



NOAA
FISHERIES

SEFSC, Miami

SEDAR 61: US Gulf of Mexico Red Grouper

Follow-up on recreational landings

Gulf of Mexico Fishery Management Council
Scientific and Statistical Committee

January 6, 2021



Council Motion

- To refer the SEDAR 61 Red Grouper stock assessment back to the SSC so that the SSC can provide further discussion and explanation on the differences between historical recreational landings time series and what the stock assessment model has estimated as recreational landings.

Background

What about allocation?

- From Reef Fish Amendment 30B:
 - **Preferred Alternative 3.** Establish an interim allocation of TAC between the recreational and commercial fisheries as the average share during the years 1986 through 2005. The recreational:commercial proportions would be red grouper 24:76
- Update of analysis using new MRIP data results in allocation of: 31.25% recreational, 68.75% commercial

Year	Commercial Landings (mt)	Recreational (mt)
1986	2884	2121
1987	3059	716
1988	2162	1609
1989	3381	3133
1990	2191	809
1991	2290	945
1992	1962	1157
1993	2465	855
1994	2074	881
1995	1823	1042
1996	2223	300
1997	2421	416
1998	1819	605
1999	2629	1156
2000	2526	1053
2001	2528	715
2002	2493	734
2003	2066	648
2004	2299	1911
2005	2334	841
AVERAGE	2381	1082
NEW ALLOCATION	68.75	31.25



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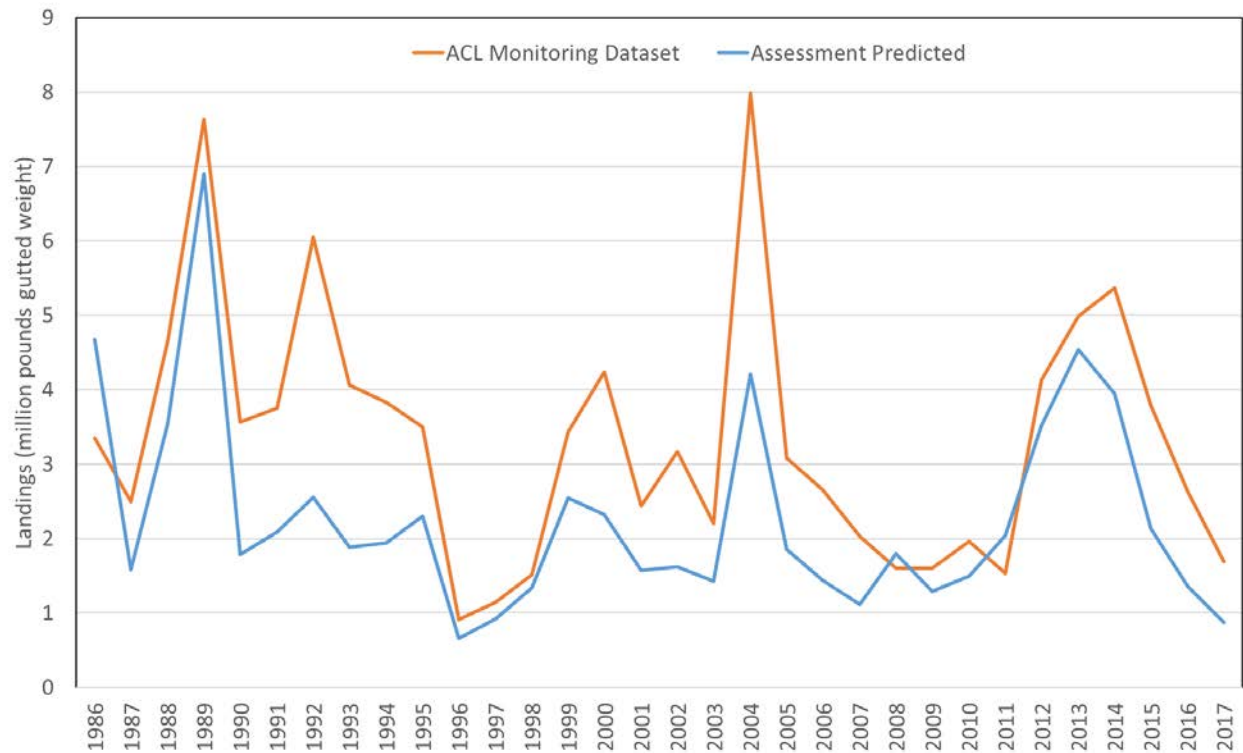
Slide 94 in SEDAR61 SSC
presentation given September 2019

Background

- Data provided in November 2018 did not include recreational landings in weight (not reviewed at the DW/AW) due to the following factors:
 - Severe backlog of assessments due to the new release of MRIP FES/APAIS adjusted estimates back in time
 - Significant updates to SEFSC data processing required as a result of the new data
 - SEDAR 42 assessment model used recreational landings in number of fish. Since SEDAR 61 was a standard assessment, recreational landings in weights were not prioritized

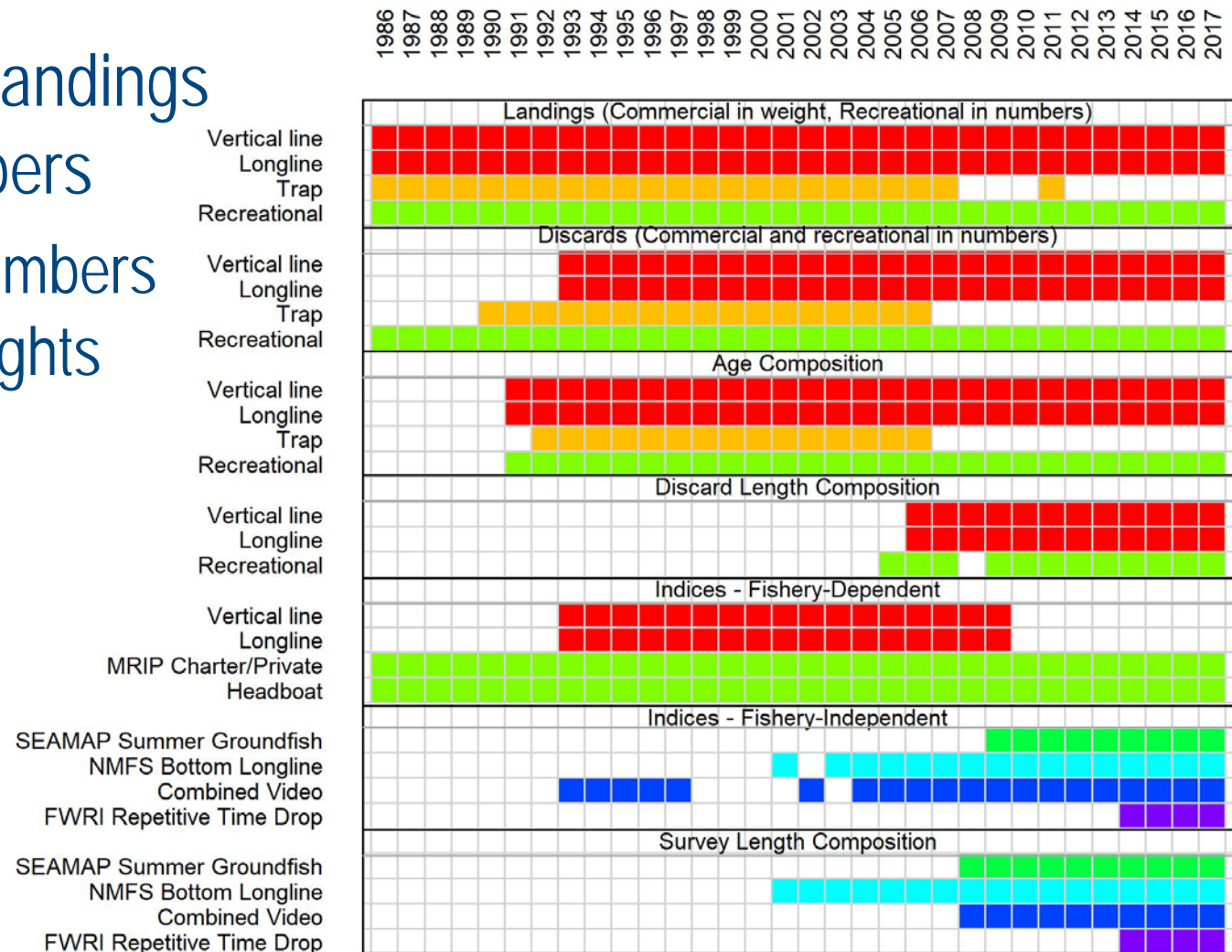
Why do predicted landings from the SEDAR61 assessment model differ from landings estimates in the ACL monitoring dataset?

1. Input data
2. Uncertainty assumed in assessment
3. Differences in weight estimation



1. Input Data

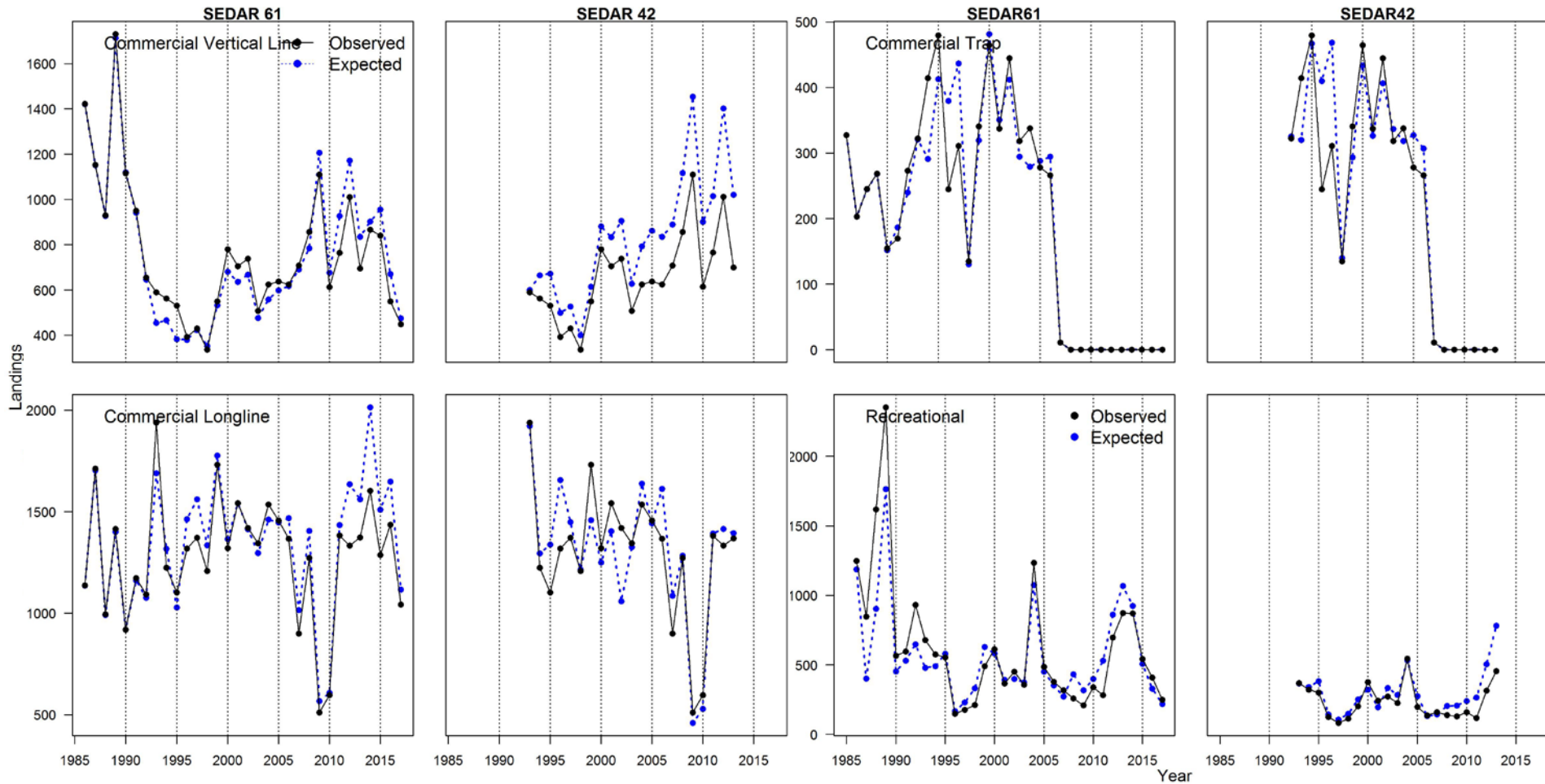
- Recreational landings input as numbers
 - Fitting to numbers and not weights



2. Uncertainty assumed in the assessment

- Assessment model assumes greater uncertainty in recreational landings compared to commercial landings
 - Commercial CV = 0.15
 - Recreational CV = 0.3
 - The model has more flexibility and is also fitting to a variety of other data sources beyond just landings (discards, compositions, indices)
- Results in predicted landings (in numbers) that are not identical to input landings (in numbers)

Fit to Data: Landings (slide 42 in Sep 2019 pres)



Commercial (metric tons): $CV = 0.15$ Recreational (1000s of Fish): $CV = 0.3$

3. Differences in weight estimation

- Assessment model uses the length-weight equation to convert predicted landings (in number) into weight units
- MRIP estimates are based on stratified observations of average weight (SEDAR 67-WP-06), but no measure of uncertainty is provided with weights.

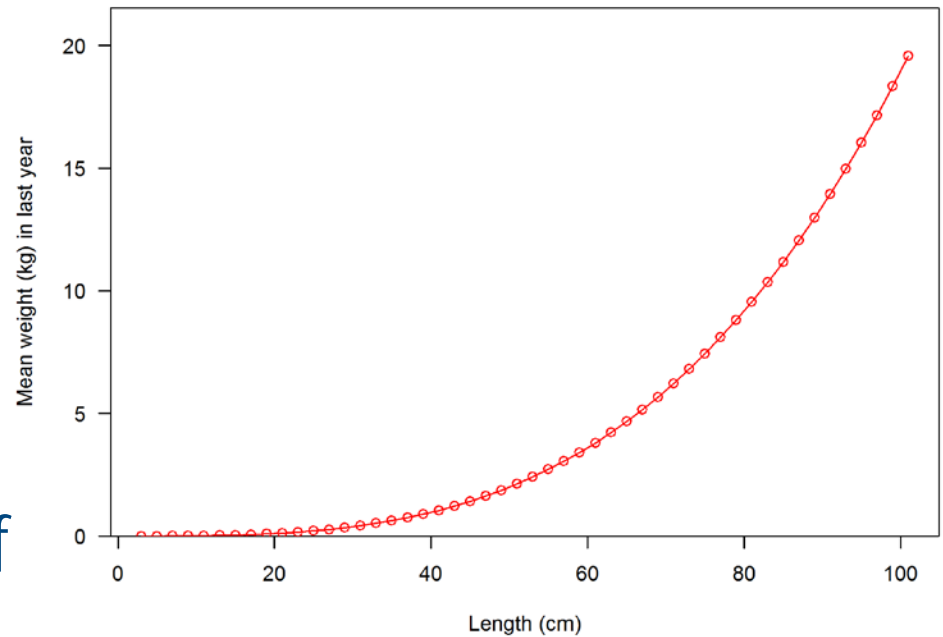


Figure 4.2 in SEDAR61 report

Research track on Gulf scamp (SEDAR68)

- Why have we used recreational landings in numbers?
 - Numbers have been the most reliable measure in past assessments
- Weight estimates are now consistently provided for MRIP landings (but not discards)
 - Can look into modeling recreational landings in weights instead of numbers during ongoing research track assessments
 - Will require an assumption about CV around these estimates

Questions?



Extra slides



SEDAR61 recreational landings

Year	Obs [Input] Number (1000s of fish)	Expected Number (1000s of fish)	Expected Weight (pounds gutted weight)
1986	1248.54	1187.05	4,676,991
1987	847.71	401.954	1,579,246
1988	1617.44	903.609	3,547,851
1989	2351.75	1763.04	6,907,361
1990	565.315	453.855	1,782,874
1991	595.541	530.945	2,083,650
1992	930.369	648.226	2,550,944
1993	677.7	478.096	1,884,941
1994	574.165	491.749	1,941,829
1995	553.818	580.187	2,298,184
1996	147.679	166.297	660,868
1997	177.087	229.529	916,211
1998	211.813	331.708	1,334,851
1999	491.657	629.023	2,548,893
2000	612.857	582.334	2,320,451
2001	367.038	391.87	1,576,488
2002	451.176	400.263	1,617,360
2003	356.915	374.211	1,428,267
2004	1234.42	1074.32	4,211,971
2005	485.616	452.022	1,853,678
2006	377.453	351.907	1,434,910
2007	316.79	273.017	1,114,475
2008	258.03	432.713	1,799,607
2009	209.833	317.532	1,290,077
2010	338.181	399.218	1,495,780
2011	282.933	530.875	2,042,620
2012	696.535	860.61	3,520,403
2013	872.84	1068.15	4,535,763
2014	870.134	924.319	3,946,711
2015	542.995	506.343	2,140,311
2016	407.616	327.821	1,360,958
2017	248.199	218.995	872,582