Habitat Use, Diet, And Growth Of Hatchery-reared Juvenile Pallid Sturgeon And Indigenous Juvenile Shovelnose Sturgeon In The Missouri River Above Fort Peck Reservoir[1,2]

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Natural recruitment of pallid sturgeon has not been observed in the Missouri River above Fort Peck Reservoir, Montana, for at least 30 years. In an effort to recover the species, 736 hatchery-reared juvenile pallid sturgeon (HRJPS) were released as yearlings in 1998. Evaluation of these HRJPS is necessary to determine their performance in a natural lotic environment. A set of habitat variables was measured at each location for 29 HRJPS and 22 indigenous juvenile shovelnose sturgeon (JSNS) implanted with radio transmitters during the spring, summer, and autumn in 2003 and 2004. Significant interactions among species, season, and year existed for mean relative depth, column velocity, and bottom velocity. However, no significant interactions existed for mean fish depth, which was significantly higher for HRJPS than JSNS. Hatchery-reared juvenile pallid sturgeon frequently used lotic habitat created by receding reservoir water levels, indicating that Fort Peck Reservoir influences the amount of available habitat for juvenile pallid sturgeon. We also examined the

diets of all HRJPS and JSNS sampled. Fish composed the majority of the diet of HRJPS, while JSNS primarily consumed aquatic invertebrates. There was no significant difference in relative growth rate between recaptured HRJPS and JSNS from May to October in 2003 and 2004. This study indicated that HRJPS in the Missouri River above Fort Peck Reservoir are capable of living in a natural lotic environment. Therefore, we believe that stocking HRJP can successfully augment wild pallid sturgeon populations, which is crucial to the long-term recovery of the species.