Assessment Of Post-Stocking Dispersal Of Age-1 Pallid Sturgeon: Implications For Acclimation

Eric W. Oldenburg and Christopher S. Guy, Montana Cooperative Fishery Research Unit, 301 Lewis Hall, Montana State University, Bozeman, MT 59717, ewo@montana.edu

William M. Gardner, Montana Department of Fish, Wildlife and Parks, P.O. Box 938, Lewistown, MT 59457, fwplew@ttein.net

A propagation program for pallid sturgeon *(Scuphirhynchus albus)* in the upper Missouri River was implemented by the USDI Fish and Wildlife Service in 1997. However, evidence suggests that many hatchery-reared pallid sturgeon are experiencing significant downstream post-stocking dispersal, negatively affecting their recruitment. Therefore, the objective of this study was to evaluate the effects of acclimation to flow and site-specific water conditions on post-stocking dispersal of age-1 pallid sturgeon. Fish from three acclimation treatments were radio-tagged, released at two locations, and monitored using passive remote telmetry stations. Treatment 1 fish were acclimated to flow and site specific water conditions in tanks along the Marias River. Treatment 2 fish were acclimated to flow in tanks at the Bozeman Fish Technology Center (BFTC), and Treatment 3 fish were reared with no acclimation at the BFTC. In 2005 Treatment 2 experienced 100 percent mortality. Further, Treatment 1 fish drifted less, experienced lower mortality, and nearly twice as many fish remained in suitable pallid sturgeon habitat than Treatment 3 fish. In 2006, drift rates, mortality rates, and fish remaining in suitable habitat were similar among treatments. In both years, all pallid sturgeon drifted less in the lower reaches of the study area where more sand substrate is present. Fin curl was present in nearly all individuals in 2005, and 28 percent of individuals in 2006. These data suggest that acclimation can reduce post-stocking dispersal when fin curl is present.