

**SEDAR 68: Gulf of Mexico Scamp  
Assessment Webinar III – Summary  
March 22, 2021, 9:00 AM – 12:00 PM**

Gulf Scamp:

*Data Updates*

The model start year has been set at 1986 to correspond with the time period for which most of the data are available. The new version of Stock Synthesis can allow the user to set when hermaphroditism is thought to begin by age, and the proportion transitioned. These data have been input into the model, with the proportion transitioned capped at 0.89, based on observations.

Discard mortality rates have been specified based on observations by fleet: commercial vertical line at 47%; commercial longline at 68%; and, combined charter for-hire and private vessels, and headboats, at 26%. Model fits to commercial vertical line discard data are good, with the discard fraction oscillating between 20-40%. The commercial longline discard fraction varies from 30-60%, with poor model fitting to observed data. Time blocks for retention are being used, and assume all fish were retained before minimum size limits were implemented (pre-1999 versus 1999-2009). Also, the data suggest that retention was affected by the implementation of the IFQ program (2010+), which has been established as a third time block for retention.

Fleet-specific selectivities are flat topped for the commercial fleets, and dome-shaped for the recreational fleets. Commercial fleets exhibit knife-edged selectivity just beyond the minimum size limit, possibly due to fishing generally deeper than other fleets, and in association with other species typically harvested on commercial fishing trips. Recreational fleets show a knife-edged spike in selectivity at length at the minimum size limit, but some discards of legal-sized fish appear to be occurring, perhaps due to management bias by way of bag limits for reef fish and/or groupers. Dome-shaped selectivity is used for the recreational fleets, and is indicative of those fleets likely not fishing the stock throughout its spatial distribution, and more often targeting smaller, younger fish. The commercial fleets follow a logistic selectivity pattern.

Landings for recreational data were fit by the model using fixed coefficients of variance (CVs) due to an unreasonably large charter/private data point in 1992. Commercial landings data are being treated as known with very low error, especially for the IFQ period (2010-2017). Recreational data begin in 1986, while commercial data are available back to 1962. The model assumes constant catchability across the time series. Fishery-independent monitoring informed indices of relative abundance include the combined video survey and the Reef Fish Observer Program (RFOP) data from the commercial vertical line fleet. Model fits to the combined video survey data are decent, while those to the RFOP data are poor, and have considerably larger CVs by comparison. CVs for these indices have been used as provided.

Strong recruitment was observed in 1998, 2000, and 2002. Large uncertainty in those CVs for recruitment deviations is observed, further reinforcing a poorly understood relationship between recruitment and stock size.

Fits to length composition data are generally good for all fleets, with some observed data at the peaks of the distribution being missed by the model. The model is downweighting recreational landings and RFOP observations due to greater CVs for those data streams. Discard length compositions show discards above and below the minimum size limit for both commercial fleets. Landed fish length compositions show strong patterns from 1989-1999, 2000-2012, and 2013+ for the comm vertical line fleet, and pre-1999, 2000-2008, and 2009+ for the commercial longline fleet. Patterns may be explained by targeted effort for red grouper and gag, combined with management bias by way of minimum size limits and fishing seasons. Scamp are not a traditionally individually targeted species; therefore, other data may explain the patterns observed in the residuals.

Next steps include: continue refining the base model, tune selectivities, diagnostics, and sensitivities (rec landings in weights, input mean size, male contribution to SSB, discards as fleets configuration).

Assessment Webinar IV will be the week of April 19, 2021 The completed Assessment Report is due to SEDAR on July 16, 2021
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### Participants

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