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Application for MICRA Travel Grant: Abstract

Black Carp (Mylopharyngodon piceus) is a large benthic invertivore that is native to eastern Asia that has become established within portions of the Mississippi and Ohio Rivers. Studies have shown that Black Carp consume native bivalves and show potential to compete with native fishes for resources. Recent captures upstream of rivers and tributaries where Black Carp were not previously observed have elicited a need to understand the movement capability of this species. Lock and dam structures were thought to impede fish movement and prevent the spread of invasive carp species and determining the ability of Black Carp to pass through these structures may bring insight as to how we may implement management strategies and future research regarding the inter-river movement of Black Carp. 127 Black Carp were collected from nine study locations throughout the Mississippi and Ohio watershed, with most Black Carp being collected at areas above lock and dam structures. A microchemical analysis of the otoliths from each Black Carp was conducted through a Laser Ablation Inductively Coupled Plasma Mass Spectrometer (LA-ICPMS) and was paired with previously collected water data from each river to infer movement between rivers. A total 109 Black Carp were inferred to have been downstream of a lock and dam structure at one time before their upstream captures. These results suggest that inter-river movement is common among Black Carp within our study area and that fish passage is possible through both spillway and lock structures of dams.