SEDAR 67: Gulf of Mexico Vermilion Snapper
Assessment Webinar I – Summary
December 17, 2019, 10:00 AM – 11:00 AM

Data Updates

Shrimp bycatch data have been received, and are somewhat different year-to-year from SEDAR 45; however, shrimp bycatch will be incorporated as a super-year approach using the median of the time series; this is roughly equivalent to that which was used in SEDAR 45. Shrimp effort was reweighted using the SEAMAP data, and remains largely unchanged. Fits to age composition data are quite good. The SEAMAP combined video survey data have been updated, with an increase in that index seen in 2017. This combined survey uses data from the FWRI video survey, the NMFS Panama City Lab video survey, and the NMFS Pascagoula Lab video survey. These surveys appear to be picking up a large recruitment event in their nearshore sampling locations in 2016 – 2017. The Panel asked about the increase in the small fish being picked up by the surveys in recent years. The analysts replied that higher recruitment, combined with greater survey coverage, yields the increase in small fish being observed in the combined video index from the FWRI and Panama City surveys. Length composition fits to observed data for the SEAMAP combined video survey generally follow the observed trends.

Recreational landings increase considerably in the more recent years, led by the private angling component. Headboat CPUE indices increase in recent years in the eastern Gulf, while western Gulf CPUE appears flat. MRFSS CPUE shows a modestly increasing trend since the late 1990s.

Model Runs

MRIP-FES adjusted catch follows a very similar trend to the historical MRFSS data, with a deviation suggesting an increase in stock productivity beginning in the early 2000s. Everything else being equal, increasing recreational catch results in increases in estimates of total biomass and stock productivity. Further, recent recruitment spikes are predicted to be greater using MRIP-FES data, corresponding to increases in CPUE.

The continuity model, updated through 2017, and using Francis reweighting for the indices, showcases the considerable recruitment spike in recent years. This occurs concurrently with estimates of spawning output and the fraction of the unfished population. The Panel discussed whether the projected recruitment spike was the result of a spatial effect of the combined video sampling, or if the recent recruitment spike is real. ***The Panel recommended checking the combined video data to ensure that some subset of the sampling stations was not driving the total estimates of recruitment***. The analysts reminded the Panel that the spike was coming from nearshore sampling stations from two separate surveys in different areas, but would conduct a further examination of those data.

In the continuity model, fishing mortality is shown to peak in the mid-1990s due to shrimp bycatch; overall fishing mortality has declined since, with recreational fishing mortality increasing in recent years. The stock-recruit curve is poorly estimated, but recruitment is

predicted to have spiked considerably in the late 2010s. Generally, fits to model indices overfit in the early parts of the time series, and underfit in the more recent time series; an exception is the recreational MRIP index, which is underfit early and overfit later in its time series. The commercial indices are divided east and west, and pre- and post-red snapper IFQ. The headboat indices are also divided by eastern and western Gulf. The IFQ indices appear flat and uninformative, as does the SEAMAP groundfish survey. Model fits to age composition data are generally good, but are somewhat poorer for length composition data.

Planned Analyses

- Build full base model
- Include post-2006 commercial CPUE
- Incorporate discards
- Jitter analyses, likelihood profiling
- Test recruitment variance, risk analysis of 2015 recruitment
- Sensitivities
  - Drop all CPUE indices
  - Time block for shrimp bycatch
  - Increase age-0 natural mortality
  - Account for oil rig removals over time
- Projections
  - OFL ($F_{SPR30\%}$; MSST = 50% of F_{MSY})
  - F_{OY} (75% F_{MSY})
  - Constant Catch
  - 2018: use preliminary landings
  - 2019: use preliminary landings; else, use previous three-year mean
  - 2020: use previous three-year mean

Assessment Webinar II will be on January 23, 2020 at 10 AM
The completed Assessment Report is due to the Council on March 20, 2020

Participants

Adam Pollack	Katie Siegfried	Sean Powers
Beth Wrege	Buddy Guindon	Shannon Cass-Calay
Chip Collier	Kelly Fitzpatrick	Skyler Sagarese
David Hanisko	Ken Brennan	Julie Neer
David Walker	Kevin Thompson	Matt Smith
Dominique Lazarre	Meg Oshima	Dan Goethel
Jeff Isely	Nancie Cummings	Kathleen Howington
Jim Nance	Robert Allman	
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