

# TRAMMEL NET EFFICIENCY FOR STURGEON SAMPLED IN THE MISSOURI RIVER: IMPLICATIONS FOR SAMPLING DESIGN<sup>APS</sup>

Eric W. Oldenburg, Paul C. Gerrity, and Christopher S. Guy, Montana Cooperative Fishery Research Unit, 301 Lewis Hall, Bozeman, MT 59717, actinopterygii@hotmail.com

William M. Gardner, Montana Department of Fish, Wildlife, and Parks, P.O. Box 938, 2358 Airport Road, Lewistown, MT 59457

To accurately document the continued decline or recovery of sturgeon, efficiency of sampling these species needs to be evaluated. Drifted trammel nets are considered an important tool for sampling sturgeon in lotic systems. Thus, our objectives were to evaluate efficiency of drifting trammel nets for sampling juvenile sturgeon [pallid sturgeon and shovelnose sturgeon] using known fish locations, and to determine the abiotic factors that influence whether a sturgeon is sampled or not sampled. During the summers of 2003 and 2004, we attempted to recapture radio-tagged juvenile pallid sturgeon and shovelnose sturgeon at 69 locations in the Missouri River above Fort Peck Reservoir, Montana. Drifting trammel net efficiency was 32 percent, and first drift efficiency was 36 percent. Sixty-nine percent of the sampled sturgeon were captured on the first drift and subsequent drifts were less efficient and often unsuccessful. A multiple analysis of variance was not significant and all pair-wise comparisons for abiotic variables between successful and unsuccessful captures were non-significant. Stepwise logistic regression was used to model the probability that a drift would not capture a sturgeon. However, none of the abiotic variables we measured were useful in the model. These results suggest that drifted trammel nets were a moderately effective sampling gear for juvenile sturgeon in lotic systems. When considering sampling design, our results suggest that it was most efficient to conduct single drifts at multiple sampling locations, rather than drifting multiple times at one location, if a large sample size is the objective.