SEDAR 64 Assessment Webinar I
Southeastern US Yellowtail Snapper
September 11, 2019 from 2:00 PM to 4:00 PM
Summary Report

Data Updates

Life History
Age and growth parameters and the growth curve were reviewed (parameters: L_∞ = 426 mm FL, k = 0.2, t_0 = -1.93). Natural mortality was set at 0.16 for a maximum age of 28, with an upper bound of 0.223 for a max age of 20, and a lower bound of 0.136 for a max age of 33. Discards 10% - 15% comm, 20% - 30% rec. L_{50} = 192 mm FL, A_{50} = 1.7. Will likely recommend age at maturity over length.

Landings
Landings data will include commercial (1962 – 2017), private recreational vessels and charter vessels (1981 – 2017), and headboats (1981 – 2017). Most landings come from the Florida Keys, followed by southeastern Florida. Commercial discards data are from 1993-2017, and recreational discards data are from 1981 – 2017. Most discards come from the recreational fleets, and from the Florida Keys. A spike in recreational discards in 1991 was observed. That data point is based on three intercepts (two reporting 50 YTS releases, and one 100 releases).

Length Compositions
Recreational fleets catch a wider distribution of sizes of YTS than the commercial fleet. Length frequency bins show consistency over time. Fish with lengths measuring from 26 – 32 cm FL make up the vast majority of fish caught. Pearson residual plots of length composition data by fleet do not show clear trends. Commercial discard length composition data are knife-edged at the minimum size limit. Recreational discard data are also knife-edged at the minimum size limit; however, these recreational components release larger numbers of smaller fish than the commercial fleet, possibly due to the 10-fish daily recreational bag limit and high-grading.

Ages
The commercial fleet is catching somewhat older fish than the recreational fleets. The majority of the stock is thought to be five years old or less, with a greater number of older individuals in the Florida Keys than in southeastern Florida. Across years, age frequencies appear relatively consistent.

Indices of Abundance
Nominalized indices of abundance all show a generally increasing trend in CPUE over the time series.

Lingering Data Questions
Non-random length samples will be removed, and length weighting methodology will not be extended to age composition data. A "birthday" of July 1 is presently assumed to calculate fractional age. Shifting the birthday to April 1 results in better parity between estimated size at age, and make more sense biologically.

Assessment Models
Age-Structured Assessment Program (ASAP) and Stock Synthesis can be used. ASAP is not quite as flexible as Stock Synthesis, but also requires that fewer assumptions be made about the data. ASAP was used as the continuity model, for which a Stock Synthesis mimic was also created. The models generally track each other well, showing a general increase in spawning stock biomass and spawner potential ratio over time, and a decreasing trend in fishing mortality over time. The ASAP continuity model is showing substantially higher recruitment than the Stock Synthesis mimic, with the ASAP continuity model producing a steepness value of 0.697 compared to 0.897 for the Stock Synthesis mimic.

Using the updated MRIP data, spawning biomass levels increase compared to the continuity models, while spawner potential ratio is lower and below management targets in early years. Recruitment with the new MRIP data corresponds more closely with the ASAP continuity run.

There are sufficient data to run either ASAP or Stock Synthesis. A strict continuity run with the old catch and effort data is not feasible due to the changes to MRIP over time, and data formats have also changed. The final continuity model will be run in ASAP with new MRIP data through 2017.

The base model configuration will consider a single season, with three harvest fleets (commercial, MRIP, headboat). The model will combine sexes for growth, but measure spawning stock biomass as female-specific SSB. Length bins are in 2 cm increments from 2 – 80 cm. Growth will be linear for the first six months, and then follow the von Bertalanffy growth curve. Juvenile and sub-adult, and adult, indices will be set to begin in July. A plus group for older ages will be set at 20+. The selectivity curves for the fleets will be modeled following a logistic curve for the commercial fleet, and a double logistic curve for the MRIP (private and charter) and headboat fleets. The model will begin in 1981, and the three fishery-dependent recreational discard samples in 1992 responsible for the large increase in that year will be removed.

Assessment Webinar II will be held on October 11, 2019

Participants:

Julie Neer	Fred Serchuk	Ryan Rindone
Alejandro Acosta	George Sedberry	Skyler Sagarese
Anne Lange	Jessica Carroll	Shanae Allen
Beth Babcock	Jim Nance	Steven Scyphers
Beth Wrege	Jim Tolan	Jim Nance
Bob Gill	Joe O'Hop	Martha Guyas
CJ Sweetman	John Buckheim	Dominique Lazarre
Dustin Addis	Kerry Flaherty-Walia	Chris Anderson
Ed Walker	Mike Larkin	Bob Muller