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Effects of Simulated Removal of Striped Bass from a Southeastern Reservoir

Scott W. Raborn^{*1}, Leandro E. Miranda, and M. Todd Driscoll²

Mississippi Cooperative Fish and Wildlife Research Unit, Post Office Box 9691, Mississippi State, Mississippi 39762, USA

Abstract

Since the introduction of **striped bass** *Morone saxatilis* and hybrids of **striped bass** and white **bass** *Morone chrysops* into **reservoirs**, much concern has been directed at the possibility of these predators competing with other sport fishes for limited prey. If density of **striped bass** is reduced or eliminated through modifications of the stocking program, the prey not consumed by **striped bass** may be shifted to other sport fishes. The resulting increase in biomass of other sport fishes would be a function of the amount of added prey, the percent of this additional prey eaten by other sport fishes, and the efficiency with which the prey is converted into biomass. We used bioenergetics models to estimate annual **striped bass** prey consumption in **Norris Reservoir**, Tennessee. Total annual consumption was estimated at 52 kg/ha (estimated range = 17–100 kg/ha), clupeids accounting for the majority (94%), followed by leptomids (4%) and other food items (2%). Existing biomass of black **basses** *Micropterus* spp., crappies *Pomoxis* spp., and percid *Stizostedion* spp. was about 65 kg/ha (estimated range = 35 – 106 kg/ha). Given the complete removal of **striped bass**, modeling indicated that the most probable increase in the biomass of these sport fishes would be about 3% with a 75% probability that it would be less than 12%. Thus, not even the complete removal of **striped bass** would measurably increase the biomass of other sport fishes.

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* Corresponding author: scott_raborn@nsula.edu

¹Present address: Northwestern State University, Department of Biological Sciences, Natchitoches, Louisiana 71497, USA

²Present address: Texas Parks and Wildlife, Route 2, Box 535, Jasper, Texas 75951, USA

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