

Research Priorities and Recommendations to Support Interjurisdictional Fisheries Management

SPOT

(Full Citation: Atlantic States Marine Fisheries Commission. 2017. Atlantic Croaker Stock Assessment Peer Review Report. ASMFC, Arlington, VA. 12pp.)

Short-term

HIGH PRIORITY

- Expand collection of life history data for examination of lengths and age, especially fishery-dependent data sources.
- Organize an otolith exchange and develop an ageing protocol between ageing labs.
- Increased observer coverage for commercial discards, particularly the shrimp trawl fishery. Develop a standardized, representative sampling protocol and pursue collection of individual lengths and ages of discarded finfish.

MEDIUM PRIORITY

- Develop and implement sampling programs for state-specific commercial scrap and bait fisheries in order to monitor the relative importance of Spot. Incorporate biological data collection into program.
- Conduct studies of discard mortality for commercial fisheries. Ask commercial fishermen about catch processing behavior for spot/croaker when trawl/gillnets brought over the rail.
- Conduct studies of discard mortality for recreational fisheries.
- Collect data to develop gear-specific fishing effort estimates and investigate methods to develop historical estimates of effort.

Long-term

HIGH PRIORITY

- Continue state and multi-state fisheries-independent surveys throughout the species range and subsample for individual lengths and ages. Ensure NEFSC trawl survey continues to take lengths and ages. Examine potential factors affecting catchability in long-term fishery independent surveys.
- Continue to develop estimates of length-at-maturity and year-round reproductive dynamics throughout the species range. Assess whether temporal and/or density-dependent shifts in reproductive dynamics have occurred.
- Re-examine historical ichthyoplankton studies for an indication of the magnitude of estuarine and coastal spawning. Pursue specific estuarine data sets from the states (NJ, VA, NC, SC, DE, ME) and coastal data sets (MARMAP, EcoMon).

MEDIUM PRIORITY

- Identify stocks and determine coastal movements and the extent of stock mixing, via genetic and tagging studies.
- Investigate environmental and recruitment/ natural mortality covariates and develop a time series of potential covariates to be used in stock assessment models.
- Investigate environmental covariates in stock assessment models, including climate cycles (e.g., Atlantic Multi-decadal Oscillation, AMO, and El Nino Southern Oscillation, El Nino) and recruitment and/or year class strength, spawning stock biomass, stock distribution, maturity schedules, and habitat degradation.
- Investigate the effects of environmental changes (especially climate change) on maturity schedules for spot, particularly because this is an early-maturing species, and because the sSPR estimates are sensitive to changes in the proportion mature.
- Investigate environmental and oceanic processes in order to develop better understanding of larval migration patterns into nursery grounds.
- Investigate the relationship between estuarine nursery areas and their proportional contribution to adult biomass. I.e., are select nursery areas along Atlantic coast ultimately contributing more to SSB than others, reflecting better quality juvenile habitat?
- Develop estimates of gear-specific selectivity.