



Lake Superior Biological Station

The USGS Great Lakes Science Center is dedicated to providing scientific information for restoring, enhancing, managing, and protecting living resources and their habitats in the Great Lakes region. The USGS Great Lakes Science Center is headquartered in Ann Arbor, Michigan, and has biological stations and research vessels located across the Great Lakes Basin.



The Station

Lake Superior Biological Station (LSBS), located in Ashland, Wisconsin, is a field station of the USGS Great Lakes Science Center (GLSC). LSBS was established by congressional action in 1957 as part of the GLSC. Initially supervised by the U.S. Fish and Wildlife Service, the GLSC and LSBS transferred to the USGS in 1996. LSBS serves the needs of resource managers as defined in a memorandum of understanding between the GLSC and the Council of Lake Committees.

LSBS is the primary federal agency for applied fisheries science excellence in Lake Superior. In the early 1900s, overharvest, sea lamprey predation, and habitat degradation led to the collapse of many native Lake Superior fish populations, including lake trout and their prey fishes. Information provided by LSBS was essential to a coordinated effort by the United States and Canada to recover and manage native fish populations. Through a combination of sea lamprey abatement, fish stocking, and fish harvest control, lake trout populations recovered and are now

considered fully restored. Lake trout recovery in Lake Superior is a success story of native fish restoration in the Great Lakes.

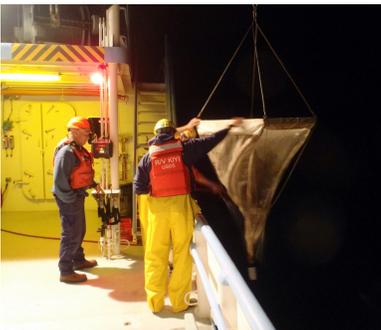
Research

Research at LSBS focuses on a wide array of issues important to state, federal, tribal, and Canadian natural resource managers throughout the Great Lakes.

LSBS provides information on the status and trends of nearly all Lake Superior fish species. This information is primarily used to develop management plans for lake trout, cisco, short-jaw cisco, and lake whitefish. The station also conducts annual fish, zooplankton, and water temperature surveys in nearshore and offshore waters of Lake Superior as well as targeted research projects in response to emerging questions.

Current research projects include evaluating the biology, population and community dynamics, and yield prediction of Lake Superior fishes, including lake trout, cisco, and prey fishes. Information gathered from this research is critical for understanding changes in fish





population abundances and the potential effects of invasive species and climate change. The station also maintains vast archives of historical fish, zooplankton, and water temperature data as well as fish aging structures dating back to the 1930s. These resources allow researchers worldwide to study past, present, and future trends in the Lake Superior ecosystem.

Facilities & Vessels

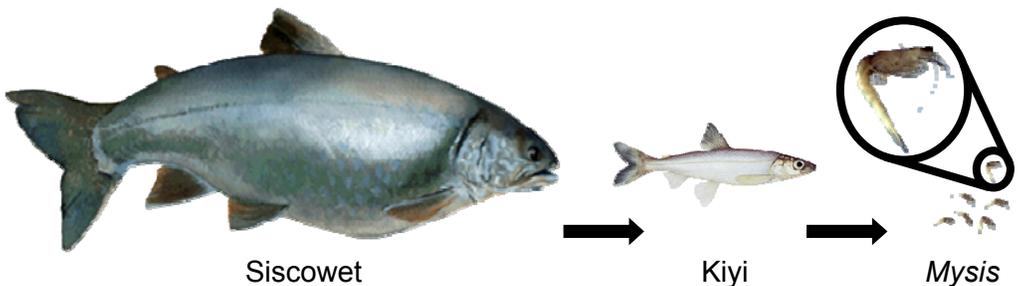
LSBS is co-located with the U.S. Fish and Wildlife Service - Ashland Fish and Wildlife Conservation Office, National Park Service - Great Lakes Inventory and Monitoring Network, and Indian Health Service. The station includes offices, laboratories, a work shop, and multiple storage facilities.

The R/V *Kiyi* is the keystone platform to LSBS deepwater science activities. The *Kiyi* is a large, 107 ft vessel that provides exceptional lakewide sampling capabilities on a modern research platform. The *Kiyi*

is capable of deploying gillnets, mid-water and bottom trawls, hydroacoustics, limnological instruments, and plankton and bottom samplers in the deepest parts of the lake. LSBS also operates several smaller vessels for research in nearshore waters.

Partners

LSBS collaborates with a diversity of management and research partners. The principle partners of LSBS are the Great Lakes Fishery Commission and the Council of Lake Committees, including the Lake Superior Committee and Lake Superior Technical Committee. Lake Committee partners work cooperatively to manage Lake Superior fish stocks and their environments, and to identify information needs and research priorities. LSBS also has established research and monitoring relationships with local, state, national and international resource agencies, as well as tribal interests and universities.



Lake Superior Biological Station conducts research on the Lake Superior food web, including top predator fishes and their prey resources. Siscowet are a deepwater morphotype of lake trout, and are an important top predator fish in Lake Superior. Siscowet consume the native preyfish, Kiyi, which in turn rely on invertebrates, such as Mysis (a native freshwater shrimp), as prey. Food web studies are important to management of Lake Superior fishes and for understanding the effects of invasive species and climate change.



Great Lakes Science Center
1451 Green Road
Ann Arbor, MI 48105

(734) 994-3331
www.glsc.usgs.gov
GLSC Field Stations 2012-3

