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**UWSP graduate student uncovers secrets of Wisconsin’s little-known buffalo fish**

Written by University of Wisconsin–Stevens Point

University of Wisconsin-Stevens Point graduate student Ryan Bohen shed light on a little-known native fish species in Wisconsin, spearheading research that could inform how fisheries are managed across the state.

Bohen, while a student in UW-Stevens Point’s [College of Natural Resources](https://www.uwsp.edu/cnr/college-of-natural-resources/), studied the population dynamics of bigmouth and smallmouth buffalo. These two native fish species often go unnoticed in traditional fisheries management. Despite their longevity—some live up to 70 years—and their ecological importance, they have rarely been the focus of scientific inquiry.

Bohen’s study is shifting understanding of buffalo populations. His research focused on the age structure, reproductive patterns and growth of buffalo in 14 waterbodies across Wisconsin. Additionally, the study investigated the contribution of buffalo to harvest at bowfishing tournaments across Wisconsin.

“Bigmouth and smallmouth buffalo are lesser-known native species that have garnered more attention in recent years due to their capacity to live to old ages,” said Bohen. “Our goal is to gather the data needed to make informed decisions about managing these populations, especially as bowfishing becomes more popular.”

Bowfishing, which involves shooting fish with a bow and arrow, often at night, has brought buffalo into focus. Buffalo contributed moderately to tournament harvest in 2023 and 2024, representing about 17% of total harvest over the two-year period.

To analyze the relative resiliency of buffalo to harvest, Bohen and his team used advanced techniques to estimate the age of the fish, finding maximum lifespans ranging from 14 to 71 years. They also discovered significant variation in how quickly buffalo reach reproductive maturity, with some populations maturing in as little as two years and others taking more than six.

“These findings show how adaptable buffalo are, but they also highlight the need for careful management,” said Daniel Isermann, director of the U. S. Geological Survey’s Wisconsin Cooperative Fishery Research Unit and Bohen’s advisor. “Not all populations will respond the same way to harvest pressure.”

The research, conducted in collaboration with the Wisconsin Department of Natural Resources and the Wisconsin Bowfishing Association, is the state’s first formal assessment of bowfishing harvest across the landscape. It provides essential data that could inform future regulations and conservation strategies.

For Bohen, the project was more than an academic exercise. It represents a chance to elevate awareness of an understudied species and contribute to the long-term sustainability of Wisconsin’s aquatic ecosystems.

“It’s exciting to conduct novel research on an understudied native fish,” he said. “Non-game native species like buffalo have historically received little management attention, but their role in aquatic ecosystems is just as important as that of native sportfish.”

Bohen’s findings could inform how other native, non-game fish species are monitored and managed.

“Research like this is essential for making informed decisions,” Bohen said. “It’s exciting to be part of something that could actually affect management on the landscape.” Bohen graduated in January and presented his results at his graduate public seminar in December.