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SEDAR 61: US Gulf of Mexico Red Grouper

2024 Interim Analysis

Gulf of Mexico Fishery Management Council
Scientific and Statistical Committee



February 27-28, 2024

Recent interim analyses

2021:

- Catch advice adjusted using index-based harvest control rule (HCR) and 3-year moving average of NMFS bottom longline survey index of abundance
 - **Framework Action set ABC = 4.96 million pounds gutted weight (mp gw)**

2022:

- Used as a health check, not used to adjust catch advice

2023:

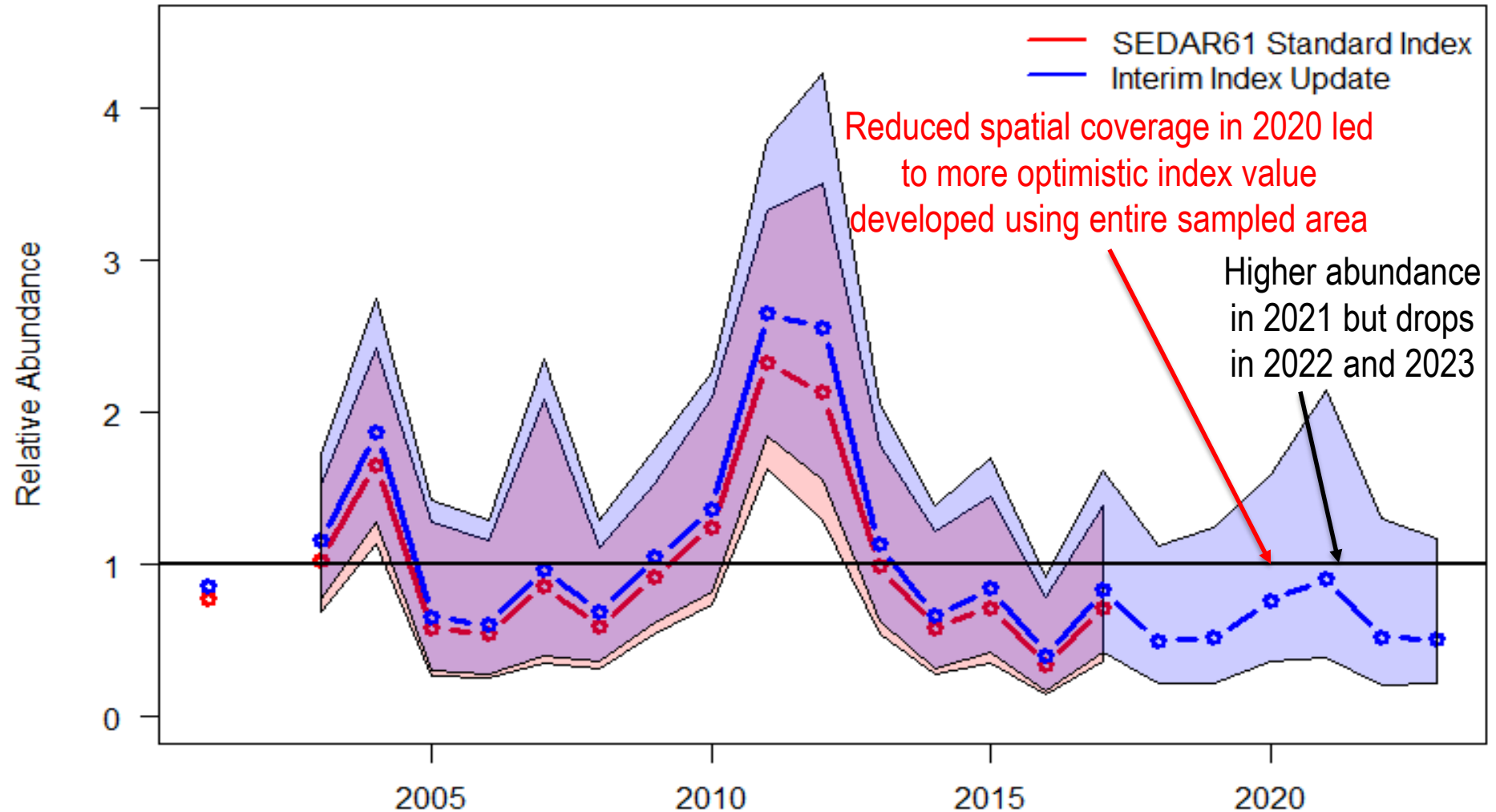
- Updated catch advice proposed but **not adjusted**, largely because of the increased time since the last assessment

2024 interim analysis

- Health check requested via updating available fishery-independent indices of relative abundance
 1. Bottom longline survey
 2. Summer groundfish survey
 - ~~3. Combined video survey (time intensive data processing)~~
 - ~~4. FWRI repetitive time drop survey – discontinued 2019~~
- Catch advice not adjusted this year
 - Changes to catch advice implemented every other year
 - Next adjustment expected following SEDAR 88 (ongoing)

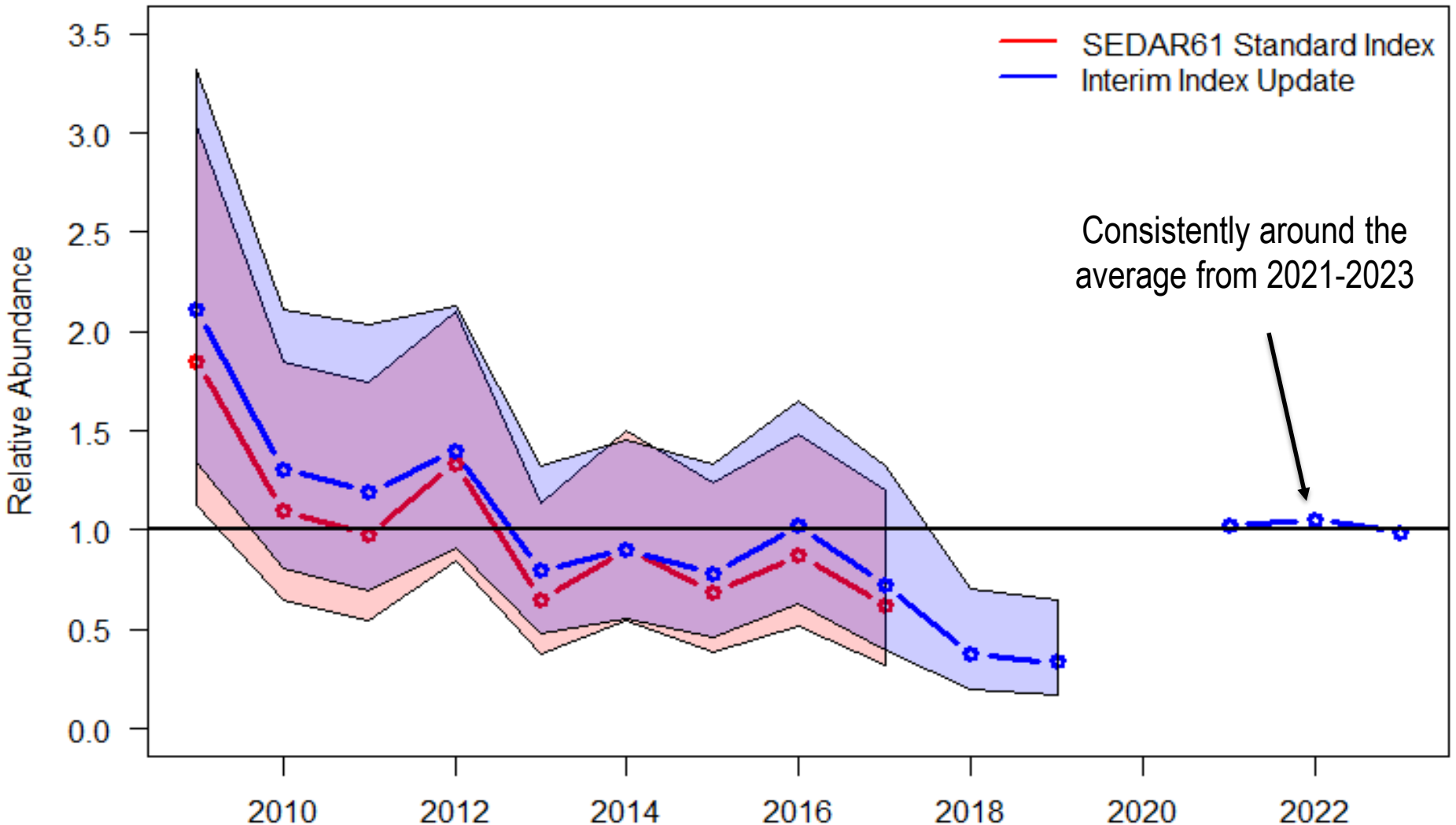
Updated bottom longline index

Index shown is for the entire Eastern Gulf



Updated summer groundfish index

Not conducted
in 2020



Summary

Bottom Longline Survey:

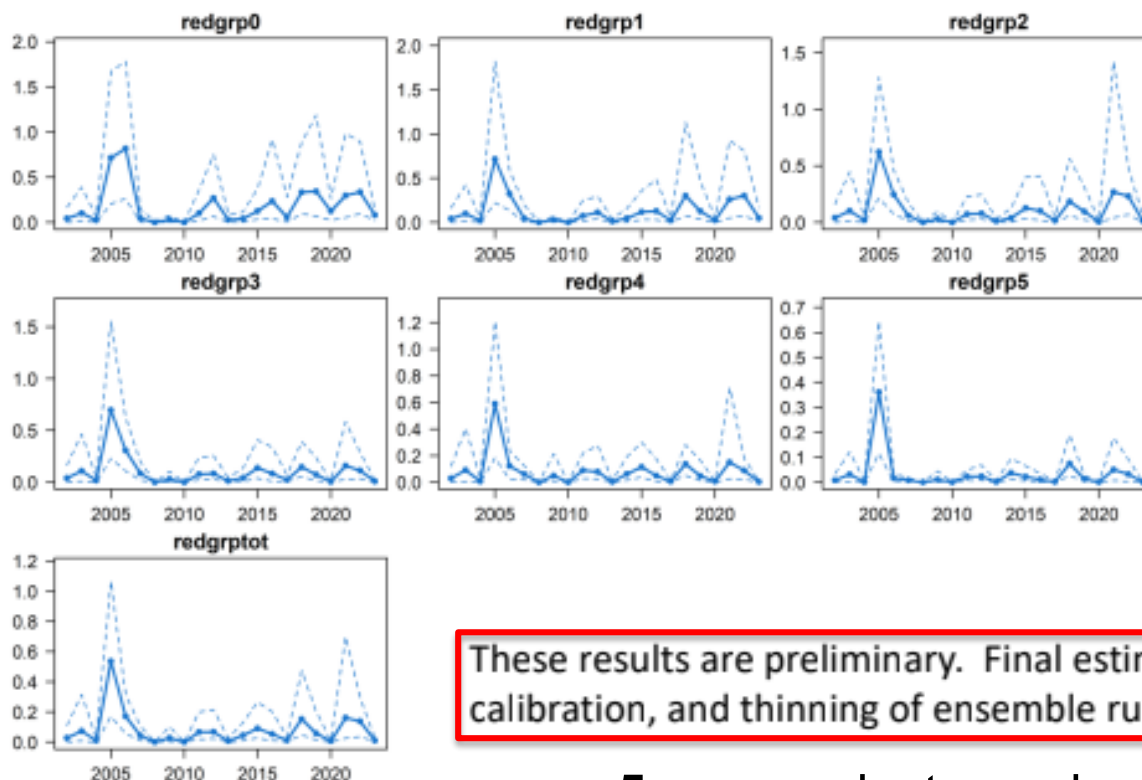
- Shows below average relative abundance in the last few years
- 2022-2023 relative abundance similar to 2018-2019 levels

Groundfish Survey:

- Relative abundance in the last three years has remained around the mean of the time series
 - Matches observations that lots of young red grouper are being encountered by fishermen
- What about red tides?

West Florida Shelf red tide mortality

Red Tide Mortality on Red Grouper ages 0-5+ Jan 2002- June 2023 – *uncalibrated example*



year	age-0 mean	combined ages mean
2005	0.714	0.537
2006	0.819	0.171
2012	0.268	0.068
2014	0.041	0.041
2016	0.235	0.054
2018	0.334	0.153
2019	0.343	0.058
2020	0.125	0.008
2021	0.297	0.162
2022	0.337	0.138
To June 2023	0.082	0.010

These results are preliminary. Final estimates will have undergone additional calibration, and thinning of ensemble runs that are unreasonable.

5-year project ongoing (2023-2028) to operationalize the WFS Ecosystem Model (PI: Chagaris)

From SEDAR 88 Red Tide Topical Working Group Webinar #1

Questions?

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

Point of Contact:

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NMFS Bottom Longline Index

Survey Year	Frequency	N	Delta-Lognormal Index	Scaled Index (mean = 1)	Coefficient of Variation	Lower Confidence Level	Upper Confidence Level
2001	0.21505	93	0.73981	0.86124	0.29113	0.48683	1.52359
2002							
2003	0.34188	117	0.99255	1.15546	0.2026	0.77366	1.72569
2004	0.41837	98	1.60686	1.87061	0.19351	1.2748	2.74488
2005	0.25	40	0.56046	0.65246	0.40675	0.29832	1.42697
2006	0.28205	39	0.51921	0.60443	0.3931	0.2832	1.29002
2007	0.19048	42	0.83174	0.96826	0.46521	0.39952	2.34663
2008	0.26667	60	0.58926	0.68598	0.32204	0.36598	1.28576
2009	0.34921	63	0.89936	1.04698	0.26445	0.62246	1.76101
2010	0.34328	67	1.16901	1.36089	0.26011	0.8158	2.2702
2011	0.40164	122	2.27922	2.65332	0.18135	1.85159	3.80218
2012	0.46939	49	2.20119	2.56249	0.25496	1.55126	4.23292
2013	0.34043	47	0.97273	1.13239	0.30474	0.62396	2.05514
2014	0.2619	42	0.56876	0.66212	0.38427	0.3152	1.39087
2015	0.25	52	0.727	0.84633	0.35958	0.42136	1.6999
2016	0.18	50	0.34287	0.39915	0.43468	0.1737	0.91723
2017	0.31818	44	0.71437	0.83162	0.34068	0.42865	1.61344
2018	0.1875	48	0.42578	0.49566	0.42696	0.21865	1.12364
2019	0.21053	38	0.44294	0.51565	0.4617	0.21406	1.24215
2020	0.31429	35	0.65219	0.75924	0.38542	0.36068	1.5982
2021	0.21622	37	0.78041	0.9085	0.45009	0.38483	2.14477
2022	0.16667	42	0.44664	0.51995	0.48375	0.20781	1.30094
2023	0.2	45	0.43576	0.50729	0.4351	0.22059	1.16661