



Lake Ontario 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 Ontario Biological Station (LOBS), located in Oswego, New York, is a field station of the USGS Great Lakes Science Center (GLSC). LOBS was established by congressional action in 1977 as part of the GLSC. Initially supervised by the U.S. Fish and Wildlife Service, the GLSC and LOBS transferred to the USGS in 1996. LOBS serves the needs of resource managers as defined in a memorandum of understanding between the GLSC and the Council of Lake Committees.

LOBS is the primary federal agency for applied fisheries science excellence in Lake Ontario. The Lake Ontario program began in the fall of 1977 when three fishery biologists transferred from GLSC Headquarters and the R/V *Kaho* was reassigned. The biologists were temporarily headquartered at the Port of Oswego Authority building, then moved to an uptown office space in 1978. In 1979, the Port of Oswego Authority began construction of a waterfront building that would become LOBS. The site provided an ideal location with nearby docking facilities for the

Kaho. Biologists moved into the new building in spring of 1980.

Research

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

Past station research focused on groundbreaking efforts in restoration management of lake trout and prey fish. LOBS researchers investigated lake trout: (1) stocking techniques, including differential survival and return on investment for stocking different life stages; (2) spatial distribution and diet composition by life stage; and (3) mortality related to sea lamprey control. LOBS researchers also investigated prey fish: (1) abundance critical to sport fisheries; (2) year-class strength and survival; and (3) recruitment using models incorporating temperature effects on growth.

As Lake Ontario experienced dramatic changes from nutrient abatement and invasive species, LOBS researchers began investigating the effects on fish distribution and invertebrate





abundance, and testing new fish sampling methods. Current LOBS research focuses on: (1) long-term ecosystem change in Lake Ontario, which is revealing large-scale changes in abundance and distribution of prey fishes and food web effects from invasive species; (2) the resurgence, ecology, and population genetics of native deepwater sculpin, a species once thought to be eliminated from Lake Ontario; (3) causes of persistently low survival of stocked lake trout; (4) causes of increased lake trout mortality, which led to intensification of sea lamprey control and subsequent recovery of lake trout; and (5) effects of invasive mysids on nearshore food webs and invasive predatory cladocerans on the deepening of offshore primary production. LOBS researchers are also using food web approaches to refine predictive models and provide better information for managing the world class Lake Ontario fishery in an invasive dominated ecosystem.

Facilities & Vessels

LOBS is located on the west side of Oswego Harbor, overlooking the Oswego Lighthouse. The station was expanded during 2001-2002 with the addition of two new offices and a work bay, and rearrangement of existing space to include a laboratory, conference room, storage area, and new HVAC zones.

In 2011, a new 70 ft aluminum-hulled vessel, the R/V *Kaho*, replaced the original 65 ft steel-hulled *Kaho* (built in 1960). The *Kaho* is the keystone platform to LOBS deepwater science activities. The state-of-the-art work platform has a unique hull design that optimizes speed, safety, and scientific sampling capabilities. Improvements on the new *Kaho* include: modern electronics, enhanced over-the-side handling equipment, and through-hull hydroacoustics. LOBS also operates a 21 ft powerboat to conduct nearshore research.

Partners

LOBS collaborates with a diversity of management and research partners. The principle partners of LOBS are the Great Lakes Fishery Commission and the Council of Lake Committees, including the Lake Ontario Committee and Lake Ontario Technical Committee. LOBS has strong ties to regional agencies, including: New York State Department of Environmental Conservation, New York Sea Grant, and Ontario Ministry of Natural Resources. LOBS also partners with universities and assists federal agencies, such as: U.S. Fish and Wildlife Service, Fisheries and Oceans Canada, Environment Canada, and other USGS science centers and field stations.



The R/V Kaho, the keystone platform for Lake Ontario Biological Station deepwater science.

