

Recent and Historic Status of Shortnose Sturgeon in the Altamaha River, Georgia

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The Altamaha River, located in southern Georgia, is a relatively intact system that represents a unique opportunity to understand how shortnose populations function in a “restored” river system. The objectives of this study were to 1) determine recent abundance estimates, 2) construct an age-structured model to estimate historic abundance, and 3) assess recent status by comparing 1 and 2. We used gill and trammel nets to capture shortnose during May-August 2004-2010. We then used mark-recapture and regression analysis to assess abundance, size-structure, recruitment, growth and survival and inform the age-structured model. During our study, we captured 1582 shortnose sturgeon (143 recaptures). Estimated total abundance varied between 1,206 and 5,551 individuals and the population shifted from one dominated by small, immature individuals to one dominated by mature adults. Strong age-1 cohorts (>500 individuals) were present in 2004, 2006, and 2010. Reproductive success was highly variable and correlated with flow during the spawning period. Historic abundance ranged between 600-6000 individuals, suggesting that recent abundance was comparable to historic levels. Altamaha shortnose exhibit rapid growth, low survival, and a growth pattern geared toward maximizing reproductive output in a variable environment, indicating that southern shortnose populations are especially sensitive to future decline.