



NOAA
FISHERIES

SEFSC, Miami
& Pascagoula

SEDAR 61: US Gulf of Mexico Red Grouper

Interim Analysis

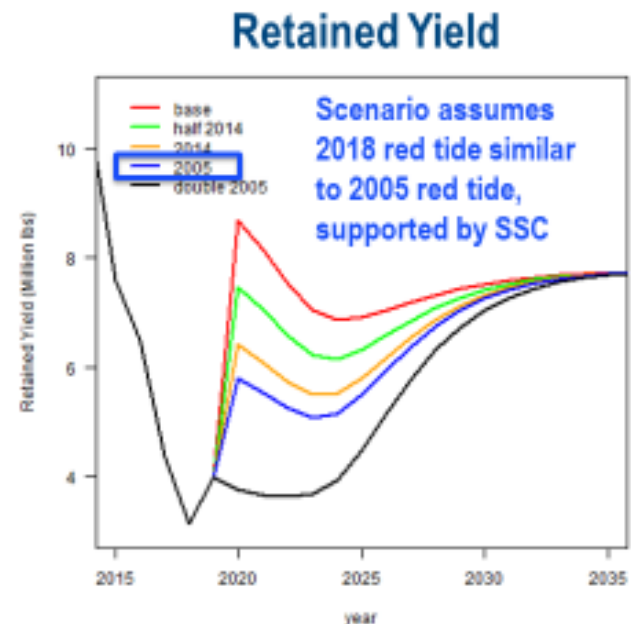
Gulf of Mexico Fishery Management Council
Scientific and Statistical Committee



January, 2021

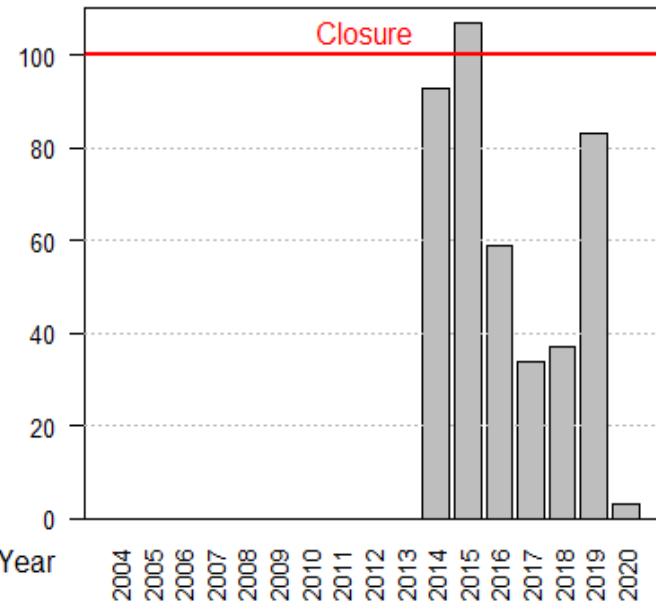
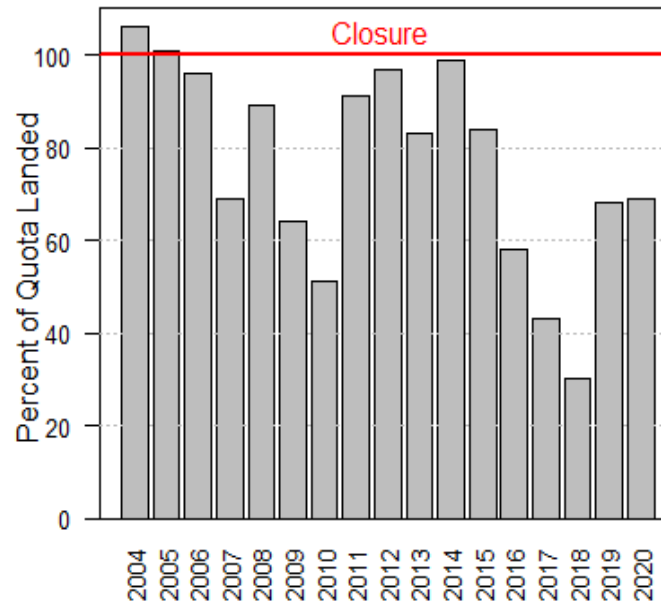
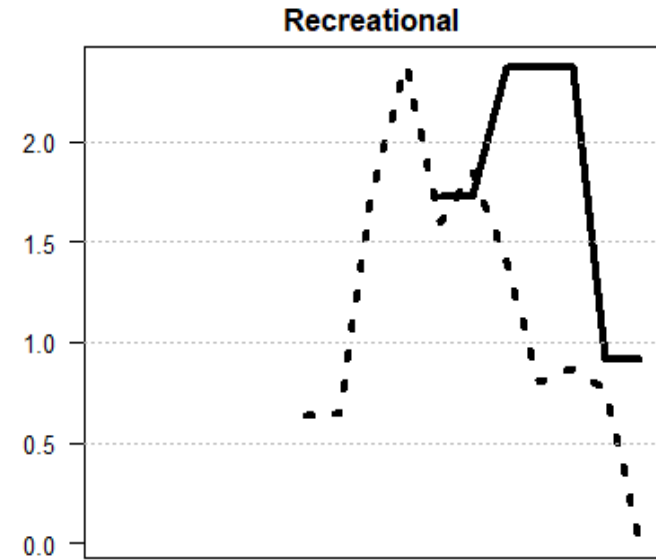
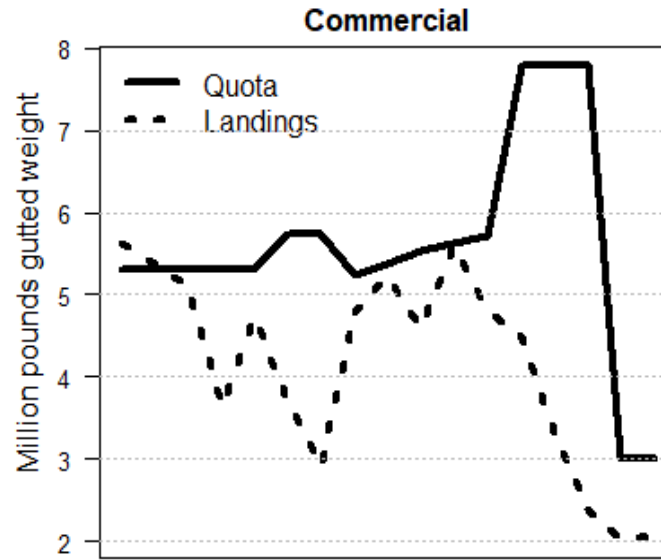
Interim Assessment (IA)

- First red grouper IA conducted in October 2018
- Updated red grouper IA to adjust harvest recommendations based on current stock conditions
 - SEDAR61 terminal year: 2017
 - Made assumptions in projections regarding the impact of 2018 red tide



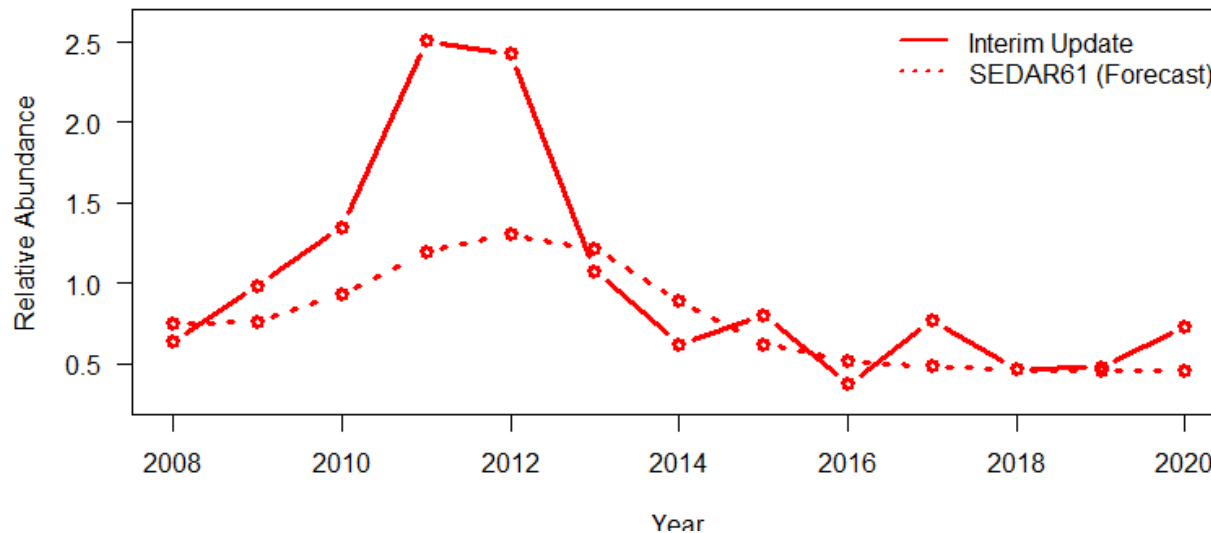
Cause for Concern

Commercial data from 2010 through 2020 were obtained from the Quotas and Catch Allowances, accessed December 3, 2020 (<https://portal.southeast.fisheries.noaa.gov/reports/cs/CommercialQuotasCatchAllowanceTable.pdf>), remaining years were obtained from the Gulf of Mexico Historical Commercial Landings and Annual Catch Limits (ACLs), updated November 7, 2018 (<https://www.fisheries.noaa.gov/southeast/gulf-mexico-historical-commercial-landings-and-annual-catch-limit-monitoring/gulf-commercial-historical.pdf>). Recreational data from 2010 through 2018 were obtained from recreational historical landings, updated October 13, 2020 (<https://www.fisheries.noaa.gov/southeast/recreational-fishing-data/gulf-mexico-historical-recreational-landings-and-annual-catch>), data from 2019 and 2020 (through June) were obtained December 3, 2020 from <https://www.fisheries.noaa.gov/southeast/2019-and-2020-gulf-mexico-recreational-landings-and-annual-catch-limits-acls-and-annual>.



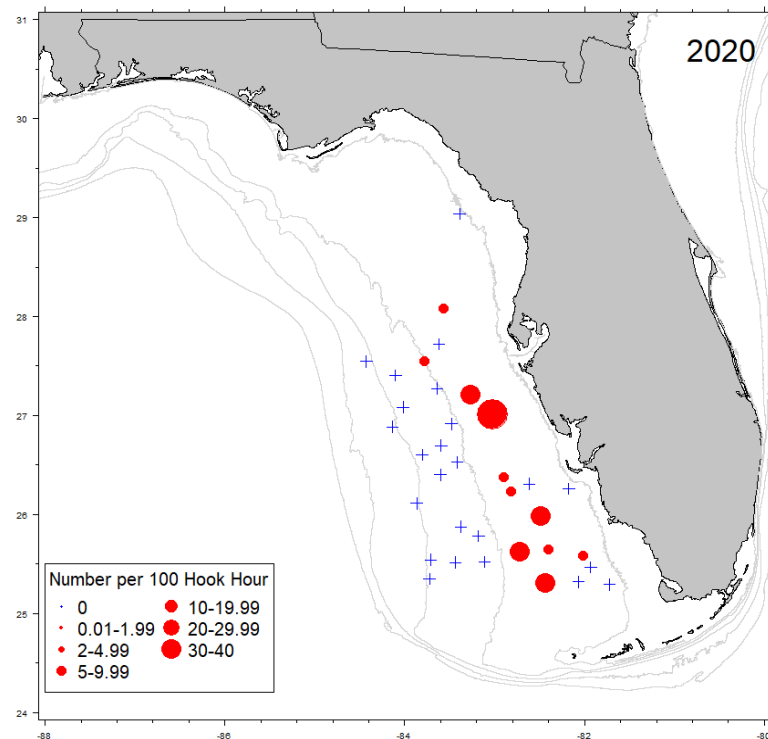
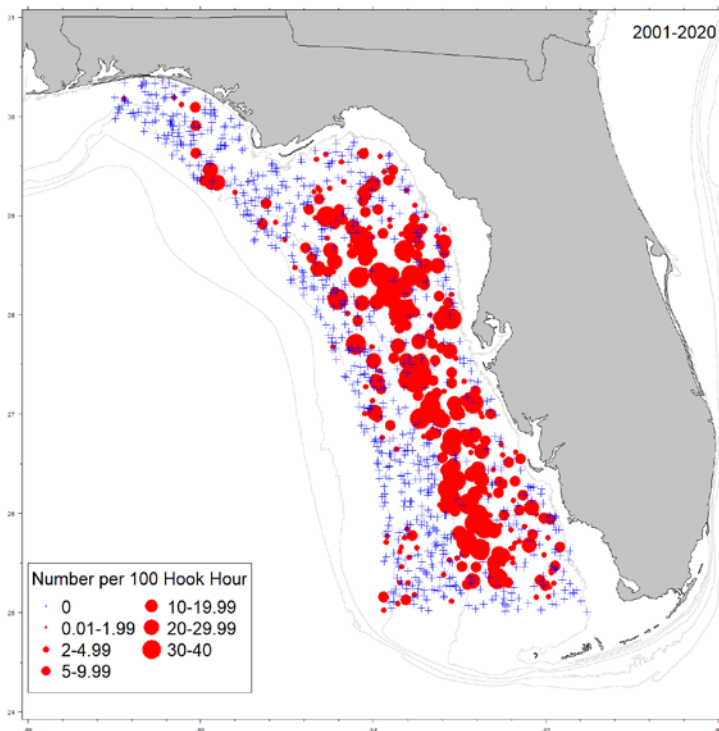
Index of abundance: NMFS Bottom Longline

- Compare where we are now to where we want to be
 - Where we are now = Observed index value
 - Where we want to be = Forecasted index value
 - Divergence in 2020 may be due to incomplete spatial coverage due to COVID, weather, and mechanical issues



Caveats for 2020

- 2020 observed index value may be higher than it would have been with full spatial coverage
 - Zero catches usually encountered in the panhandle



Harvest Control Rule (HCR)

$$ABC_y = ABC_{assess} \left(\frac{O_y + \beta}{F_y + \beta} \right)$$

- Where $ABC_{assess} = 4.9^*$ million pounds gutted weight

*Sep 2019 SSC recommendation
(76%com,24%rec)

O_y = Observed index value in year y ,

F_y = Forecasted index value in year y ,

β = Scalar to adjust responsiveness of HCR x SE
of index

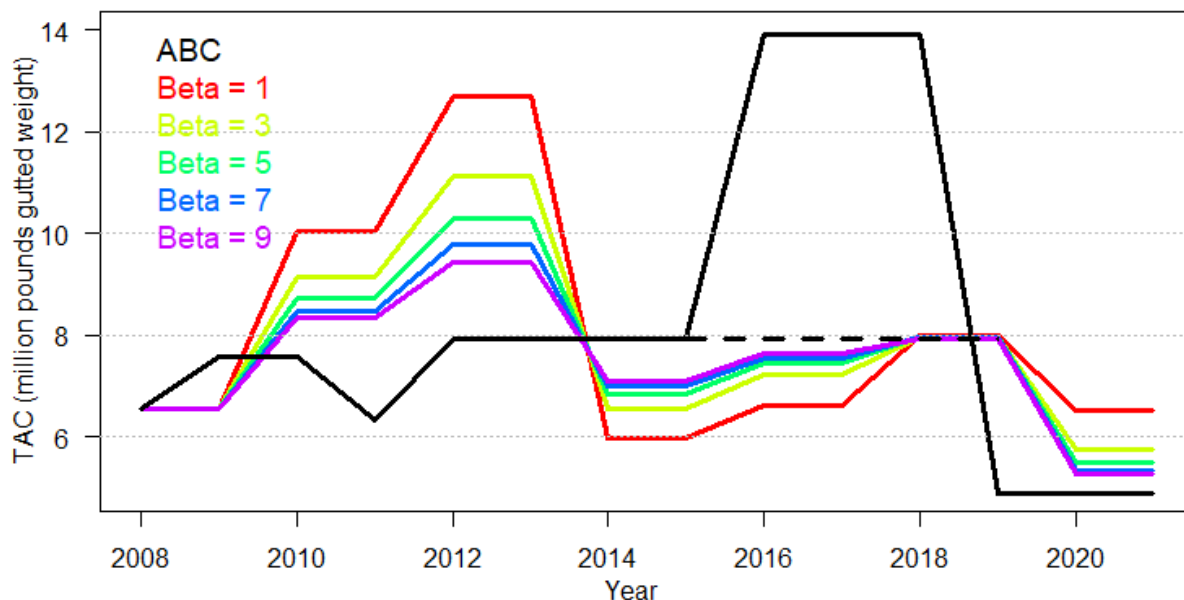
- Changes to ABC only implemented every other year

$ABC_{assess} = 4.9^*$ million pounds gutted weight
 *Sep 2019 SSC recommendation (76%com,24%rec)

Effect of β

- Previously recommended: (1) excluding ABC change following SEDAR42; and (2) $\beta = 1$
 - Low β tracks index more closely
 - High β tracks ABC

β	Adj ABC (million pounds gutted weight)
1	6.522
3	5.762
5	5.487
7	5.345
9	5.258



The dashed black line indicates ignoring the ABC increase that resulted from SEDAR42

Ongoing Work:

- Finish MSE development
 - MSE will be used to select HCR/index pair that best achieves management goals
- Design multitude of HCR's with stakeholder input
- Test HCR/Index combinations to identify optimum HCR

Questions?

Thank you to all SEDAR61 data providers
and for your attention!

NMFS Bottom Longline Index

Survey Year	Frequency	<i>N</i>	Delta-Lognormal Index	Scaled Index (mean = 1)	Coefficient of Variation	Lower Confidence Level	Upper Confidence Level
2001	0.215	93	0.74	0.818	0.291	0.462	1.448
2002							
2003	0.342	117	0.983	1.087	0.203	0.727	1.625
2004	0.418	98	1.606	1.775	0.193	1.21	2.604
2005	0.25	40	0.553	0.611	0.408	0.279	1.339
2006	0.282	39	0.52	0.575	0.393	0.269	1.228
2007	0.195	41	0.851	0.941	0.466	0.388	2.284
2008	0.267	60	0.573	0.634	0.324	0.337	1.192
2009	0.349	63	0.889	0.983	0.265	0.584	1.655
2010	0.343	67	1.217	1.346	0.259	0.809	2.24
2011	0.398	123	2.27	2.51	0.182	1.749	3.602
2012	0.469	49	2.196	2.428	0.255	1.468	4.014
2013	0.34	47	0.97	1.072	0.306	0.589	1.95
2014	0.262	42	0.561	0.62	0.384	0.295	1.302
2015	0.255	52	0.719	0.795	0.361	0.395	1.601
2016	0.18	50	0.335	0.37	0.436	0.161	0.854
2017	0.326	43	0.692	0.765	0.343	0.393	1.491
2018	0.191	47	0.422	0.466	0.428	0.205	1.059
2019	0.2	40	0.427	0.472	0.462	0.196	1.136
2020	0.314	35	0.661	0.731	0.384	0.348	1.535