

Movement, Habitat Use, and Spawning Characteristics of  
Flathead and Blue Catfish in the Lower Missouri River and Tributaries

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ABSTRACT

The movement and habitat use patterns of adult flathead and blue catfish were studied via acoustic and radio telemetry in the lower Missouri River and adjacent tributaries including the Grand, Lamine, Chariton, and Little Chariton Rivers. At the largest spatiotemporal scale, annual movement patterns varied greatly from restricted-movement behavior throughout the annual cycle to seasonal migrations commonly tens of kilometers between habitats used for spawning, feeding and growth, and overwintering. Fish moved the least during the overwintering period and the most during the prespawn/spawn period, followed by a third period of restricted movement during the summer and early fall. The diversity in life history strategies suggests that populations of large-river catfish use resources at multiple spatial scales, from the reach to the watershed, to meet life requisites.

Diurnal home range and resource selection was investigated during the summer/fall restricted-movement period; an ecologically relevant time frame with respect to feeding and growth. With the exception of few, both species established small home ranges (<10 km) with fidelity to one, two, or three discrete areas of high use (core areas). Resource selection analysis revealed that both species select deep habitats associated with anthropogenic structures (i.e., dike structures, revetment) that are spatially segregated along the river corridor.