

**WIU CENTENNIAL HONORS COLLEGE**  
**Thomas E. Helm Undergraduate Research Day 2022**

**Abstract**

Poster

Major Zoology

Faculty Mentor: Victoria Livingston

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**The Bioaccumulation of Trace Metals in American Bullfrog Tadpoles (*Lithobates catesbeianus*) in Nahant Marsh.**

**Cari Wilson**

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The goal of this project is to accurately quantify the amounts of heavy metals present in American Bullfrog tadpoles (*Lithobates catesbeianus*) located in Nahant Marsh in Davenport, Iowa. Nahant Marsh was a waterfowl hunting club from the 1960s-1990s. The sediment, water, and vegetation were all contaminated with heavy metals. This marsh became a Superfund project in 1999 and now is the site of the Nahant Marsh Environmental Education Center. Updated concentrations will aid the Nahant Marsh Board of Directors in making informed decisions about the health of the system.

Tadpoles are the lowest order vertebrates found in the ecosystem. Trace metals can move through the food web to upper level predators. Understanding the bioaccumulation of these trace metals is important because it allows us to see the dispersion and movement of these trace metals throughout the Nahant Marsh ecosystem.

Water and tadpole samples will be collected at various points around Nahant Marsh. Tadpoles will be euthanized according to the Institutional Animal Care and Use Committee protocol. Sample analysis includes basic water quality indicators as well as the concentrations of cadmium, copper, lead, and nickel. The concentrations of each trace metal within the tadpoles and water samples will be compared with the EPA standard levels for freshwater organisms.