Resurvey of Fish Species in Three Agricultural Freshwater Ecosystems in Fulton County, Ohio 2014-2017

Skates, Jordan (School: Pettisville High School)

Research was conducted to determine relationships between fish species growth within three freshwater bodies in agricultural communities in Fulton County, Ohio. The objective was to resurvey in 2017 three freshwater ecosystems surveyed in 2014 for the purpose of identifying relationships between the abiotic factors of a freshwater ecosystem, the population richness and individual growth of fish species. The hypothesis was data will show an increase in individual species growth and population because ecosystems are healthy, and abiotic factors would remain the same. This is relevant because understanding the relationship between aquatic life and the environment is crucial to the conservation of native species. It has a local impact on the Pettisville High School retention pond located where surveys have determined a growing ecosystem. Torpedo minnow traps were placed at each location over a 10-day period; two at Pettisville School Pond, two at Pettisville School Ditch, and one at Nafziger's Creek. The species ID, fish length, total fish captured count and weather factors were taken daily. Water quality samples were taken every three days, at each location. In addition, soil texture and an electro- shocking of the pond was conducted. The hypothesis was partially supported. The data supports the idea that there is a relationship between fish species richness and abiotic factors of three different freshwater bodies. The pond and creek both increased in population and species richness with either maintained or improved water quality. While the ditch did not decrease in water quality, it decreased in population richness.

Awards Won: