Additional information on modeled age composition of red snapper
from the Gulf of Mexico 1984-2003

by

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Introduction

The August 13-17 SEDAR7 assessment workshop made some recommendations with respect to modeling age composition Gulf of Mexico red snapper catches from the finfish fisheries (Turner *et al.* 2004). One recommendation was to consider estimating the catch at age of the recreational fishery during the open season. Another was to model age composition at multiple natural mortality rates for use in bootstrapping the assessment.

This document provides responses to those requests.

Methods

The age modeling system uses the proportion of the MRFSS catch which is released alive, the landed (harvested) catch and a release mortality rate (SEDAR7 Data Report Table 6.5) to calculate the amount of recreational catch which is released dead (Turner 2004). The recreational release fractions used by Turner *et al.* were recalculated to provide the proportion of the total annual landings (Gulf wide or for east and west) released during the open season and during the closed season. The age composition of the closed season discards was assumed to be the same as the summed age composition of the open season catch (harvest plus live releases).

Age composition for all finfish fisheries was modeled for 40 levels of natural mortality (from 0.21 to 0.99 in increments of 0.02).

Results

The dead discards during the recreational closed season were calculated to be about 2-6% of the total numbers killed in 1998 and 1999 in both the eastern and western Gulf,s and then 12-17% of the recreational kill in the west and 7-10% in the east in 2000-2003.

The total catch at age showed almost no differences in the proportions at age between the lowest and highest natural mortality rates for which catch at age was modeled (Figure 1).

Literature Cited

Turner, S.C. 2004. Some methods of calculating catch at age of the directed fisheries for red snapper in the Gulf of Mexico, 1984-2002. SEDAR7_DW-57. 4p.

Turner, S.C., E. Brooks, G.P. Scott and G. Diaz. 2004. Modeled age composition of Gulf of Mexico Red Snapper 1984-2003. SEDAR7_AW18 revised. 20p.

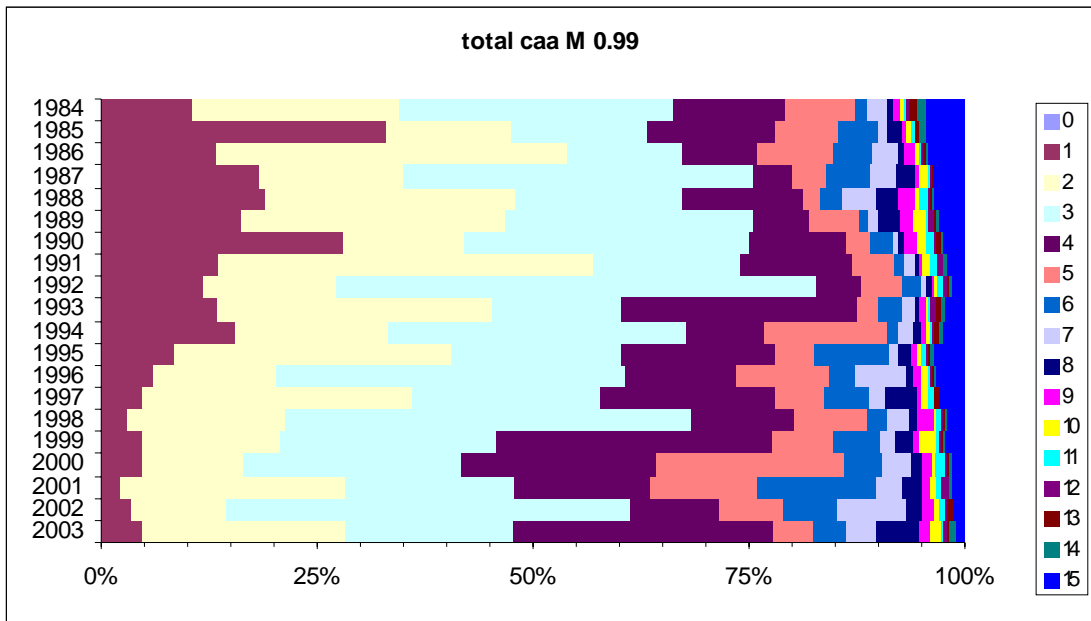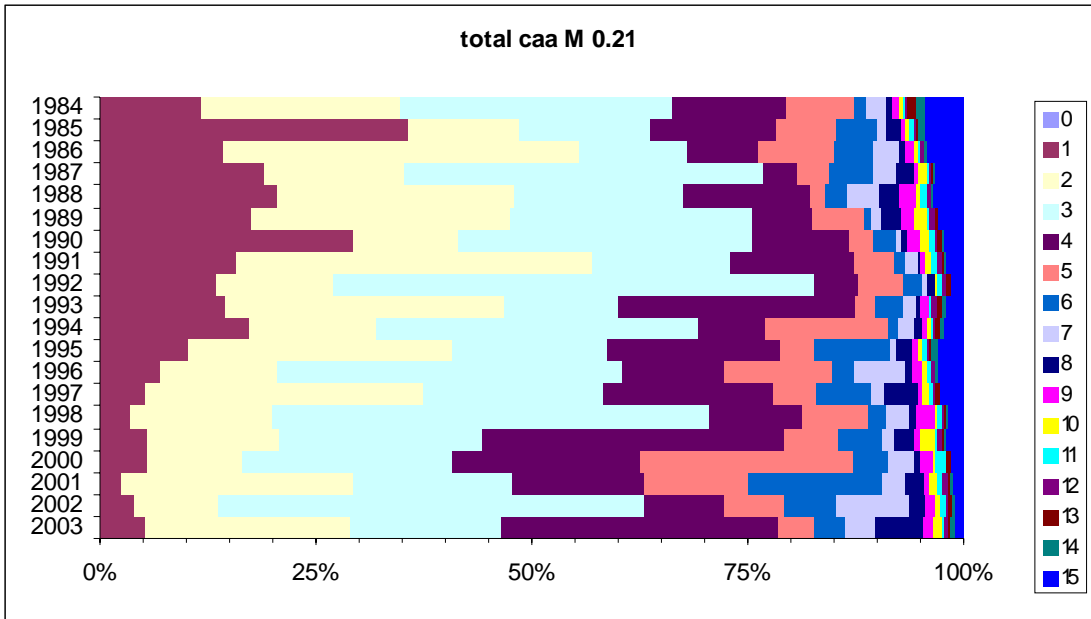**total caa M 0.21**

total caa M 0.99

Figure 1. Proportionate catch at age for the all U.S. Gulf of Mexico catches from finfish fisheries (excluding shrimp bycatch) modeled using two natural mortality rates (0.21 upper panel and 0.99 lower panel).