

SEDAR 64 Assessment Webinar IV
Southeastern US Yellowtail Snapper
December 11, 2019 from 10:00 AM to 11:30 PM
Summary Report

Decision Review

The start year for the model was changed to 1992, due to high levels of uncertainty in most data streams prior to 1992. Sensitivity to this change was only apparent in the MSST management benchmark. The maximum age was also adjusted to 20 years, and annual variability was allowed for commercial catchability.

Base Model Fits

Model fits to landings data are largely unchanged, and fit almost exactly to observed landings. Fits to commercial discards remain uninformative, while the same for headboat are good and marginal for MRIP. Fits to the commercial CPUE is improved due to allowing annual variability, and other index CPUE fits remain unchanged. Fits to length composition data miss the peaks of the harvest indices, but fit well otherwise. Generally, the commercial length composition estimates seem to be overestimating the number of small fish and underestimating the number of large fish. Growth platoons were explored; however, the data to validate those patterns are not yet available.

Base Model Results

The spawning stock biomass ratio for SEDAR 64 is lower than those estimated for SEDAR 3 and SEDAR 27A, all of which projected a healthy stock (above both the MSST and the SSB@F30%SPR, and increasing). Fishing mortality compared between the models indicates that fishing mortality has remained below MFMT since the mid-190s. Recruitment and spawning potential ratio trends show similarities between the SEDAR 3 and SEDAR 64 models, with the SEDAR 27A results projecting higher results for both.

Diagnostics

A jitter analysis varying the starting parameter values by up to 20% was performed. Since most of the parameters in this model are estimated, a large proportion of the model space can be tested. The model showed some sensitivity to the retention parameters and to the estimates for the Reef Fish Visual Census index.

Bootstrapping for 500 runs resulted in only one failed run. Steepness produced the greatest number of runs near the bounds of the exercise, followed by several selectivity parameters.

Retrospective analyses used an analysis of Mohn's Rho by Hurtado et al., which showed very little pattern as years of data are removed. Generally, trends in spawning stock biomass, recruitment, age-4 fishing mortality, and unfished spawning stock biomass are largely consistent.

A jack-knife analysis on the indices of abundance shows marked increases in abundance between 2000 and 2010, with the commercial index showing a steeper slope than MRIP. Index removal indicates that removing the MRIP index has the greatest effect on the model, and gives larger estimates of spawning stock biomass and, to a lesser degree recruitment and spawning potential ratio, than the removal of the other indices. Age-4 fishing mortality is lower when the MRIP data are removed.

Sensitivities

Beginning the model in 1981 results in a lower estimate of steepness, but marginal differences in model results between the sensitivity and the base model. When allowing catchability to vary with time, model fits worsened. Using recruitment platoons to model multiple settlement events worsened model fits, but may be useful in future assessments. Changes to commercial discard mortality had little effect on model fits, while increasing recreational discard mortality summarily marginally improved model fits as discard mortality was increased to 30%. Francis reweighting gives a multiplier to all effective sample sizes for each fleet for length and length + age composition data. Upweighting does improve length composition fits, and does not change stock status.

Projections

Five-year projections were presented, with some concern expressed about the time between assessments. Generally, projections show slight decreases in annual estimates of spawning output.

AW working paper submission deadline	December 16, 2019
Assessment Report Draft to panel for review.....	January 13, 2020
AW report comments due to analysts	January 24, 2020
Final Assessment Report to SEDAR staff.....	January 31, 2020

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