SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON BAROTRAUMA WORKSHOP REPORT AND POETENTIAL USE OF RECOMPRESSION CATCH-AND-RELEASE SURVIVAL ESTIMATES

The Scientific and Statistical Committee (SSC) discussed the potential for survival rate credits from the use of recompression methods for reducing the catch-and-release mortality of recreationally caught rockfish, in the context of the recent workshop on barotrauma held in Portland (Agenda Item D.2.a, Attachment 1). The discussion also included the letter to the RecFIN Technical Committee by the California Department of Fish and Game (CDFG) regarding CDFG's intention to use a modified method for calculating release mortality of cowcod caught by anglers on Commercial Passenger Fishing Vessels (CPFV) and released using devices that rapidly descend fish to depth to aid their recompression and survival (Agenda Item D.2.a, Supplemental Attachment 4). Dr. Chris Lowe (California State University, Long Beach) presented information on barotrauma and recompression and Mr John Budrick (Groundfish Management Team [GMT]) answered questions regarding CDFG plans to apply survival credits for the release of cowcod caught in the CPFV fishery.

There is compelling evidence that rockfish released at depth for recompression have increased survival relative to those released at the surface. Encouraging anglers to use recompression methods could increase the survival of released rockfish. However, available studies indicate that a wide variety of factors influence rockfish catch-and-release survival rates, including the species, the depth of capture, the differential in temperature between the bottom and the surface, the time on deck, and the degree of rough handling. Further, most studies only measured short-term survival (days rather than weeks or months) and the fish were released using very controlled methods. Measuring the effects of barotrauma for fish released under controlled methods is challenging, but relatively straightforward to accomplish. How to apply survival rates to fish released by anglers, given the diversity of recompression methods they may use, presents an additional challenge for which there is little current information.

Based on data for fish released at the surface, the GMT currently uses depth-dependent mortality rates to estimate the overall catch-and-release mortality of rockfish by species or guild. The available studies on the mortality of rockfish released at depth using recompression devices may contain sufficient information to provide a basis for constructing an additional table of survival estimates that the GMT could apply to rockfish released and returned to depth using recompression devices. However, it is clear that the information available at present is inadequate for some species.

The SSC notes that the Jarvis and Lowe (2008) study, cited by the CDFG letter as providing the basis for the 22 percent surface mortality rate (78 percent survival rate), did not include any observations of cowcod. Nor did the CDFG letter provide justification for using information from other species. Consequently, it is premature at this time to assume that there is an adequate scientific basis to support the depth-dependent mortality rates for cowcod presented in the CDFG letter.

The SSC emphasizes that proposals to the Council for survival credits include a clear and detailed description of the scientific basis supporting all aspects of the survival credit calculations. The SSC could review and recommend a proposal for one or two particular species as early as the September Council meeting provided that it included adequate documentation of the scientific basis and justification for the data and assumptions underlying the survival credit calculations.

In the long-term, the SSC recommends that the Council sponsor a methodology review that would consider the available information on rockfish catch-and-release survival, identify gaps in the information with regard to species effects and other important factors that may not have been adequately covered, determine how available information could be applied to specific fisheries, and develop recommendations for the construction of estimates of rockfish release-survival that could be used in the Council management process. This workshop could occur during the next biennial management cycle.

PFMC
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