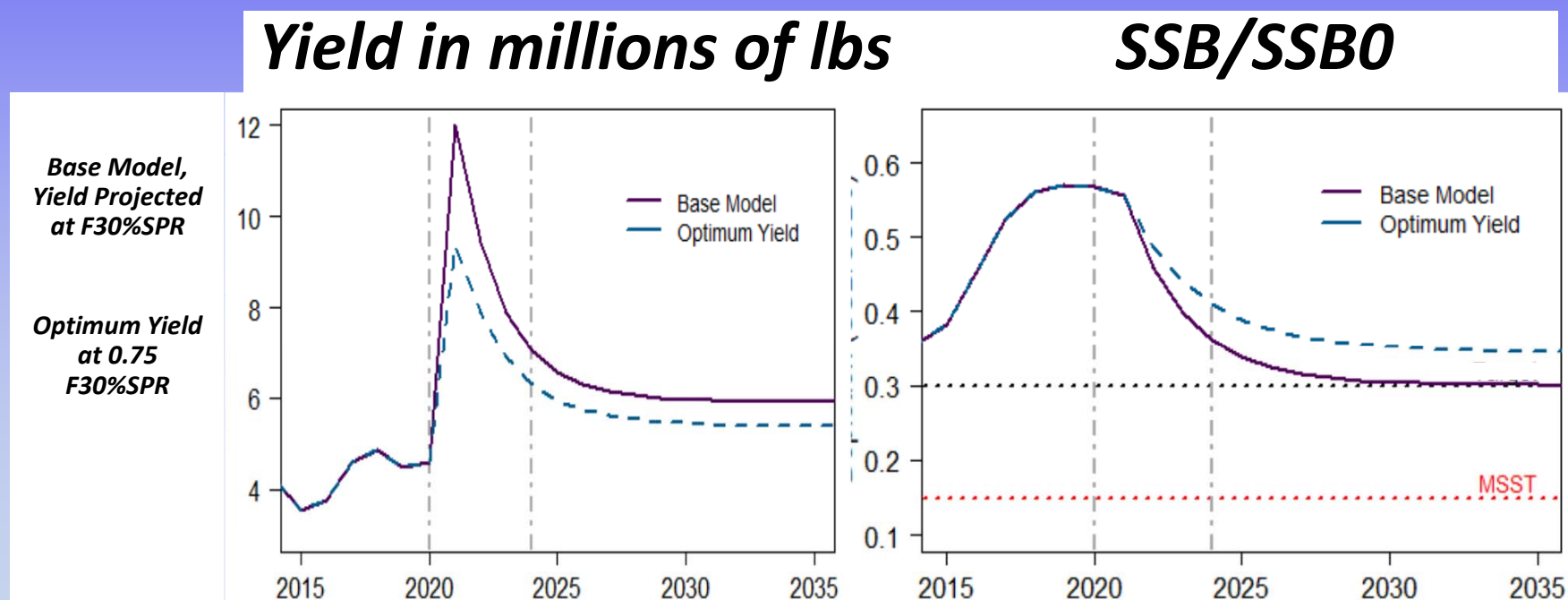
From Sustainable Fisheries Division, SEFSC



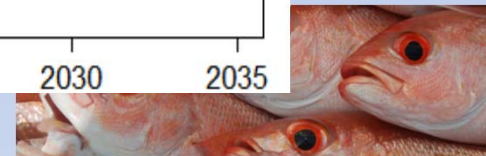
## Interim Projection Period

**2018 Landings** 4,840,039 lbs. WW      Finalized landings (SEFSC)  
**2019 Landings** 4,366,021 lbs. WW      Three year (2016-2018) avg.  
**2020 Landings** 4,366,021 lbs. WW      Three year (2016-2018) avg

Then projection at F30%SPR or  $0.75 \times F30\%SPR$  2021-2036



From Sustainable Fisheries Division, SEFSC



# Why the initial jump in yield and biomass in projections?

*Yield has been less than the ABC that was estimated in the previous assessment*

*Revised recreational landings resulted in increase estimated biomass throughout series*

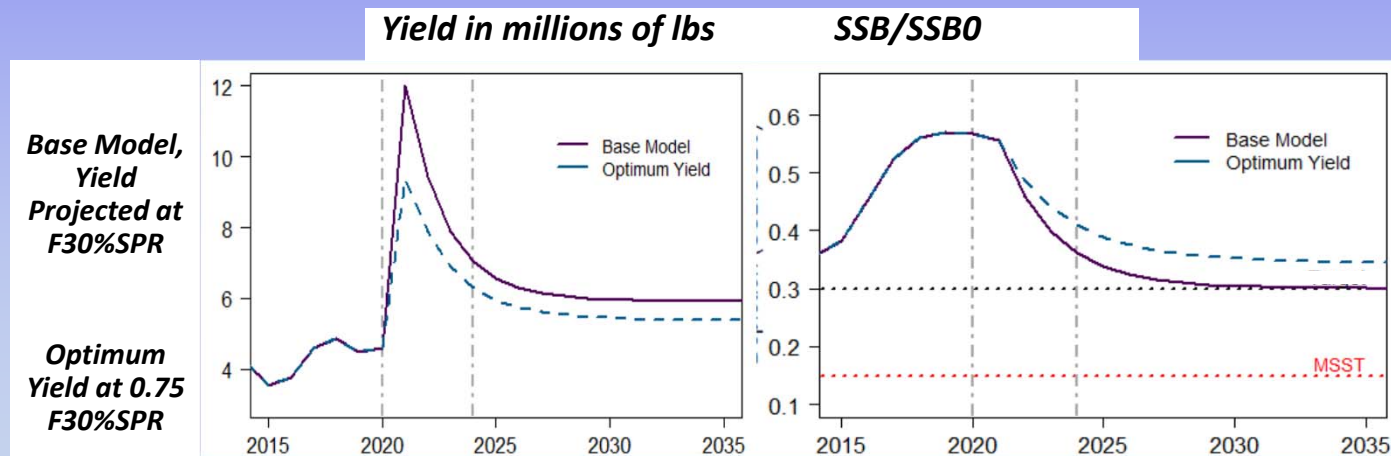
*Recent recruitment has been above average*

*Estimated status is better than previous assessment*

*Projection is at F30% SPR but recent F is 56% of F30% SPR,*

*Surplus biomass will be “fished down”, high catches are not expected to be sustained*

*After transitional period stock approaches F30% SPR equilibrium*



From Sustainable Fisheries Division, SEFSC



***Given the uncertainty in assessment and recent recruitment and issues of the projections mentioned above, the SSC determined that catch recommendations should be based on the average of the projections over a specific time period.***

***Therefore, the SSC resolved that:***

***The OFL is the yield at  $F_{30\%SPR}$  and the ABC=OY is the yield at 75% of  $F_{30\%SPR}$ . For constant catch for the years 2021-2025, the OFL and ABC in millions of pounds, whole weight are:***

***OFL: 8.6 MP ww***

***ABC: 7.27 mp ww***

From Sustainable Fisheries Division, SEFSC



# *Questions?*



From Sustainable Fisheries Division, SEFSC