

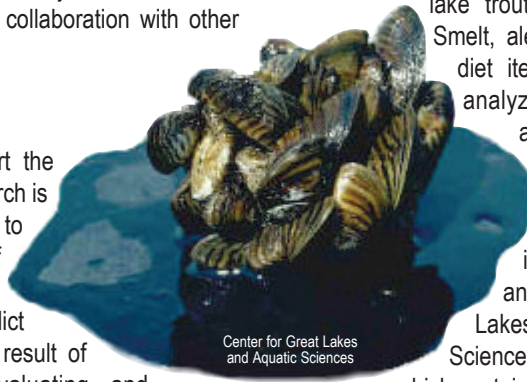
Bayfield Institute

Great Lakes Research

The Great Lakes Laboratory for Fisheries and Aquatic Sciences (GLLFAS), a freshwater fisheries research division of Fisheries and Oceans Canada (DFO), is located in Burlington, Ontario. A satellite group is located at the Sea Lamprey Control Centre in Sault Ste. Marie, Ontario. Virtually all research at the Great Lakes Laboratory for Fisheries and Aquatic Sciences is carried out in collaboration with other institutions.

Fish Habitat Studies

Studies are carried out to support the management of fish habitat. Research is conducted to ensure that alterations to fish habitat do not result in a loss of fish productivity. Research projects include developing models to predict changes to fish populations as a result of changes to habitat supply, evaluating and standardizing field methods for assessing fish and their habitat, and developing practical tools and procedures for quantifying the effects of habitat loss and alteration.



The Great Lakes Food Web

The productivity of the lower levels of the food web is studied to examine the effects of nutrient control strategies on fish communities of the Great Lakes. Other studies determine the distribution and abundance of recent invading species, such as zebra mussels, spiny and fish-hook water fleas, round gobies and the effects these invaders have on native aquatic life and the energy and contaminants pathways in Great Lakes ecosystems.

Factors Affecting Freshwater Fisheries Production

Based in Sault Ste. Marie, this group examines how various natural and man-made stressors affect fish communities in lakes and streams in the Great Lakes basin. Experimental manipulation studies are carried out in small natural lakes and ponds in decommissioned quarries to examine the effects of habitat supply on fish community characteristics. Other research initiatives include examining the effect of water level fluctuations from hydroelectric dams on fish communities and studying the mechanisms used by sea lamprey to influence the proportion of offspring that survive to adulthood.

Toxic Chemicals Surveillance

Since 1977, the Great Lakes Contaminants Surveillance Program has provided annual updates on toxic chemicals trends in fish communities throughout the Great Lakes. The fish species chosen as indicators of contaminants include lake trout and walleye, both top predators. Smelt, alewife and sculpins, which are major diet items of lake trout and walleye, are analyzed as indicators of contaminant accumulation at the base of the fish community food web. The range of contaminants routinely monitored include pesticides, such as DDT; industrial chemicals, such as PCBs, and metals, such as mercury. The Great Lakes Laboratory for Fisheries and Aquatic Sciences also maintains a Tissue Archive, which contains more than 15,000 frozen samples of fish and invertebrates. This collection of samples is often analyzed to determine the historical levels of recently detected contaminants.

For more information about Great Lakes fisheries and aquatic science, contact the Bayfield Institute at 867 Lakeshore Road, Burlington, ON, L7R 4A6; by phone at (905) 336-6248; or visit our regional website at: www.dfo-mpo.gc.ca/regions/CENTRAL/home-accueil_e.htm

