MICHIGAN STATE UNIVERSITY

# Quantitative Fisheries Center (QFC) Ongoing Project Briefing

## Do Discrete Spawning Stocks Contribute Differentially to Lake Erie's Walleye Fisheries?


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**Funding Agency:** Great Lakes Fishery Commission

**Start Date/Status Date:** 2017/January 2026


*Caption: An angler helps capture a walleye to be implanted with an acoustic transmitter.*

**Goal:** Estimate stock-specific contributions to Lake Erie's commercial and recreational walleye fisheries.

**Objectives:**

1. Quantify the relative contribution of individual walleye stocks to commercial and recreational fishery harvest in the western basin of Lake Erie.
2. Determine if the contributions of individual stocks to Lake Erie's commercial and recreational fishery harvest vary temporally within the western basin.

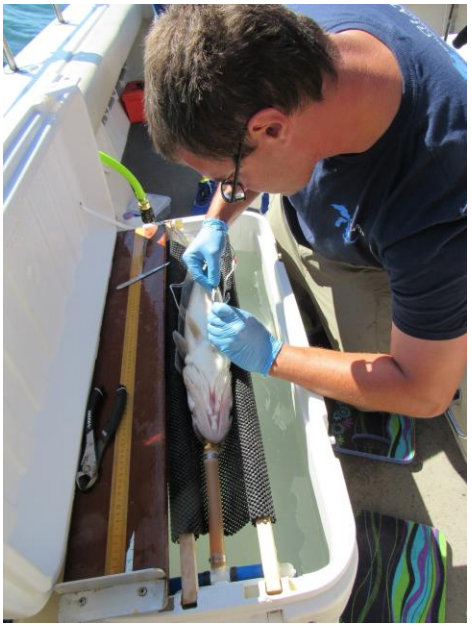
**Management Implications:** Stock discrimination plays an important role in developing fishery advice and management. Natural markers such as otolith chemistry and genetics can fail to accurately discriminate among stocks due to uniform abiotic conditions or low genetic differentiation, which precludes fishery managers from understanding dynamics of mixed-stock fisheries. Here, we used acoustic telemetry as a tool to better understand how walleye exploited by Lake Erie's fisheries were distributed among spawning locations during 2018-2023.

**Methods:**

- Sampled with fishery-dependent methods in Lake Erie's western basin at times and locations that historically produce high fishery effort and harvest.
- Movement of tagged fish (n = 812) during spawning and non-spawning periods were monitored using the Great Lakes Acoustic Telemetry Observation System (GLATOS; https://glatos.glos.us/).

**Prelim. Findings/ Next Steps:**

- Walleye tagged from the commercial and recreational fisheries consistently differed in their distribution during spawning and non-spawning periods.
- Ongoing work is focused on better incorporating uncertainty to predict probable spawning activity of tagged walleye.
- A completion report with initial results is available by contacting either of the project leads.



*Caption: A walleye being implanted with an acoustic transmitter before its release*

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