

FISHERY RESEARCH PRIORITIES:

LAKE SUPERIOR

Great Lakes Fishery Commission

Updated October 30, 2025

This listing was compiled based on input from the Lake Superior lake committee and its technical committee and from discussions within the Council of Lake Committees. Order of listing **does** imply relative ranking of priorities for the Fishery Research Program funding.

Research Priorities

1. What are broad scale lake trout and lake whitefish movement patterns within Lake Superior, with particular focus on the western arm? Can these movement patterns be incorporated into SCAA models to improve management?

Context: Through various data sources, fisheries managers seek to understand vital rates within populations such as mortality and recruitment, with the intent of estimating both the trajectory and absolute value of populations. Bias can result from a poor understanding of movement patterns, influencing what is deemed a population and estimates of key parameters. SCAA models are used in many areas to monitor populations, but decisions about what data to include and how a population is defined has a heavy impact on output and model utility. Using modern methods to assess movement patterns of lake trout and lake whitefish will improve population monitoring and provide managers with better information for decision making.

2. How many acres of lake trout and whitefish spawning habitat exist in Lake Superior? Does habitat supply relate to carrying capacity?

Context: It is assumed that spawning habitat is not limiting in Lake Superior; however, quantifying that habitat has not occurred. Technology has vastly expanded our ability to map and quantify habitat types. The fisheries management community continues to have a poor understanding of the role habitat plays in limiting population size. Quantifying spawning habitat over discrete areas and relating its quality to population size will serve as a benchmark to assess future changes and help identify limiting factors to population growth that could improve management decisions and user expectations.

3. What factors drive whitefish and cisco recruitment?

Context: Successful fisheries management depends on a sound understanding of key population metrics. Recruitment is arguably the most important and most poorly understood of them all. Lake whitefish and cisco are critical to both the ecosystem within Lake Superior and the users who depend on them. A better understanding the biotic and abiotic drivers of recruitment and its key bottlenecks will lead to a more holistic understanding of the Lake Superior ecosystem and improve management decisions.