

Lake Huron Committee Fishery Research Focus Areas

September 2025

Lake whitefish recruitment: Recruitment and abundance of *Diporeia* and lake whitefish have declined significantly following invasion and establishment of Dreissenid mussels in Lake Huron. The LHC recommends the following priorities:

1. What are the key drivers of spatial variation in Lake Whitefish recruitment in the Lake Huron basin or similar systems and considerations for stock conservation?
2. Research into invasive mussel control.

Upper trophic level demand and supply: Lake Huron supports a robust and diverse recreational fishery, including native species still experiencing recovery (walleye, lake trout) and naturalized salmonids (salmon and trout species) managed with varying stocking contributions. A better understanding of predatory-prey dynamics in Lake Huron's recreational fisheries will support management decisions aimed at balancing predator demand with prey supply.

1. What are the relative contributions of non-native naturalized and native predator fish to the total demand on prey fish supply and ecological function as top predators (via Ecopath with Ecosim, or other modeling approaches)?

Food web changes: Lake Huron has experienced significant food web changes following the invasion of Dreissenid mussels, which has led to the benthification of energy pathways and the subsequent invasion and proliferation of round goby, a benthivore which has become a prominent prey for piscivores. Further foodweb changes including increased water clarity and declining nutrients have created a novel food web that has persisted for nearly two decades. The LHC recommends the following priorities to better describe the continuing impacts of system change on the Lake Huron food web:

1. Effects of invasive species and associated ecosystem changes on the abundance and distribution of keystone zooplankton, such as *Mysis*. and *Diporeia*, and their interactions with higher trophic levels.