

Research Priorities and Recommendations to Support Interjurisdictional Fisheries Management

RED DRUM

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Short and long-term research recommendations are prioritized, with the highest priorities listed first under each section and the lowest priorities listed last under each section.

Short-term

- Conduct experiments using logbooks to develop estimates of the B2 catch length composition in both the North and South regions.
- Determine if existing and historic recreational data sources (e.g., tagging) can be used to evaluate better B2 selectivities.
- Further study is needed to determine discard mortality estimates for the Atlantic coast, both for recreational and commercial gears. Additionally, discard estimates should examine the impact of slot-size limit management and explore regulatory discard impacts due to high-grading. Investigate covariates affecting discard mortality (e.g., depth, size, seasonality).
- Continued and expand observer coverage for the NC and VA gill net fisheries (5-10% coverage).
- Expand observer coverage to include other gears of concern (i.e. haul seine, pound net, trawls).
- Expand biostatistical sampling (ages and lengths) to better cover all statistical strata (gears/states - principally NC and VA) and collect more ages proportional to lengths, preferably otoliths. Conduct statistical analysis to determine appropriate sample sizes to adequately characterize the age-size composition of removals.
- Conduct a tagging study using emerging technologies (i.e., acoustic tagging, satellite tagging, genetic tags) to evaluate stock mixing and identify movement of sub-adult fish transitioning to maturity.
- Determine batch fecundity estimates of red drum. Need to include age-specific spawning frequency and spawning season length for this indeterminate spawner.
- Update maturity schedules for Atlantic red drum from Florida to Virginia. Preferably, gonad histology samples should be collected from all sizes over time and archived.

- Otolith microchemistry analysis should be considered to look at state level differences between regions to support stock structure differentiation.
- Continue cooperation between state ageing labs, such as the October 2008 red drum ageing workshop, to provide consistent age verification between labs.

Long Term

- Investigate iterative re-weighting of data components to identify the appropriate weights given to each data component in the objective function.
- Investigate alternative functions for retention to include recreational harvest and dead releases in the same fleets. Commercial discards should also be considered as a discard component of the landings fleet.
- Allow for time varying reporting rate of tag recaptures in the assessment model. This would allow use of more recent tag-recapture data from NC and estimates of changes over time in both regions.
- Continue genetic analyses (i.e, SC DNR analyses) to evaluate stock structure and mixing and temporal changes in genetic composition of the red drum population.
- Consider a pilot Virginia adult survey and expanding current adult fishery-independent survey coverage in Florida waters.
- Identify impacts of water quality, environmental, and ecosystem changes on red drum stock dynamics. Incorporate in the stock assessment models.
- Quantify habitat changes for future management planning.