

December 3, 2010

Addendum to:

SEDAR-24 South Atlantic Red Snapper:

Management quantities and projections requested by the SSC and SERO

In 2010, a moratorium on red snapper was implemented. This was modeled in a three-step process. First, the current fishing rates by fleet, discounted by expected reductions in fishing effort, were applied to estimate landings by fleet. Second, all caught fish were assumed released, and fleet-specific discard mortality probabilities were applied to convert the potential landings to dead discards. Third, an optimization procedure was used to estimate the fishing mortality rates that produce those dead discards, as well as the mortality rates associated with undersized fish. That is, six mortality rates were estimated: the F s of legal sized discards and undersized discards from commercial lines, for-hire, and private recreational fleets. These rates were then applied to compute the total dead discards and total mortality rates used to project the population forward in time. For most projection scenarios (described in the projection document), these mortality rates applied only in 2010, but one projection scenario (Scenario 7 in the projection document) applied the moratorium mortality rates throughout.

For computing the F_{30} discard equivalents, the same procedure was applied, except that $F=F_{30}$ (rather than 90% $F_{current}$) and the abundance at age was assumed equal to that expected under $F=F_{30}$. For the four model runs with different headboat weights, the F_{30} discard equivalents are the following:

wgt11: F_{30} discard equivalent is 0.112

wgt20: F_{30} discard equivalent is 0.119

wgt25: F_{30} discard equivalent is 0.124

wgt30: F_{30} discard equivalent is 0.130

These F_{30} discard equivalent rates can be directly compared to the 2010 discard only estimates of F shown in the projection report Tables 6-9. These F rates suggest that a moratorium management action alone does not reduce the F rate below the overfishing levels (the F_{30} discard equivalents). An important assumption made in the projection document was that the moratorium management action resulted in a 10% reduction in F . This percent reduction is highly uncertain because no data existed at the time of this analysis to ground truth this assumption. Should this percent reduction be significantly higher, then the moratorium alone may achieve an F rate that is below the overfishing level.