

ABSTRACT

THESIS: Fish Assemblage Structure Response to Silver Carp Invasion in the Wabash River

STUDENT: Torrey Blevins

DEGREE: Master of Science

COLLEGE: College of Sciences and Humanities

DATE: December 2021

PAGES: 15

Impacts of environmental stressors on river ecosystems are frequently identified using abundance and diversity data for fish assemblages to assess the impact of environmental stressors on river ecosystems. However, biomass is less frequently used. We created a random variable linear mixed model using the biomass data from a large boat electrofishing database to investigate the fish assemblage structure of the Wabash River Indiana. We tested for the temporal effects of silver carp on biomass of six trophic guilds of the Wabash River assemblages for pre-establishment and post-establishment of silver carp in 2004. An increase in biomass from pre- to post- establishment was detected for benthic invertivores and general invertivores, and a decrease in the biomass from pre- to post establishment was detected for omnivores. We suggest that there is value in adding biomass as a variable to consider in assessing riverine fish assemblages, and that combining these data with abundance, diversity, and food web data could provide more insight into the effects that stressors such as silver carp have.