

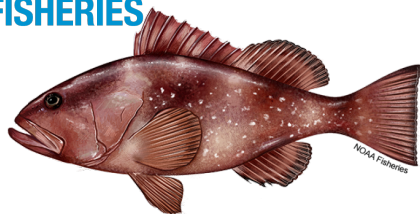


# Gulf of America Red Grouper (*Epinephelus morio*)

## SouthEast Data, Assessment, and Review (SEDAR) 88 Summary

Gulf SSC Review Completed: February 2025 (Assessment) and May 2025 (Projections)

**NOAA**  
**FISHERIES**



### Data Inputs

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

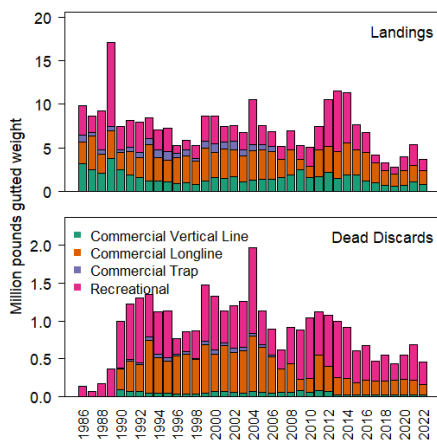


Figure 1: Final landings and dead discard estimates from the SEDAR 88 Operational Assessment model for commercial and recreational fisheries in millions of pounds, 1986-2022.

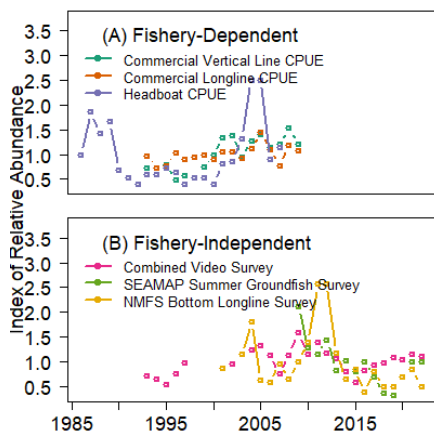


Figure 2: Fishery-dependent (A) and -independent (B) indices of abundance input into the SEDAR 88 Operational Assessment model.

### Stock Status

The assessment found that Red Grouper in the Gulf is not overfished and not undergoing overfishing as of 2022 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 88 Operational Assessment model. Spawning Stock Biomass (SSB) = relative number of eggs,  $F$  = harvest rate (total biomass killed / total exploitable biomass).

Benchmarks	
Spawner Potential Ratio (SPR)	40%
Natural Mortality Rate ( $M$ )	0.19
MFMT = $F_{MSYproxy}$	0.16
$F_{2020-2022} / MFMT$	0.47
Overfishing ( $F/MFMT > 1$ )?	No
$SSB_{MSYproxy}$	504,433
$MSST = (0.50) * SSB_{MSYproxy}$	252,216
$SSB_{2022} / SSB_{Unfished}$	0.41
$SSB_{2022} / MSST$	2.62
Overfished ( $SSB/MSST < 1$ )?	No

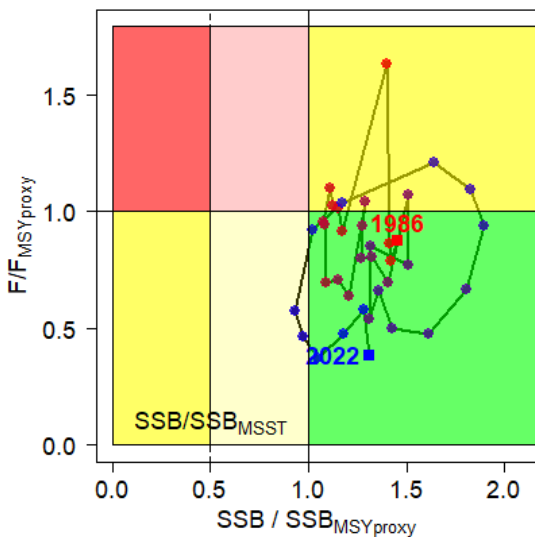


Figure 3: Kobe plot showing the progression of exploitation status of Gulf Red Grouper from 1986 (red) to 2022 (blue), with MSST denoted.

### Assessment Outcome

The Gulf Fishery Management Council's Scientific and Statistical Committee (SSC) accepted the SEDAR 88 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  $MSY_{proxy}$  of 40% SPR, the reported landings for 2023, and using the average of 2021-2023 landings as the proxy for the interim projection year of 2024 for each fleet. Projections were run assuming sector allocations (40.7% recreational, 59.3% commercial) would remain the same into the future. Forecast recruitment values were derived from the model-estimated Beverton-Holt stock-recruit relationship (Figure 4).

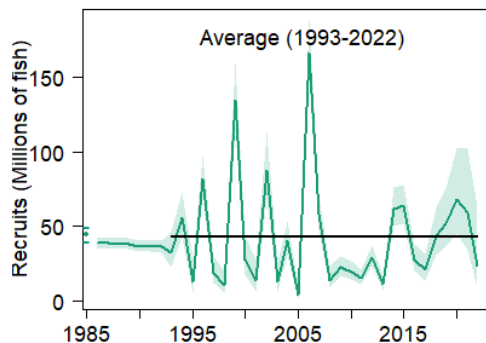


Figure 4: Annual and virgin (dot) recruitments estimated by the SEDAR 88 Operational Assessment model with uncertainty estimates (shading).

Table 2: SSC recommended catch levels for the Overfishing Limit (OFL; yield at  $F_{MSYproxy}$ ) and the Acceptable Biological Catch (ABC; yield at 75%  $F_{MSYproxy}$ ) for 2025-2027 (shown in Figure 5). Catch units are million pounds gutted weight (mp gw).

Yr	OFL	ABC
2025	10.64	8.24
2026	10.64	8.24
2027	10.64	8.24

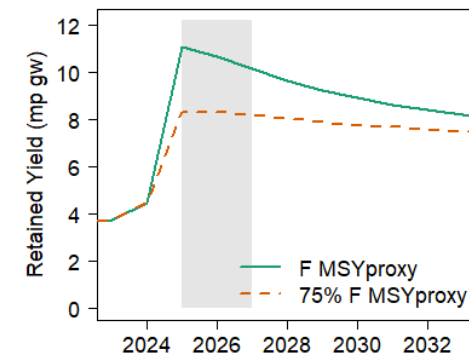


Figure 5: Retained yields from the OFL and ABC projections with the years highlighted (in gray) for catch advice.