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FISHERIES

SEFSC
PEM Division

Updated Red Snapper Abundance Indices from the SEFSC Shark/Red Snapper and DISL Bottom Longline Surveys

SSC Meeting
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SEFSC Shark/Red Snapper Bottom Longline Survey

- Survey Design: Stratified random with proportional allocation by area
- Area Sampled: Brownsville, TX – FL Keys
- Season: July – September
- Depth Range: 9 – 366 m (9 – 55 m, 55 – 183 m, 183 – 366 m)
- Time Range: 2001 – 2021
- Gear:
 - 1 nm mainline
 - Hooks: 100 15/0 circle hooks
 - Bait: Atlantic mackerel
 - Soak Time: 1 hour

* Combined with data from DISL bottom longline survey per recommendation at SEDAR 52



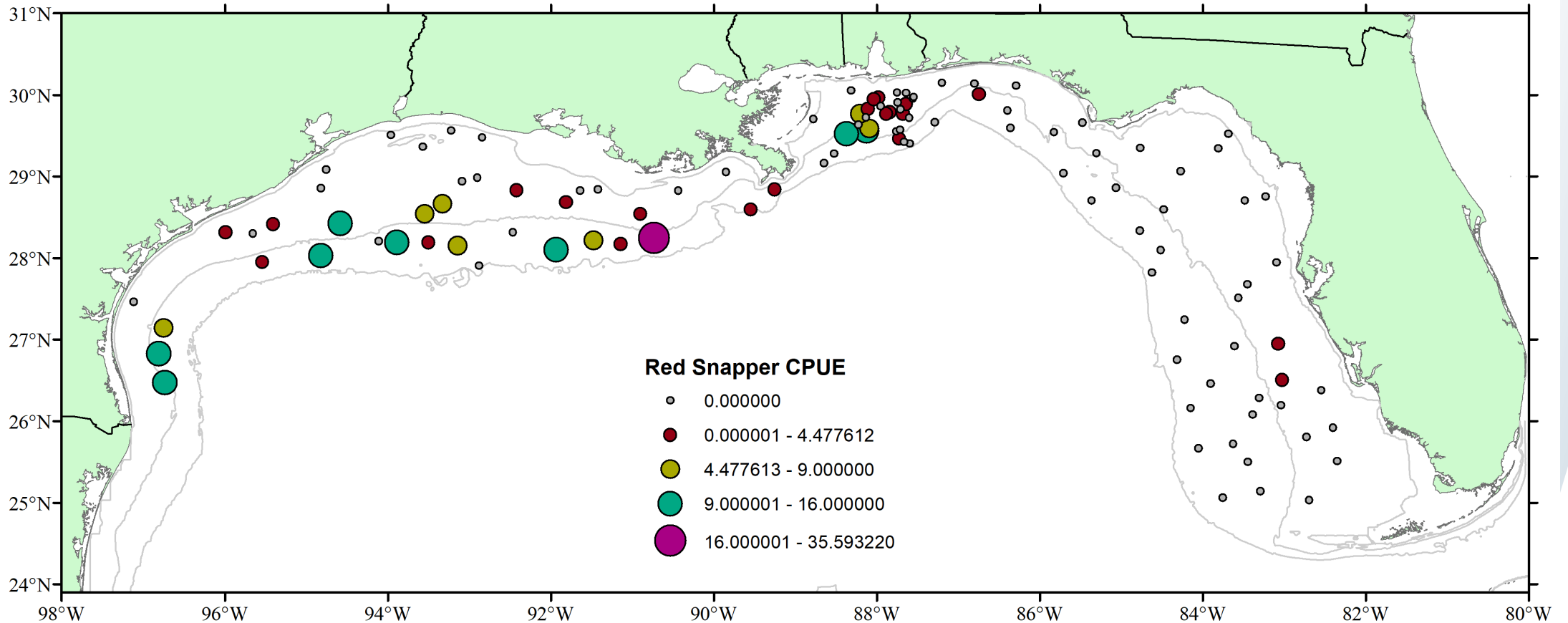
DISL Bottom Longline Survey

- Survey Design: Stratified random
- Area Sampled: nearshore and offshore waters of Alabama
- Season: April – October *
- Depth Range: 3.6 – 125 m
- Time Range: 2010 – 2021
- Gear:
 - 1 nm mainline
 - Hooks: 100 15/0 circle hooks
 - Bait: Atlantic mackerel
 - Soak Time: 1 hour

* Data limited to match time frame of SEFSC survey (July – September)



2021 Bottom Longline Sampling (SEFSC and DISL)



* Abbreviated sampling off south Texas due to vessel breakdown

* Data limited to stations < 183 m

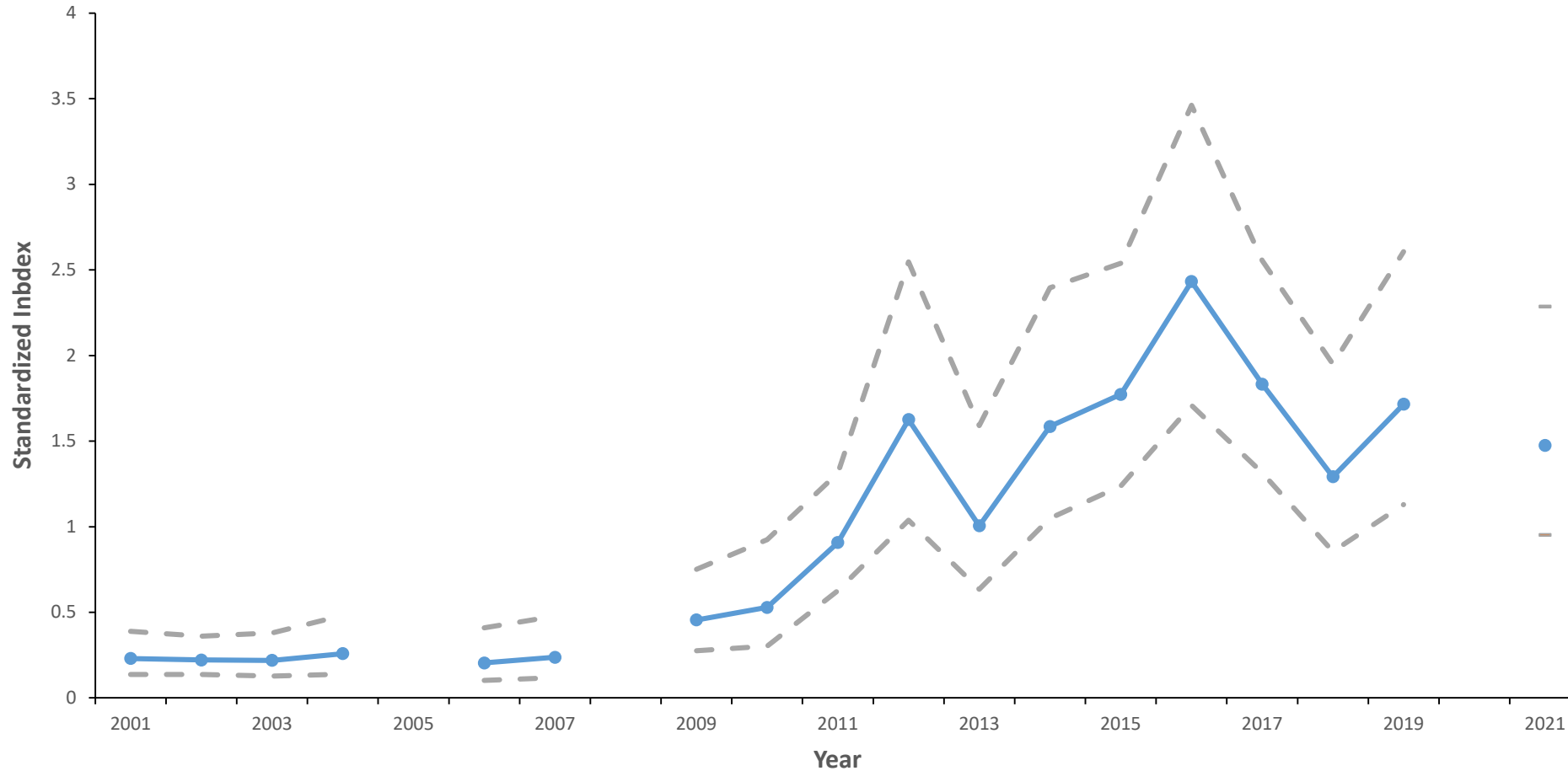


Methodology

- Gulf-wide data used
- Delta-lognormal model
 - Variables
 - Year: 2001 – 2004, 2006 – 2007, 2008 – 2019, 2021
 - Source: NOAA Fisheries, DISL
 - Area: TX, LA, MS/AL, North FL (north of 28°), South FL (south of 28°)
 - Depth: 9 – 183 m (continuous)
- Final submodels
 - Binomial: Year, Source, Area, Depth
 - Lognormal: Year, Area



Updated Gulf-Wide Red Snapper Relative Abundance



Updated Gulf-wide Red Snapper Relative Abundance

Survey Year	Nominal Frequency	N	Lo Index	Scaled Lo Index	CV	LCL	UCL
2001	0.11245	249	0.35036	0.27956	0.27069	0.16425	0.47584
2002							
2003	0.09843	254	0.33339	0.26603	0.27946	0.15372	0.46038
2004	0.09005	211	0.37891	0.30235	0.32035	0.16182	0.56493
2005							
2006	0.11719	128	0.30149	0.24057	0.35352	0.12111	0.47788
2007	0.11364	132	0.34655	0.27653	0.35370	0.13917	0.54947
2009	0.18293	164	0.63834	0.50936	0.25074	0.31085	0.83465
2010	0.16901	142	0.69956	0.55821	0.27848	0.32315	0.96423
2011	0.21687	249	1.15414	0.92094	0.18673	0.63596	1.33364
2012	0.26316	133	1.94044	1.54837	0.22172	0.99907	2.39967
2013	0.23226	155	1.40399	1.12031	0.22687	0.71572	1.75359
2014	0.32090	134	1.80961	1.44397	0.20409	0.96403	2.16285
2015	0.32934	166	2.00872	1.60285	0.18051	1.12036	2.29311
2016	0.39286	140	2.67594	2.13526	0.17373	1.51240	3.01462
2017	0.40385	156	2.05116	1.63671	0.16366	1.18239	2.26561
2018	0.29655	145	1.55429	1.24024	0.20383	0.82844	1.85673
2019	0.33333	123	1.96896	1.57112	0.20496	1.04715	2.35728
2020							
2021	0.32174	115	1.68887	1.34763	0.21536	0.88029	2.06307



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