Presentation – Snapper Grouper Committee Meeting (9/11/12)

**Summary - Catch and Discard Characterization for Red Snapper, Speckled Hind and Warsaw Grouper**

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An observer program was implemented for the snapper-grouper bandit reel fishery of the South Atlantic from January 2007 to December 2011 to characterize catch and discards. A total of 59 trips from 27 different vessels comprising 357 sea days were monitored across statistical zones 30-34. Vessel participation was voluntary and not random; however, observer placement was randomized across the participating pool of vessels.

Objectives of the data analyses presented were to (1) accurately quantify effort for each trip; (2) summarize this effort across the range of depths targeted by this fishery; (3) use effort estimates to standardize catch and discards into catch-per-unit-effort (CPUE); and (4) explore a way to expand observer based CPUE estimates to the entire fishery. Based on information recorded by observers for each station fished (number of reels fished, total fishing time, number of sets made, number of hooks per reel) effort was quantified as hook hours (HH).

On average there were about 7 HH per hour of fishing time at each station with considerable variability in this estimate across stations due the varying number of reels being fished and the varying number of hooks per reel. The average water depth fished ranged from 131 ft to 170 ft across the statistical zones; most effort occurred at depths greater than 120 ft. One hundred and forty-three species were sampled during the study; CPUE modeling effort was focused on red snapper, warsaw grouper, and speckled hind. Each station fished served as an experimental unit (n=3,498).

Discards decreased while kept catch increased from 2007 to 2009 for red snapper. A length-frequency histogram of red snapper suggest this pattern was due to the population size structure shifting from the majority of individuals being below the minimum length limit in 2007 to being greater in 2009.

Too few warsaw grouper and speckled hind were caught during the study to reliably estimate CPUE by year, trimester, and statistical zone. That is, the statistical models used would not converge when catch was separated into discards and kept catch and when combined the predictions were still too uncertain. Discards per 100 HH were estimated for red snapper by year, trimester, and statistical zone. If a reliable index of effort is available from trip tickets or logbooks for each of these strata and can be related to HH then total discards for the entire fishery can be estimated. It was shown that trip length may be a good enough indicator of effort to allow for this endeavor. Future work should focus on (1) expanding observer discard CPUEs to the fishery at large; (2) propagating all of the uncertainty involved from this process into the final discard estimates; and (3) increasing sample sizes for the effort index models.