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SEFSC

Gulf Fisheries Branch

SEDAR 68 – Gulf of America Scamp/Yellowmouth Grouper

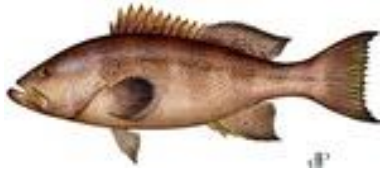
Operational Assessment - Council Request Additional Projections SSC Review

May 8, 2025

Scamp Grouper: *Mycteroperca phenax*

Where are we now

- December 2024 Council request
  - Update projections



Yellowmouth Grouper: *M. interstitialis*

Year	2019	2020	2021	2022	2023	2024	2025
January	Appointments	Data Process & Virtual Data Workshop (DW)	Assessment Process (AP)	Operational Assessment (OA)			
February							
March					SSC (Final Projections)		
April							
May							SSC
June	Stock ID Process						
July					58A IPT starts		
August			Review Workshop (RW)				
September				SSC			
October							
November	Data Process		SSC				
December		Assessment Process (AP)					

- Results of assessment still not implemented

Summary

- Available at: https://sedarweb.org/documents/sedar-68-gulf-of-mexico-scamp-grouper-operational-assessment-executive-summary-report/

Scamp Grouper (*Mycteroperca phenax*)
SouthEast Data, Assessment, and Review (SEDAR) 68 Summary
Gulf SSC Review Completed March 2023

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Data Inputs

Recreational and commercial landings and dead discards predicted by the assessment model are shown (Figure 1). Recreational removals were updated using the Fishing Effort Survey. Indices of relative abundance were included from multiple sources (Figure 2).

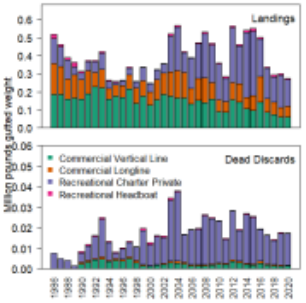

Figure 1: Final landings and dead discard estimates from the SEDAR 68 Operational Assessment model for commercial and recreational fisheries in millions of pounds, 1986-2020.

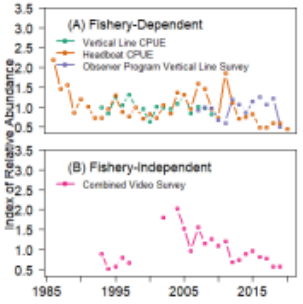

Figure 2: Fishery-dependent (A) and -independent (B) indices of abundance input into the SEDAR 68 Operational Assessment model.

Stock Status

The assessment found that Scamp Grouper in the Gulf is not overfished and not undergoing overfishing as of 2020 using a Spawner Potential Ratio of 40% (Figure 3). Benchmarks including the Maximum Fishing Mortality Threshold (MFMT) and Minimum Stock Size Threshold (MSST) are defined in Table 1.

Table 1: Benchmarks from the SEDAR 68 Operational Assessment model. Spawning Stock Biomass (SSB) = metric tons, F = harvest rate (total biomass killed / total exploitable biomass).

Benchmarks	
Spawner Potential Ratio (SPR)	40%
Natural Mortality Rate (M)	0.16
MFMT = $F_{MSYproxy}$	0.12
$F_{2018-2020}$/ MFMT	0.79
Overfishing (F/MFMT> 1)?	No
$SSB_{MSYproxy}$	1,230
MSST = (0.75)*$SSB_{MSYproxy}$	923
$SSB_{2020}/SSB_{Unfished}$	0.34
SSB_{2020}/MSST	1.41
Overfished (SSB/MSST< 1)?	No

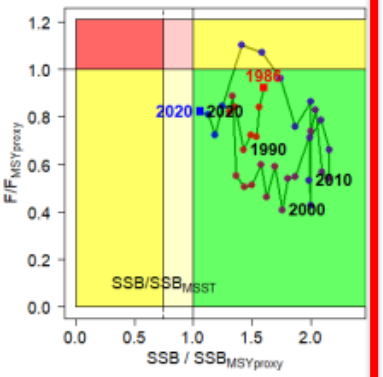

Figure 3: Kobe plot showing the progression of exploitation status of Gulf Scamp Grouper from 1986 (red) to 2020 (blue), with MSST denoted.

Assessment Outcome

The Gulf of Mexico Fishery Management Council's Scientific and Statistical Committee (SSC) accepted the SEDAR 68 Operational Assessment model as the best scientific information available, and deemed it appropriate for providing management advice (Tables 1-2).

Projections

Final projections were run using an MSYproxy of 40% SPR, the reported landings for 2021, and using the average of 2019-2021 landings as the proxy for the interim projection years of 2022 and 2023 for each fleet. For determining catch advice, the SSC supported using the mean recruitment over the last 10 years, which was below the mean of the time series where recruitment was estimated (Figure 4).

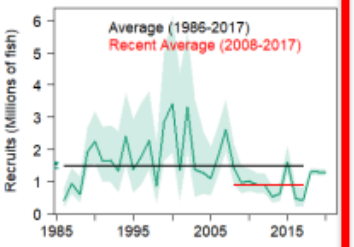

Figure 4: Annual and virgin (dot) recruitments estimated by the SEDAR 68 Operational Assessment model with uncertainty estimates (shading).

Table 2: SSC recommended catch levels for the Overfishing Limit (OFL; yield at FMSYproxy) and the Acceptable Biological Catch (ABC; yield at 75% FMSYproxy) for 2024-2026 (shown in Figure 5). Catch units are million pounds gutted weight (mp gw).

Yr	OFL	ABC
2024	0.271	0.203
2025	0.263	0.203
2026	0.257	0.203

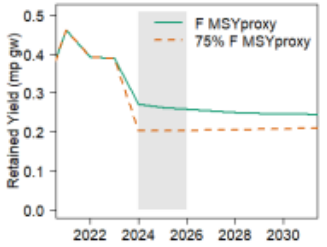

Figure 5: Retained yields from the OFL and ABC projections with the years highlighted (in gray) for catch advice.

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Council Request

Motion: Request the Council's SSC provide a comparison of MSY Proxy of 30%SPR and 40%SPR and associated catch level projections for scamp [and yellowmouth] grouper. In addition to catch level projections, the comparison should highlight the consequences for management of using either MSY Proxy.

Therefore, the Council requests that the Southeast Fisheries Science Center update landings and re-run its projections for scamp and yellowmouth grouper based on the SEDAR 68 model as approved by the SSC, and provide yield stream projections under both $F_{30\%SPR}$ and $F_{40\%SPR}$. These projections should use finalized recreational and commercial landings data through 2023 as available to improve their accuracy and applicability to future management decisions. Once completed, these projections should be presented to the SSC at its May 2025 meeting, if possible, to allow for their consideration in providing management advice for Draft Amendment 58A.

Projection settings

What has changed since March 2023 projections

Parameter	Value	Comment
Relative F	Average from 2018-2020	Average relative fishing mortality (apical F) over terminal three years of model
Selectivity	Average from 2018-2020	Fleet specific selectivity estimated over terminal three years of model
Retention	Average from 2018-2020	Fleet specific retention estimated over terminal three years of model
Recruitment (catch advice)	Average from 2008-2017	Average recruitment over the last ten years where estimate
Commercial Interim Landings (2021-2026)	63,666/70,318/60,633/64,872/29,841 lb gw (Vertical Line); 66,316/52,434/48,504/55,751/25,646 lb gw (Longline)	Landings provided for 2021-2023; For 2024-2026, used 3-year average but 2026 reduced by 54%
Recreational Interim Landings (2021-2026)	83,596/95,006/52,535/77,046/35,441 fish (Charter Private); 3,133/2,836/2,379/2,783/1,280 fish (Headboat)	Landings provided for 2021-2023; For 2024-2026, used 3-year average but 2026 reduced by 54%
Allocation ratio	None	Commercial:Recreational

Recent finalized landings

Year	Commercial Vertical Line (lb gw)	Commercial Longline (lb gw)	Charter-Private (number)	Headboat (number)
2021	63,666	66,316	83,596	3,133
2022	70,318	52,434	95,006	2,836
2023	60,633	48,504	52,535	2,379
2021-2023	64,872	55,751	77,046	2,783

- Recreational landings in lb gw* (not used in the assessment)

Fleet	2021	2022	2023
Charter-Private	308,067	315,904	205,294
Headboat	11,544	8,977	6,998

*Source: mrip_fes_rec81_24wv6_25feb25 file

Start 2027: OFL projection (mp gutted weight)

Year	Recr (1,000s)	F	F/ FSPR30	SSB	SSB/ SSBSPR30*	SSB/ MSST*	SSB ratio	OFL	OY
2021	900	0.149	0.874	1,321	1.645	2.193	0.350		
2022	900	0.178	1.044	1,200	1.494	1.992	0.318		
2023	900	0.128	0.748	1,063	1.323	1.764	0.282		
2024	900	0.177	1.036	1,004	1.250	1.667	0.266		
2025	900	0.190	1.110	913	1.137	1.516	0.242		
2026	900	0.093	0.545	835	1.039	1.386	0.221		
2027	900	0.171	1	854	1.063	1.417	0.227	0.338	0.304
2028	900	0.171	1	811	1.010	1.347	0.215	0.321	0.289
2029	900	0.171	1	778	0.969	1.292	0.206	0.308	0.277
2030	900	0.171	1	753	0.937	1.250	0.200	0.298	0.268
2031	900	0.171	1	733	0.913	1.217	0.194	0.291	0.261

- Assuming recent mean recruitment where:
  - MSY proxy = yield when fishing at **30%SPR ($F_{30\%SPR}$)**
  - OY = Optimum Yield = 0.9 * MSY proxy

Start 2027: ABC projection (mp gutted weight)

Year	Recr (1,000s)	F	F/ FSPR30	SSB	SSB/ SSBSPR30*	SSB/ MSST*	SSB ratio	Yield
2021	900	0.149	0.874	1,321	1.645	2.193	0.350	
2022	900	0.178	1.044	1,200	1.494	1.992	0.318	
2023	900	0.128	0.748	1,063	1.323	1.764	0.282	
2024	900	0.177	1.036	1,004	1.250	1.667	0.266	
2025	900	0.190	1.110	913	1.137	1.516	0.242	
2026	900	0.093	0.545	835	1.039	1.386	0.221	
2027	900	0.128	0.75	854	1.063	1.417	0.227	0.254
2028	900	0.128	0.75	846	1.053	1.404	0.224	0.251
2029	900	0.128	0.75	841	1.047	1.397	0.223	0.250
2030	900	0.128	0.75	838	1.044	1.392	0.222	0.249
2031	900	0.128	0.75	837	1.042	1.389	0.222	0.248

- Assuming recent mean recruitment where:
  - MSY proxy = yield when fishing at **30%SPR ($F_{30\%SPR}$)**
  - ABC = 0.75 of $F_{30\%SPR}$

Start 2027: OFL projection (mp gutted weight)

Year	Recr (1,000s)	F	F/ FSPR40	SSB	SSB/ SSBSPR40*	SSB/ MSST*	SSB ratio	OFL	OY
2021	900	0.149	1.277	1,321	1.077	1.436	0.350		
2022	900	0.178	1.525	1,200	0.978	1.304	0.318		
2023	900	0.128	1.093	1,063	0.866	1.155	0.282		
2024	900	0.177	1.513	1,004	0.818	1.091	0.266		
2025	900	0.190	1.622	913	0.744	0.992	0.242		
2026	900	0.093	0.796	835	0.680	0.907	0.221		
2027	900	0.117	1	854	0.696	0.928	0.227	0.232	0.208
2028	900	0.117	1	855	0.697	0.929	0.227	0.232	0.209
2029	900	0.117	1	858	0.699	0.933	0.228	0.233	0.209
2030	900	0.117	1	862	0.703	0.937	0.229	0.233	0.210
2031	900	0.117	1	866	0.706	0.941	0.230	0.234	0.211

- Assuming recent mean recruitment where:
  - MSY proxy = yield when fishing at **40%SPR ($F_{40\%SPR}$)**
  - OY = Optimum Yield = 0.9 * MSY proxy

Start 2027: ABC projection (mp gutted weight)

Year	Recr (1,000s)	F	F/ FSPR40	SSB	SSB/ SSBSPR40*	SSB/ MSST*	SSB ratio	Yield
2021	900	0.149	1.277	1,321	1.077	1.436	0.350	
2022	900	0.178	1.525	1,200	0.978	1.304	0.318	
2023	900	0.128	1.093	1,063	0.866	1.155	0.282	
2024	900	0.177	1.513	1,004	0.818	1.091	0.266	
2025	900	0.190	1.622	913	0.744	0.992	0.242	
2026	900	0.093	0.796	835	0.680	0.907	0.221	
2027	900	0.088	0.75	854	0.696	0.928	0.227	0.174
2028	900	0.088	0.75	879	0.716	0.955	0.233	0.179
2029	900	0.088	0.75	904	0.737	0.982	0.240	0.184
2030	900	0.088	0.75	927	0.755	1.007	0.246	0.188
2031	900	0.088	0.75	947	0.772	1.029	0.251	0.192

- Assuming recent mean recruitment where:
  - MSY proxy = yield when fishing at **40%SPR ($F_{40\%SPR}$)**
  - ABC = 0.75 of $F_{40\%SPR}$

Start 2027: Frebuild (by 2035) projection (mp gutted weight)

Year	Recr (1,000s)	F	F/ FSPR40	SSB	SSB/ SSBSPR40*	SSB/ MSST*	SSB ratio	Yield
2021	900	0.149	1.277	1,321	1.077	1.436	0.350	
2022	900	0.178	1.525	1,200	0.978	1.304	0.318	
2023	900	0.128	1.093	1,063	0.866	1.155	0.282	
2024	900	0.177	1.513	1,004	0.818	1.091	0.266	
2025	900	0.190	1.622	913	0.744	0.992	0.242	
2026	900	0.093	0.796	835	0.680	0.907	0.221	
2027	900	0.046	0.396	854	0.696	0.928	0.227	0.092
2028	900	0.046	0.396	913	0.744	0.992	0.242	0.098
2029	900	0.046	0.396	971	0.791	1.055	0.257	0.104
2030	900	0.046	0.396	1,024	0.835	1.113	0.272	0.110
2031	900	0.046	0.396	1,074	0.875	1.167	0.285	0.115
2032	900	0.046	0.396	1,119	0.912	1.215	0.297	0.119
2033	900	0.046	0.396	1,159	0.944	1.259	0.307	0.123
2034	900	0.046	0.396	1,195	0.974	1.298	0.317	0.127
2035	900	0.046	0.396	1,227	1	1.333	0.325	0.130
2036	900	0.117	1	1,255	1.023	1.364	0.333	0.336

Questions?

Thank you for your attention!

Extra slides

Start 2027: OFL projection (mp gutted weight)

Year	Recr (1,000s)	F	F/ FSPR30	SSB	SSB/ SSBSPR30*	SSB/ MSST*	SSB ratio	OFL	OY
2027	1168.64	0.171	1	1,000	1.245	1.660	0.265	0.398	0.358
2028	1157.80	0.171	1	972	1.210	1.613	0.258	0.385	0.347
2029	1148.12	0.171	1	947	1.179	1.572	0.251	0.375	0.337
2030	1140.23	0.171	1	928	1.155	1.540	0.246	0.368	0.331
2031	1133.77	0.171	1	912	1.136	1.514	0.242	0.362	0.326

- **Recruitment from SR curve**:
  - MSY proxy = yield when fishing at **30%SPR ($F_{30\%SPR}$)**
  - OY = Optimum Yield = 0.9 * MSY proxy

Year	OFL (Recent Mean)	OFL (SR Curve)	Difference
2027	0.338	0.398	0.060
2028	0.321	0.385	0.064
2029	0.308	0.375	0.067
2030	0.298	0.368	0.070
2031	0.291	0.362	0.071

Start 2027: OFL projection (mp gutted weight)

Year	Recr (1,000s)	F	F/ FSPR40	SSB	SSB/ SSBSPR40*	SSB/ MSST*	SSB ratio	OFL	OY
2027	1168.64	0.117	1	1,000	0.815	1.087	0.265	0.273	0.245
2028	1177.10	0.117	1	1,023	0.834	1.112	0.271	0.278	0.250
2029	1183.95	0.117	1	1,043	0.850	1.133	0.277	0.282	0.254
2030	1189.89	0.117	1	1,060	0.864	1.151	0.281	0.287	0.258
2031	1195.21	0.117	1	1,075	0.876	1.168	0.285	0.291	0.262

- **Recruitment from SR curve**:
  - MSY proxy = yield when fishing at **40%SPR ($F_{40\%SPR}$)**
  - OY = Optimum Yield = 0.9 * MSY proxy

Year	OFL (Recent Mean)	OFL (SR Curve)	Difference
2027	0.232	0.273	0.041
2028	0.232	0.278	0.046
2029	0.233	0.282	0.049
2030	0.233	0.287	0.054
2031	0.234	0.291	0.057