

Title: Feasibility of Stocking Adult River Herring to Restore Spawning Population in Albemarle Sound, North Carolina

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Abstract: Alewife (*Alosa pseudoharengus*) and blueback herring (*Alosa aestivalis*), collectively “river herring”, populations have been in decline in recent decades. Recently North Carolina resource managers have been considering proactive solutions to restore river herring spawning runs such as fish passages, fish ladders, hatchery based stocking, and physically transferring adults river herring to historic spawning locations. This research is investigating the method of transfer stocking of adult river herring into Lake Phelps, North Carolina. The Lake Phelps spawning run was extirpated in the 1970’s for unknown reasons and efforts to restore the run have not succeeded. The goal of this research is to transfer a maximum of 5,000 river herring from pound net locations in the Albemarle Sound to Lake Phelps to develop a protocol that will maximize survival of river herring. A habitat assessment of Lake Phelps, juvenile and larval fish survey, and monitoring of fish passage through a newly constructed fish ladder was conducted to determine success of transfer stocking. The main objective of this research is to aid resource managers by providing data specific to North Carolina on this method for stock enhancement.